Victoria Government Gazette

No. S 499 Tuesday 23 October 2018
By Authority of Victorian Government Printer

Environment Protection Act 1970

ERRATUM

Victoria Government Gazette S493 19 October 2018 – page 19

Notice is hereby given that Clause 25 of the State environment protection policy (Waters) published on page 19 of the Victoria Government Gazette S493 dated 19 October 2018 was incorrect. Both the Clause and explanatory note should include reference to 'or other uses' after the term 'water for the environment'. A full version of the correct notice is published below and replaces entirely the notice published in the aforementioned gazette.

BRYONY GRICE
Director Environmental Policy and Community Partnerships

Environment Protection Act 1970

STATE ENVIRONMENT PROTECTION POLICY (WATERS)

Order in Council

The Governor in Council under section 16(1) of the **Environment Protection Act 1970** and on the recommendation of the Environment Protection Authority, declares the State environment protection policy contained in the Schedule to this Order.

Dated 16 October 2018

Responsible Minister:

HON LILY D'AMBROSIO MP
Minister for Energy, Environment and Climate Change

ANDREW ROBINSON
Clerk of the Executive Council

Environment Protection Act 1970

STATE ENVIRONMENT PROTECTION POLICY (WATERS)

SCHEDULE TO THE ORDER IN COUNCIL

Preamble

Victoria's water resources – its coasts, bays, rivers, streams, groundwater, estuaries and wetlands – are some of its most valuable and beloved natural assets.

Protecting and managing the quality of our waters is vital for aquatic ecosystems and the species that inhabit them, for industry and agriculture, for recreational activities such as swimming, boating and fishing, and for our extensive tourism industry. Good quality water is essential for healthy and prosperous communities and support the environmental, social and economic values that are important to Victorians.

This Policy seeks to protect human health and the environment by reducing the harmful effects of pollution and waste, and to contribute to the restoration and protection of the ecological integrity of Victorian waters. It provides greater clarity and certainty about how the water environment is to be protected, and requires waste avoidance, minimisation and resource recovery. The measures provided in this Policy aim to protect and maintain the level of environmental quality required to sustain the beneficial uses of Victoria's water environments.

This Policy clarifies obligations and, if appropriate, provides a flexible approach to compliance that aims for consistency with planning and other policy and legislative instruments. It recognises that there are many effective processes for protecting and managing water environments, involving multiple stakeholders, each having different but complementary roles and responsibilities.

This Policy recognises that the protection and management of Victorian water environments is a shared responsibility.

TABLE OF PROVISIONS

PART I – APPLICATION

1. Title

This Policy may be cited as the State Environment Protection Policy (Waters) and is referred to below as 'this Policy'.

Explanatory Notes:

Clause 1 states that the title of this Policy is the State Environment Protection Policy (Waters).

2. Purpose

The purpose of this Policy is to provide a framework to protect and improve the quality of Victoria's waters having regard to the principles of environment protection set out in the **Environment Protection Act 1970** (the Act).

Explanatory Notes:

Clause 2 states the purpose of this Policy is to provide a framework for the protection and improvement of water quality in Victorian waters.

3. Commencement

This Policy comes into operation on the date it is published in the Victorian Government Gazette.

Explanatory Notes:

Clause 3 states this Policy comes into operation on the date that it is published in the Victorian Government Gazette.

4. Revocation

The State environment protection policies as published in the Victoria Government Gazette listed in Schedule 6 are revoked.

Explanatory Notes:

Clause 4 revokes the Order in Council declaring the previous *State Environment Protection Policy (Waters of Victoria)* and *State Environment Protection Policy (Groundwaters of Victoria)* and all amending orders.

5. Authorising provisions

This Policy is a declared State environment protection policy in accordance with section 16 of the Act.

Explanatory Notes:

Clause 5 sets out the authorising provisions for this Policy under the **Environment Protection Act 1970**.

6. Definitions

Act means the **Environment Protection Act 1970**;

ambient levels means the level or ranges of levels of an indicator in surface waters or groundwater that includes background levels and levels introduced by waste or contaminants due to general anthropogenic activity from diffuse and non-point sources;

ANZECC means the Australian and New Zealand Environment and Conservation Council;

ANZECC Guidelines means the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, published by ANZECC and ARMCANZ in 2000;

aquatic reserve is a reserve established or declared under any of the following legislation –

(a) **Crown Land (Reserves) Act 1978**;

(b) **Wildlife Act 1975**;

(c) **Reference Areas Act 1978**;

(d) **National Parks Act 1975**;

(e) **Fisheries Act 1995**;

aquifer has the same meaning as in the **Water Act 1989**;

aquifer yield is a measure of how much (volume) and how quickly (time) water flows under pressure or can be pumped from an aquifer;

ARMCANZ means the Agriculture and Resource Management Council of Australia and New Zealand;

artificial assets include constructed stormwater drains, constructed agricultural drains, constructed irrigation channels and drains, constructed wetlands, waste treatment systems, wastewater treatment systems, reticulated water supply distribution systems, off-stream private dams, tanks or any other artificial asset determined by the Authority under this Policy;

ash pond means a basin that receives ash and saline water produced during electricity generation at coal fired power stations;

attenuation means the reduction in concentration of a contaminant in a solution passing through an aquifer by natural mechanisms including removal by ion exchange, chemical precipitation, chemical degradation, adsorption filtration or biodegradation and hydrodynamic dispersion (mixing with surrounding water);

Authority has the same meaning as in the Act;

background levels means the level or ranges of levels of an indicator in waters, or in aquatic ecosystems, outside the influence of any waste or contaminant containing a measurable level of that indicator;

Barwon Water means the Barwon Region Water Corporation established by the **Water Act 1989**;

beneficial use has the same meaning as in the Act and, for the purposes of this Policy, is limited to a use of the environment or any element or segment of the environment prescribed in Schedule 2 to be a beneficial use to be protected in accordance with this Policy;

beneficial use of land has the same meaning as in clause 10 of the *State environment protection policy (Prevention and Management of Contamination of Land)* No. S95, published in the Government Gazette on 4 June 2002;

Note

The beneficial uses of land protected by that SEPP are: (a) maintenance of natural ecosystems, modified ecosystems and highly modified ecosystems; (b) human health; (c) buildings and structures; (d) aesthetics; and (e) production of food, flora and fibre.

best practice means the best combination of techniques, methods, processes or technology used in an industry sector or activity that demonstrably minimises the environmental impact of that industry sector or activity;

Best Practice Environmental Management Guidelines for Dredging means Best Practice Environmental Management Guidelines for Dredging, published by the Authority in 2001;

Best Practice Environmental Management Guidelines for Urban Stormwater means Urban Stormwater – Best Practice Environmental Management Guidelines, prepared by the Victorian Stormwater Committee and published by the CSIRO in 1999;

bore means any bore, well or excavation or any artificially constructed or improved underground cavity used, or to be used for, any of the following purposes –

(a) the interception, collection, storage or extraction of groundwater;

(b) groundwater observation, or the collection of data concerning groundwater;

(c) the drainage or desalination of any land;

(d) in the case of a bore that does not form part of a septic tank system, the disposal of any matter below the surface of the ground;

(e) the recharge of an aquifer;

clean up has the same meaning as in the Act;

Code of Practice – Onsite Wastewater Management means Code of Practice – Onsite Wastewater Management, published by the Authority in 2016;

contamination means a human induced change in water quality that produces a noticeable or measurable change in its characteristics;

council has the same meaning as in the Act;

designated water supply catchment area has the same meaning as in the **National Parks Act 1975**;

development, in clauses 28, 32, 34, 38, 44 and 46, has the same meaning as in the **Planning and Environment Act 1987**;

diffuse source means a source of pollutants which is not an identifiable single point of discharge;

domestic wastewater management plan means a management plan developed by a council under clause 29;

drinking water has the same meaning as in the **Safe Drinking Water Act 2003**;

ecosystem condition means the state of health of an ecosystem, relative to the degree of human disturbance;

environmental quality indicator means a physical, chemical or biological parameter that helps provide insight into the state of the environment or human health;

environmental quality objective means the level of an environmental quality indicator which must be met to achieve the environmental quality needed to protect beneficial uses of waters;

evaporation basin means a natural depression used, or artificial structure constructed, for the purposes of disposing of liquid by evaporation;

fish has the same meaning as in the **Fisheries Act 1995**;

floodplain means an area of land inundated with an average flood recurrence interval of one hundred years;

forestry manager means VicForests or any other person or body carrying out timber harvesting operations as defined in section 3 of the **Sustainable Forests (Timber) Act 2004**;

greenhouse gas sequestration operations has the same meaning as in the **Greenhouse Gas Geological Sequestration Act 2008**;

groundwater has the same meaning as in the **Water Act 1989**;

groundwater attenuation zone means the part of an aquifer that surrounds a source of migrating contaminant and is determined by the Authority as an attenuation zone in accordance with clause 57;

groundwater quality restricted use zone means an area the Authority has determined under clause 58;

Guidelines for planning permit applications in open, potable water supply catchment areas means Guidelines for planning permit applications in open, potable water supply catchment areas, published by the Department of Sustainability and Environment in 2012;

high water means the highest astronomical tide which is the highest level that can be predicted to occur under average meteorological conditions and any combination of astronomical conditions, and is derived from tide predictions that incorporate observed rates of sea level rise using the current tidal datum epoch;

hydrogeology means the geological science concerned with the occurrence, distribution, quality and movement of groundwater;

infiltration basin means a structure constructed for the purpose of disposing of liquid by infiltration into the ground;

insufficient aquifer yield is the circumstances where the volume per unit of time that flows under pressure, or can be pumped from an aquifer, is not able to support a specified beneficial use;

irrigation development guidelines means regionally specific guidelines for relevant government agencies involved in the process of assessing and approving irrigation development applications;

irrigation district has the same meaning as in the **Water Act 1989**;

landfill cell means a compartment within a tipping area in which waste is deposited and enclosed by cover material;

landfill site means a site for the disposal of waste to land;

level of protection means the degree of protection afforded to a water body based on its ecosystem condition;

load (or pollutant load) means the mass per unit time of an indicator/pollutant;

marina has the same meaning as in clause 74 of the **Victoria Planning Provisions**;

Melbourne Water has the same meaning as ***Melbourne Water Corporation*** in the **Water Act 1989**;

minimise means the adoption of measures (including those listed in the wastes hierarchy), which reduces the impact of any activity or waste on beneficial uses;

mixing zone means an area approved by the Authority under clause 23 that is contiguous to a licensed wastewater discharge point, where the environmental quality objectives in the receiving waters otherwise applicable under this Policy do not apply to certain indicators as specified in a licence granted by the Authority under the Act;

municipal district has the same meaning as in the **Local Government Act 1989**;

Murray Darling Basin Authority means the Murray Darling Basin Authority established under the **Water Act 2007** of the Commonwealth;

National Environment Protection (Assessment of Site Contamination) Measure means The National Environment Protection (Assessment of Contamination) Amendment Measure 1999 made under the **National Environment Protection Council Act 1994** of the Commonwealth;

non-aqueous phase liquid means an organic or inorganic liquid that is not miscible with water and can exist in groundwater in numerous forms; is commonly present as a measurable thickness (phase-separated) or sheen, may be identifiable analytically (in soil or groundwater) when solubility has been reached, or observed to be present within the unsaturated soil, rock profile or aquifer matrix;

offset measure means a measure taken by the occupier of a premises to reduce the impact of a wastewater discharge by undertaking works to achieve a net environmental benefit, as part of a licence issued by the Authority;

onsite domestic wastewater management system has the same meaning as ***septic tank system*** has in the Act;

permeability means the ability of a porous or fractured medium to transmit fluid;

planning authority has the same meaning as in the **Planning and Environment Act 1987**;

pollutant means any of the following that causes pollution –

(a) any matter solid, liquid, gaseous or radioactive (or combination thereof);
(b) heat;
(c) sediment;
(d) nutrients;
(e) salts;
(f) biocides;
(g) pathogens;
(h) fertilizers;
(i) toxicants;
(j) litter;
(k) plastics including microplastics;

pollutant load target means the level of a pollutant described in mass per unit time (e.g., tonne per year) entering a water body required to protect beneficial uses;

port has the same meaning as in the **Port Management Act 1995**;

potable mineral water means groundwater that is safe to drink and in its natural state contains carbon dioxide and other soluble matter in sufficient concentration to cause effervescence;

potable water – acceptable means groundwater with a total dissolved solids (TDS) of between 601 – 1200 mg/L;

potable water – desirable means groundwater with a total dissolved solids (TDS) of between 0 and 600 mg/L;

primary contact recreation means an activity in which the whole human body or face and trunk are frequently immersed, or the face is frequently wet by spray, and where it is likely that some water will be swallowed or inhaled, or come into contact with ears, nasal passages, mucous membranes or cuts in the skin;

priority reach means a reach or part of a waterway that has been identified as a priority in a Regional Waterway Strategy prepared in accordance with section 190 of the **Water Act 1989**;

receiving waters means the waters, such as rivers, lakes, estuaries, coastal areas and groundwater, which receive discharges from wastewater or stormwater, and includes surface waters which receive discharges from groundwater;

recharge means the process of water being added to a groundwater system;

referral authority has the same meaning as in the **Planning and Environment Act 1987**;

regional waterway strategy has the same means as in the **Water Act 1989**;

responsible authority has the same meaning as in section 13 of the **Planning and Environment Act 1987**;

road authority has the same meaning as in the **Road Management Act 2004**;

sanitary inspection means a search for, and evaluation of, existing and potential microbiological hazards that could affect the safe use of a stretch of recreational water;

secondary contact recreation means an activity where the human limbs are regularly wet and in which greater contact (including swallowing water) is unusual (e.g. boating, fishing, wading), and includes occasional and inadvertent immersion through slipping or being swept into the water by a wave;

sewage has the same meaning as in section 53J(1) of the Act;

Note: 'Domestic wastewater' and 'sewage' are interchangeable for the purposes of clauses 28 to 31.

soil characteristics means any or all of the chemical, biological or physical properties of a soil;

special area plan has the same meaning as in the **Catchment and Land Protection Act 1994**;

special water supply catchment area has the same meaning as in the **Catchment and Land Protection Act 1994**;

storage manager has the same meaning as in the **Water Act 1989**;

stormwater means surface run-off from rain and storm events that enters the drainage system;

surface water means water other than –

(a) groundwater; or

(b) water in artificial assets;

tailings has the same meaning as in the **Mineral Resources (Sustainable Development) Act 1990**;

tipping area means a place within a landfill site in which waste is, has been or will be deposited;

total dissolved solids (TDS) means total dissolved solids, a measure of salinity, measured by a method approved by the Authority;

vessel has the same meaning as in the **Marine Safety Act 2010**;

Victorian Land Capability Assessment Framework means the Victorian Land Capability Assessment Framework published by the Municipal Association of Victoria, Department of Environment and Primary Industries and the Authority, 2nd edition, published in 2014;

Wannon Water means the Wannon Region Water Corporation established by the **Water Act 1989**;

wastes has the same meaning as in the Act;

wastes hierarchy has the same meaning as in section 1I of the Act;

wastewater means waste principally consisting of water and includes any of the following –

(a) human wastewater;

(b) sewage;

(c) water containing food or beverage waste;

(d) wash down water or cooling water;

(e) irrigation runoff or contaminated stormwater;

(f) water containing any other trade or industrial waste;

(g) any other water that has been used in any form of human activity;

(h) a combination of any one or more of the above;

water corporation has the same meaning as in the **Water Act 1989**;

water corporation responsible for sewerage management means Melbourne Water and a water corporation that has a sewerage district under the **Water Act 1989**;

water dependent ecosystems and species has the same meaning as aquatic ecosystems in the ANZECC Guidelines;

Note: 'Aquatic ecosystem' in the ANZECC Guidelines means '[a]ny watery environment from small to large, from pond to ocean, in which plants and animals interact with the chemical and physical features of the environment'.

water quality means the physical, chemical and biological characteristics of water and the measure of its condition relative to the requirements for one or more biotic species or to any human need or purpose;

waters has the same meaning as in the Act;

water storage risk management plan has the same meaning as risk management plan in the **Safe Drinking Water Act 2003**;

water table means the surface saturation in an unconfined aquifer at which the water pressure is equal to atmospheric pressure;

waterway has the same meaning as in the **Water Act 1989**;

waterway manager means an Authority that has a waterway management district under the **Water Act 1989**;

waterway management district has the same meaning as in the **Water Act 1989**;

works has the same meaning as in the **Water Act 1989**.

7. Application

This Policy applies to –

(a) any person or entity responsible for making decisions in relation to the use of, planning for, management of, or derivation of a benefit from, Victoria's waters; and

(b) all protection agencies having powers or duties under this Policy or the Act with respect to the environment or any segment of the water environment as set out in clause 9 to the extent permitted by law.

Explanatory Notes:

Clause 7 outlines to whom this Policy applies and who will have responsibilities in relation to implementing this Policy.

8. Policy area

This Policy applies to all surface water and groundwater throughout the State of Victoria as well as to State waters as defined in the **Pollution of Waters by Oil and Noxious Substances Act 1986**.

Explanatory Notes:

Clause 8 states the application of this Policy extends to all waters throughout Victoria, including both surface water, groundwaters and State Waters as defined in the **Pollution of Waters by Oil and Noxious Substances Act 1986** as:

- the territorial sea adjacent to the State;
- the sea on the landward side of the territorial sea adjacent to the State that is not within the limits of the State; and
- any other waters within the limits of the State.

9. Segments of the water environment

(1) For the purpose of this Policy the groundwater and surface water segments are set out in Schedule 1.

(2) The Authority must determine to which segment water belongs, having regard to information reasonably available to the Authority.

Explanatory Notes:

Clause 9 provides for the segments of the water environment that beneficial uses will apply to. Within the overall boundaries of this Policy, regions have been divided into geographic areas, or 'segments', based on common features. Clause 9 defines the segments of this Policy area.

Groundwater environments are divided into seven segments. These segments are defined by the background level of TDS in the groundwater.

Surface water segments are divided into geographical areas based on common features in terms of environmental condition and natural characteristics. These include water quality under un-impacted conditions, physical system characteristics, climatic variability and ecosystem character.

If there is uncertainty, the Authority must determine which segment applies to water, taking all reasonably available information, including spatial and temporal variability, into account.

10. Applied, adopted or incorporated matters

(1) A reference to any document, applied, adopted or incorporated by this Policy is to be read as a reference to that document as in force from time to time.

(2) If a provision of any document applied, adopted or incorporated by, this Policy is inconsistent with any clause in this Policy, the clause in this Policy prevails.

(3) If the effect of an amendment to any document, applied, adopted or incorporated by this Policy, alters a process, practice or activity, the amendment takes effect on the day after it is published, or on any later date specified in the document by which the amendment was made.

Explanatory Notes:

Clause 10 indicates how references to any document, applied, adopted or incorporated by this Policy are to be interpreted and applied for the purposes of this Policy.

11. Policy principles

The administration of this Policy must be based on the principles of environment protection set out in Part I of the Act.

Explanatory Notes:

Clause 11 applies the policy principles of environment protection contained in the Act to decisions made by the Authority under this Policy.

12. Assessing practicability

Where this Policy requires actions or management practices to minimise risks to beneficial uses, so far as reasonably practicable, this means actions or management practices must have regard to –

(a) the likelihood of those risks eventuating; and

(b) the degree of harm that would results if those risks eventuated; and

(c) what a person concerned knows, or ought to reasonably know, about the harm or risks of harm and any ways of eliminating or reducing those risks; and

(d) the availability and suitability of ways to eliminate or reduce those risks; and

(e) the costs of eliminating or reducing those risks.

Explanatory Notes:

Clause 12 defines what 'so far as reasonably practicable' means for the purposes of actions and management practices required to minimise risks to beneficial uses. Where a clause in this Policy references 'so far as reasonably practicable', this should be interpreted consistent with this clause.

PART II – PROTECTION OF ENVIRONMENTAL QUALITY

DIVISION 1 – PROTECTED BENEFICIAL USES

13. Objectives

(1) The objectives of this Policy are to –

(a) achieve the level of environmental quality required to protect the beneficial uses of waters; and

(b) ensure that pollution to waters from both diffuse and point sources is managed in an integrated way to deliver the best outcome for the community as a whole; and

(c) protect and improve environmental quality through consistent, equitable and proportionate regulatory decisions that focus on outcomes and use the best available information.

(2) This Policy seeks to achieve these objectives by providing for –

(a) the beneficial uses and environmental quality objectives for waters; and

(b) obligations to protect beneficial uses and improve water quality; and

(c) the rules for decision-making by protection agencies to protect beneficial uses and improve water quality.

Explanatory Notes:

Clause 13 sets out what this Policy seeks to achieve.

14. Beneficial uses of all waters

This Policy protects the beneficial uses set out in Table 1 of Schedule 2 in relation to all waters unless otherwise specified in this Policy.

Explanatory Notes:

Clause 14 sets out the beneficial uses of all waters, both surface waters and groundwater that are to be protected by this Policy.

A beneficial use does not prohibit or permit the use of waters for any particular purpose but requires waters to be of a suitable quality and quantity to support that use or value.

The beneficial uses of all waters are described in this Policy and include water quality for the protection of ecosystems and species, human consumption, agriculture and industry, recreation, spiritual values and several other uses.

15. Beneficial uses of groundwater

(1) Subject to subclause (2), this Policy protects the beneficial uses set out in Table 2 of Schedule 2 for groundwater in each segment marked by a tick.

(2) The Authority may determine that a beneficial use specified in Table 2 of Schedule 2 does not apply to groundwater if any of the following apply –

(a) there is insufficient aquifer yield to sustain the beneficial use;

(b) the application of groundwater, such as for irrigation, may be a risk to beneficial uses of land or the broader environment due to the soil properties;

(c) the beneficial use specified in the definition of water dependent ecosystems and species relates to stygofauna and troglofauna;

(d) the background level of an environmental quality indicator would not provide for the protection of the beneficial use.

(3) When making a determination under subclause (2)(a), the Authority –

(a) may take into account possible variations within the aquifer and reasonable bore development techniques to improve yield; and

(b) must be satisfied that –

(i) the beneficial use for water dependent ecosystems and species is protected; and

(ii) there will be no risk to beneficial uses; and

(iii) preferential flow through fractures or naturally formed cavities is not the dominant mode of permeability.

(4) When making a determination under subclause (2)(c), the Authority may require an applicant to conduct an assessment of stygofauna and troglofauna.

Explanatory Notes:

Clause 15 sets out the beneficial uses that apply to groundwater and the circumstances in which the Authority may determine that a beneficial use does not apply. Schedule 2 Table 5 lists exclusions to beneficial uses.

TDS is used as the primary indicator for segment definition as the salinity of groundwater affects what it can be used for and it has proven to be an effective way to classify groundwater for beneficial uses.

16. Beneficial uses of surface water

(1) Subject to subclauses (2) and (3), this Policy protects the beneficial uses set out in Table 3 and Table 4 of Schedule 2 in each segment marked by a tick.

(2) The following beneficial uses apply in each segment marked with a tick, only to the extent indicated below –

(a) *water dependent ecosystems and species* applies to all surface water segments at the defined level of protection as shown in Tables 3 and 4 of Schedule 2;

(b) *aquaculture* only applies to those surface water segments where the environmental quality is suitable and an aquaculture licence has been approved in accordance with the **Fisheries Act 1995**;

(c) *human consumption after appropriate treatment* only applies to those surface water segments –

(i) in a special water supply catchment area listed in Schedule 5 of the **Catchment and Land Protection Act 1994;** or

(ii) where water is sourced for supply in accordance with the **Safe Drinking Water Act 2003**.

(3) Specific exclusions to the protection of a beneficial use within a segment are marked with an asterisk in Tables 3 and 4 of Schedule 2 and the exclusions are set out in Table 5 of Schedule 2.

(4) The Authority may determine that a beneficial use in a surface water segment does not apply –

(a) if the background level of an environmental quality indicator would not provide for the protection of the beneficial use; or

(b) if it is prohibited by any law or where it is otherwise not a permitted activity.

Explanatory Notes:

Clause 16 sets out the beneficial uses that apply to surface waters, the limited application of certain uses to segments (reflecting the fact that different levels of protection may be required and the requirements of other legislation) and the circumstances in which the Authority may determine the beneficial uses will not apply. Schedule 2 Table 5 lists exclusions to beneficial uses.

Beneficial uses are assigned to each segment based on whether the quality of the water is suitable to support that use or value. For surface waters, a beneficial use is assigned to a segment where the quality of water is, or has the potential to, support that use or value.

The variation of the environmental quality of surface waters on a state-wide scale will mean that:

- some beneficial uses are currently protected and will remain protected;
- some beneficial uses may not be fully attained in all segments within the 10-year lifetime of this Policy. In these cases, the waterway manager will set interim regional targets in high priority areas, to be achieved over this Policy's life; and
- some beneficial uses of some surface waters may not be fully attained due to extensive environmental modification or natural levels in environmental quality indicators. This may be taken into account when developing and prioritising actions to improve environmental quality.

DIVISION 2 – ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES

17. The environmental quality indicators and objectives

(1) The levels of environmental quality required to protect the beneficial uses of waters set out in Schedule 2 are the environmental quality indicators and environmental quality objectives set out in Schedule 3.

(2) The non-attainment of an environmental quality objective indicates that –

(a) one or more beneficial uses may be at risk; and

(b) an investigation is required to assess the level of risk to those beneficial uses and determine the actions needed to address those risks.

(3) The environmental quality indicators and objectives specified in Schedule 3 will apply to all waters unless any of the following apply –

(a) the background levels of waters are better than the environmental quality objectives, in which case the background level will become the objective for the purpose of this Policy;

(b) the environmental quality objectives are not able to be attained due to natural levels in environmental quality indicators, in which case the background level will become the objective for the purposes of this Policy;

(c) the Authority approves a mixing zone for surface waters under clause 23 in issuing any licence under the Act;

(d) the Authority determines a groundwater attenuation zone under clause 57 in any works approval or licence under the Act; or

(e) the groundwater is within a groundwater quality restricted use zone.

(4) If the level of any environmental quality indicator or objective is not provided for in Schedule 3, contamination must not cause a risk to the beneficial uses, and the environmental quality objective for that indicator becomes –

(a) the levels specified in the ANZECC Guidelines; or

(b) the investigation level specified for groundwater in the *National Environment Protection (Assessment of Site Contamination) Measure*; or

(c) levels derived for groundwater using a risk assessment methodology set out in the *National Environment Protection (Assessment of Site Contamination) Measure*.

Explanatory Notes:

Clause 17 provides for the environmental quality indicators and objectives that describe the levels (i.e. objectives) of physical, chemical and biological parameters that must be met to protect beneficial uses of waters.

Schedule 3 sets out specific environmental quality objectives that apply to each of the segments. The environmental quality objectives provided in that Schedule apply to all waters within the relevant segment, except where exceptions are described in clause 17. The environmental quality objectives specify ambient water quality within the surrounding water.

This Policy adopts the risk-based approach of the ANZECC Guidelines for determining whether a beneficial use is at risk. The non-attainment of an environmental quality objective indicates that there is likely to be a risk to beneficial uses. Further investigation is required to determine the actual risk to those beneficial uses and identify actions to address the risks.

For the purposes of this Policy, background levels are defined as those levels outside the influence of pollution, contamination and waste (i.e., not ambient levels). Background levels that are lower than specified environmental quality objectives must be maintained and cannot be polluted up to the level of environmental quality objectives. Other indicators, such as dissolved oxygen, can describe a lower limit that levels in waters must not fall below. In cases where background levels are higher than an environmental quality objective specified as a lower limit, background levels must be maintained and levels in waters cannot be reduced to the level of environmental quality objectives.

If the background level of an indicator exceeds the environmental quality objective, the objective does not need to be met in that water environment but background levels must still be maintained. This ensures that the natural characteristics of waters are protected where they differ from environmental quality objectives but are not degraded by human activities.

In some cases, this Policy and the ANZECC Guidelines specify levels for the same indicator. In these cases, the values specified in Schedule 3 take precedence over any default guideline values. Subclause 4 provides that where the Schedule does not specify any environmental quality objective for an indicator, the values derived from listed documents become the environmental quality objective.

No specific environmental quality indicators or objectives are provided for the two beneficial uses of Traditional Owner cultural values; and Cultural and spiritual values. Environmental quality objectives for other beneficial uses such as water dependent ecosystems and their species go some way to protecting the cultural and spiritual values, including spiritual relationships, sacred sites and customary use. Where environmental quality indicators and objectives specified for other beneficial uses do not adequately protect cultural and spiritual values or Traditional Owner cultural values then subclause (4) applies. Traditional Owners should be engaged in the development of environmental quality indicators or objectives through local management and planning processes for waterways and catchments.

Subclause 4(b) refers to Schedule B1, Section 6, *Table 1C – Groundwater Investigation Levels* of the National Environment Protection (Assessment of Site Contamination) Measure.

Subclause 4(c) refers to Schedule B4 of the National Environment Protection (Assessment of Site Contamination) Measure.

DIVISION 3 – TARGET SETTING

18. Developing interim regional targets in priority areas

(1) If it is recognised that environmental quality objectives are unlikely to be attained during the life of this Policy, and water quality is a threat to priority reaches (or equivalent) as identified in a regional waterway strategy for a catchment management region, waterway managers must establish interim regional targets to drive the progressive rehabilitation of environmental quality in a measurable manner and over a fixed timeframe.

(2) Interim regional targets must include the following –

(a) interim environmental quality objectives;

(b) a basis for maximising the protection of beneficial uses and the attainment of the environmental quality objectives set out in this Policy;

(c) management outcomes that provide measurable and time-bound progress towards the attainment of interim environmental objectives by taking into account regional environmental, social and economic values;

(d) a demonstrated and measurable link between implementation of management outcomes and resultant water quality condition.

(3) Waterway managers may also develop interim environmental objectives for other areas and reaches, if appropriate.

Explanatory Notes:

It is recognised that not all beneficial uses will be able to be fully protected, and not all environmental quality objectives will be met, within the lifetime of this Policy. In these cases, interim regional targets to drive the progressive rehabilitation of environmental quality need to be developed.

Clause 18 requires Melbourne Water and those Catchment Management Authorities with waterway management districts, to develop interim environmental quality objectives to drive the progressive rehabilitation of environmental quality in surface waters where it is recognised that environmental quality objectives prescribed in this Policy are unlikely to be attained during the life of this Policy.

Interim regional targets must be set according to priorities for environmental protection and rehabilitation as determined through preparation of a regional waterway strategy under section 190 of the **Water Act 1989**, with priority given to maintaining beneficial uses of areas of high conservation value and maintaining beneficial uses that are currently protected. Works will continue to be undertaken on a priority basis to the extent that resources allow and as developed through annual business planning processes.

19. Pollutant load targets

To minimise the risks of diffuse and point source pollution on the beneficial uses of marine and estuarine waters, pollutant load targets and responsibilities of agencies for implementing actions to achieve the targets are set out in Schedule 4.

Explanatory Notes:

Clause 19 provides for quantitative targets for the protection of beneficial uses to drive investment in management actions that will reduce pollutant loads generated from point and diffuse sources entering Lake Wellington, Corner Inlet, Western Port and Port Phillip Bay. Pollutant load targets and the responsibilities for implementing actions to achieve targets are specified in Schedule 4 of this Policy.

PART III – RULES AND OBLIGATIONS

DIVISION 1 – WASTE AND WASTEWATER MANAGEMENT

20. Management of discharges to surface waters

To protect beneficial uses, the discharge of wastewater to surface waters must be managed in accordance with the wastes hierarchy, with priority given to avoiding the generation of wastewater.

Explanatory Notes:

Clause 20 confirms that discharges of wastewater to surface waters must comply with the principle of the waste hierarchy in section 1I of the Act. This means that before a discharge to the environment is considered, efforts must be made to avoid, reuse and recycle wastewater.

21. Applications for wastewater discharges to surface waters

(1) A person may apply to the Authority for approval of a discharge of wastewater to surface waters if the person has made all reasonable efforts to avoid, reuse and recycle the wastewater.

(2) An application under subclause (1) must –

(a) demonstrate that the wastewater discharge to surface waters is necessary; and

(b) include all reasonably practicable measures to –

(i) ensure the wastewater discharge does not exceed the environmental quality objectives set out in Schedule 3 to this Policy; and

(ii) minimise risks to beneficial uses of the receiving waters.

(3) If it is not reasonably practicable to comply with subclause (2)(b), the applicant must apply for a mixing zone consistent with clause 23.

(4) The Authority may require an application for a wastewater discharge to surface waters to include a risk assessment in accordance with guidance published or approved by the Authority.

Explanatory Note:

Clause 21 sets out the requirements for applicants of works approvals and licences to manage their discharges so as to minimise risks to beneficial uses.

The Authority has provided guidance on the considerations that must be taken into account in an application, including but not limited to that provided in the *Works Approval Application Guidelines* (EPA Publication 1658), and the *Application of the Environment Protection Principles to EPA Approval Process Guidelines* (EPA Publication 1554). The assessment of reasonably practicable must be consistent with clause 12 of this Policy.

Subclause (3) identifies that the Authority may require an applicant for a discharge of wastewater to surface waters to include a risk assessment, consistent with guidance published or approved by the Authority. This includes that provided in *Guidelines for Risk Assessment of Wastewater Discharges to Waterways* (EPA Publication 1287).

22. Consideration of applications for wastewater discharges to surface waters

(1) In considering an application made in accordance with clause 21, the Authority must have regard to the following –

(a) the environmental quality objectives and beneficial uses set out in this Policy;

(b) the ambient levels in the receiving waters;

(c) the results of any risk assessment required by clause 21(4);

(d) the pollutant load targets set out in Schedule 4 of this Policy, if applicable.

(2) The Authority must not approve an application for a new wastewater discharge to surface waters in the following areas –

(a) the special water supply catchment areas set out in Schedule 5 of the **Catchment and Land Protection Act 1994**;

(b) an area where the wastewater discharge may impact on the quality of waters sourced for supply in accordance with the **Safe Drinking Water Act 2003.**

(3) The Authority must not approve an application for a new wastewater discharge to surface waters in the following areas unless the Authority is satisfied that the wastewater discharge will be consistent with the requirements of clause 25 –

(a) aquatic reserves;

(b) waters of high conservation value as set out in Schedule 5;

(c) wetlands or estuaries segments.

Explanatory Notes:

Clause 22 sets out the responsibilities of the Authority in assessing works approval and licence applications which involve the discharge of wastewater to surface waters.

Subclause (2) identifies areas where the Authority will not approve new wastewater discharges in order to protect water sourced for drinking water supplies. Where new wastewater discharges enter such areas, existing water treatment systems may be overwhelmed and public health compromised. Protecting source waters from pollution and contamination is considered to be the most effective method for managing this risk.

Subclause (3) identifies high value waterbodies or areas vulnerable to the impacts of wastewater discharges. The Authority must not approve new wastewater discharges in these locations, except if it can be demonstrated that this discharge will provide water for the environment consistent with the requirements of clause 25.

23. Approval of mixing zones

(1) In considering an application made in accordance with clause 21, the Authority may determine a mixing zone if the applicant can demonstrate that it is not reasonably practicable to meet the requirements of clause 21(2)(b).

(2) The Authority must not approve a mixing zone which, according to tests approved by the Authority, will result in any of the following –

(a) acute lethality at the point of discharge;

(b) chronic toxicity outside the mixing zone;

(c) risks to beneficial uses at the boundary of the mixing zone;

(d) harm to humans;

(e) harm to plants or animals;

(f) loss of aesthetic enjoyment;

(g) objectionable odour.

(3) If a mixing zone is approved, the licence holder must –

(a) monitor the impacts of the mixing zone and associated risks to beneficial uses; and

(b) implement measures that eliminate the mixing zone, so far as reasonably practicable or, if it is not reasonably practicable to eliminate the mixing zone, to reduce the mixing zone, so far as reasonably practicable

(4) The Authority may approve an offset measure consistent with the requirements of clause 24 to satisfy compliance with subclause 3(b).

Explanatory Notes:

Mixing zones are a tool used in licences to manage wastewater discharges and are designed to accommodate the residual impact on the environment from a discharge. In some instances, it may not be reasonably practicable to push for a higher quality discharge, and so a mixing zone may be granted. Within a mixing zone, some or all of the environmental quality objectives for surface waters set out in this Policy are not required to be achieved. Clause 23 sets out the considerations the Authority must take into account when assessing such an application.

As the mixing zone identifies that an area of the environment is being compromised, there is an expectation that efforts are made to reduce the size of the mixing zone over time, with the goal of achieving its complete elimination, so far as reasonably practicable. The assessment of reasonably practicable must be consistent with clause 12 of this Policy, and should be considered as part of periodic plant improvements.

Subclause (4) identifies that in some situations maintaining an existing mixing zone will be necessary, particularly where there has been an increase in loads associated with a growing population. In such situations, offset measures may be considered as an alternative and may provide a means to achieve an improved environmental outcome at a lower cost to the community.

24. Use of offset measures to protect beneficial uses

The Authority may approve an application to discharge wastewater of a lower quality than would otherwise be acceptable, for a specified period, if the occupier of the premises agrees to, in consultation with the community and the relevant waterway manager, implement and maintain offset measures that offer equivalent or greater protection of beneficial uses within the affected catchment or segment.

Explanatory Notes:

Clause 24 provides that the Authority may approve a works approval or licence amendment application that allows the discharge of water of a lower quality than would otherwise be acceptable, where the licence holder agrees to implement and maintain offset measures that will offer an equivalent or greater level of protection for surface water beneficial uses within the affected catchment or segment of the environment.

25. Discharges that provide environmental benefits

The Authority may approve an application to discharge wastewater to surface waters to provide water for the environment or other uses, if –

(a) the Authority is satisfied that the wastewater can be treated and managed to a level to protect beneficial uses, and

(b) the waterway manager (if applicable) is satisfied that the discharge is consistent with environmental flow requirements.

Explanatory Notes:

Clause 25 sets out the circumstances when the Authority may approve an application to discharge wastewater to surface water to provide water for the environment or other uses. This may include situations where environmental values are compromised by a lack of freshwater flows and where the introduction of a wastewater discharge may help protect these values. In such situations, the wastewater discharge may be considered an acceptable form of reuse.

26. Management of wastewater reuse and recycling

Wastewater reuse and recycling must be managed in accordance with the *Guidelines for Environmental Management – Use of Reclaimed Water*.

Explanatory Notes:

Clause 26 requires that persons who reuse and recycle wastewater do so in accordance with the *Guidelines for Environmental Management – Use of Reclaimed Water* (EPA Publication 464). These guidelines define the acceptable discharge, deposit and operating specifications referred to in the Environment Protection (Scheduled Premises) Regulations 2017. These regulations provide that works approvals or licences from the Authority are not required with respect to discharges or deposits to land or water from an effluent reuse scheme or activity, which meets discharge, deposit and operating specifications acceptable to the Authority.

27. Management of sewerage systems

(1) A water corporation responsible for sewerage management must –

(a) implement measures to minimise risks to beneficial uses, so far as reasonably practicable, from losses of wastewater through sewer overflows and leakages from, and collapses of, sewerage infrastructure, including but not limited to –

(i) eliminating chronic sewer leakages and dry weather sewer overflows; and

(ii) ensuring that sewerage infrastructure is designed and maintained to contain flows associated with at least an 18.1% Annual Exceedance Probability (AEP); and

(iii) upgrading sewerage infrastructure to contain flows associated with at least an 18.1% AEP.

(b) report sewer spills consistent with notification protocols developed by the Authority.

(2) The requirements of the **Water Act 1989** and the **Essential Services Act 1958** apply to the extent of any inconsistency with this clause.

Explanatory Notes:

Clause 27 requires water corporations to manage the risk to beneficial uses posed by sewerage infrastructure. While the clause identifies that chronic leakages and overflows which occur in dry weather are unacceptable, it acknowledges that the complete containment of sewage in wet weather may not be possible, and in heavy rainfall events the capacity of sewerage infrastructure can be exceeded, causing overflows.

To manage this risk, the clause provides for a containment standard as a benchmark for industry to manage sewerage systems. This containment standard requires flows associated with at least an 18.1% AEP to be contained. This represents the equivalent standard set in previous policies, but it has been updated to reflect more contemporary terminology for assessing the probability of rainfall events. It must be assessed using the critical duration event.

While this can be achieved for new infrastructure (noting that new infrastructure must be designed to accommodate future population growth), it is recognised that there will be a need for water corporations to progressively upgrade existing infrastructure, with priority given to those areas that pose the greatest risk to beneficial uses. In considering infrastructure upgrades, the assessment of reasonably practicable must be consistent with clause 12 of this Policy. Further guidance on assessing reasonably practicable for the purposes of this clause is provided in the *Sewerage Management Guidelines* (EPA Publication 1707).

This clause is intended to operate consistently with the requirements of the **Water Act 1989** or the **Essential Services Act 1958**.

28. Consideration of applications for subdivision and onsite domestic wastewater management systems

(1) When considering planning applications for subdivisions, responsible authorities must ensure one of the following has been provided for at the time of subdivision if the use of an onsite domestic wastewater management system would result in the discharge of sewage beyond allotment boundaries or would pose a risk to groundwater beneficial uses –

(a) reticulated sewerage; or

(b) an alternative system as approved by –

(i) the Authority for the purposes of Part 1XB of the Act; or

(ii) the relevant water corporation.

(2) If a reticulated sewerage (or alternative system) is not reasonably practicable, the responsible authority must ensure that –

(a) sewage can be sustainably managed and dispersed within the property boundaries over the system's lifetime, in accordance with the *Victorian Land Capability Assessment Framework* and any other guidance published or approved by the Authority; and

(b) if the proposed subdivision is in a special water supply catchment area as specified in Schedule 5 of the **Catchment and Land Protection Act 1994**, that –

(i) developments will not present a risk to water quality; and

(ii) approval for developments are issued in accordance with the *Guidelines for planning permit applications in open, potable water supply catchment areas*.

(3) Responsible authorities must ensure that permits are consistent with guidance published or approved by the Authority including that provided in the *Code of Practice – Onsite Wastewater Management*.

Explanatory Notes:

Clause 28 continues to require councils as the responsible authority, to ensure that domestic wastewater (that is, sewage) is treated and managed to prevent any effluent flowing onto neighbouring properties. It is important that these systems retain sewage within the property boundaries and that they do not pose a risk to beneficial uses. To do this, they need to be properly planned for and maintained to ensure that the transport of nutrients, pathogens and other pollutants to waters is minimised.

In line with the requirements of the **Victoria Planning Provision**, responsible authorities must continue to ensure that reticulated sewerage (or an alternative system as per the *Code of Practice – Onsite Wastewater Management* (EPA Publication 891) or an alternative system approved by the relevant water corporation) has been provided for at the time of subdivision, where sites are not capable of containing wastes within the property boundaries or would impact groundwater. If a sewer or community scheme is not available, then each lot must be able to treat and contain sewage within the lot by way of an Authority approved treatment system. If it cannot be demonstrated that this is possible, and a reticulated sewer is not available, then a lot must not be subdivided.

The responsible authority must apply the *Code of Practice – Onsite Wastewater Management*, and the *Victorian Land Capability Assessment Framework,* and in a special water supply catchment area as specified in Schedule 5 of the **Catchment and Land Protection Act 1994**, the *Guidelines for planning permit applications in open, potable water supply catchment areas* when considering applications to subdivide land. Water corporations can assist councils in determining the suitability of alternative systems. The assessment of reasonably practicable must be consistent with clause 12 of this Policy.

29. Councils to develop a domestic wastewater management plan

(1) A council in a municipal district with onsite domestic wastewater management systems must develop and implement a domestic wastewater management plan that –

(a) identifies the public health and environmental risks associated with the onsite domestic wastewater management systems; and

(b) sets out strategies to minimise those risks.

(2) The council must consult with the Authority, water corporations, the community and other stakeholders when developing, revising or implementing a domestic wastewater management plan and, in particular, must –

(a) identify, assess and manage the cumulative risks of onsite domestic wastewater management systems that are, or may in the future, be discharging sewage beyond allotment boundaries or impacting on groundwater; and

(b) engage with the Authority and relevant water corporations to identify existing unsewered allotments for inclusion in the domestic wastewater management plan, that –

(i) do not retain sewage on site; or

(ii) are not capable of preventing the discharge of sewage beyond allotment boundaries, or preventing risks to beneficial uses of groundwater or impacts on groundwater, as demonstrated by a land capability assessment in accordance with *Victorian Land Capability Assessment Framework*; and

(c) identify, cost, prioritise and evaluate options to provide –

(i) solutions to prevent discharge of sewage beyond allotment boundaries and minimise impacts on groundwater; and

(ii) for the compliance assessment and enforcement of onsite domestic wastewater management systems in accordance with the plan; and

(d) if applicable, have regard to the *Guidelines for planning permit applications in open, potable water supply catchment* areas and any relevant guidelines authorised by the Authority.

(3) The council must review and update its domestic wastewater management plan at intervals of no more than five years.

(4) The council must conduct an internal audit to assess progress and report on progress of the implementation of the domestic wastewater management plan every three years and publish the report on its website.

Explanatory Notes:

Clause 29 builds on the existing council domestic wastewater management plans as a mechanism to demonstrate that councils have identified and are managing risks posed to waters from failing onsite domestic wastewater management systems.

If councils do not have onsite domestic wastewater systems in their municipal districts they do not need to have a plan. In open potable water supply catchment areas, the domestic wastewater management plan can be considered an acceptable basis for relaxing the 1:40 dwelling density guideline, if agreed to by the relevant water corporation.

Councils have primary responsibility for land use planning decisions for subdivisions where they can ensure that allotment sizes are appropriate for onsite domestic wastewater management systems. Councils are also currently accountable for building approvals and are responsible for overseeing the management of onsite domestic wastewater management systems. For these reasons, it is appropriate that they are responsible for continuing to prepare and implement domestic wastewater management plans. If a council decides to prepare and implement a plan it is essential that it directly consults with the relevant water corporation and other stakeholders.

If sewage is not being retained within allotment boundaries, sewerage or other methods of wastewater management need to be provided. This does not necessarily mean reticulated sewerage must be provided but could mean that improved onsite management of sewage is required. The clause provides further necessary details about the content of a plan. Subclauses (3) and (4) require councils to review and update their plans at intervals of no more than five years, consistent with the *Guidelines for planning permit applications in open, potable water supply catchments* and a requirement to internally audit the plan and report on progress in implementing the plan to their stakeholders every three years. This addresses recommendations made in the Victorian Auditor-General's report 'Protecting our environment and community from failing septic tanks' (2006).

30. Sewerage planning

If the domestic wastewater management plan referred to in clause 29 identifies reticulated sewerage (or an alternative system as approved by the Authority for the purposes of Part 1XB of the Act or an alternative system as approved by the relevant water corporation) as a management option to meet community needs, the relevant water corporation must –

(a) prepare a response that includes the following –

(i) identifies the preferred solution, which could include a mix of offsite or onsite management solutions;

(ii) identifies how the preferred solution will manage sewage in accordance with the wastes hierarchy;

(iii) outlines the likely cost of the preferred solution, strategy for its funding and timeline for its implementation;

(iv) justifies the required works to implement the preferred solution in relation to other sewerage connection works within the water corporation's sewerage district;

(b) provide the response to the relevant council; and

(c) prepare a five-yearly report on the implementation of the preferred solution.

Explanatory Notes:

Where the domestic wastewater management plan developed by a council under clause 29 identifies off-site treatment as the preferred option for improved sewage management, water corporations must develop a response to the plan. This is in keeping with their **Water Act 1989** function to 'plan for the future needs of the community relating to sewerage services'.

Clause 30 provides that the response of water corporations must identify and prioritise options for sewerage services (including the costs and funding options for these services) and how the sewage collected can be managed sustainably. The response must also identify the timeframes for implementation of the preferred solution and provide the relevant council with a five-yearly report on implementation. The timing of the response aligns with the water corporation water plan/pricing submission cycle.

Most importantly the response must be provided to council so they can understand the capacity of the water corporation to deliver on the priorities of the domestic wastewater management plan thus allowing local government to undertake alternative measures where priorities and timelines between the two parties are not aligned.

31. Connection to sewerage

(1) This clause applies to an onsite domestic wastewater management system that –

(a) is located on the property that is –

(i) within a sewerage district; and

(ii) can feasibly be connected to a sewerage system; and

(b) cannot reuse or contain sewage within the boundaries of the property in accordance with guidance published or approved by the Authority.

(2) The owner of the property on which the onsite domestic wastewater management system is located must –

(a) connect to the sewerage system; or

(b) if the relevant water corporation requires the owner to connect the property to the sewerage system in accordance with section 147 of the **Water Act 1989**, connect to that sewerage system.

(3) Following consultation in accordance with section 147 of the **Water Act 1989**, the Authority may provide written advice to the water corporation that discharges pose a risk to beneficial uses and connection to sewerage is recommended to avoid an adverse impact on the environment.

Explanatory Notes:

Clause 31 ensures that properties that cannot contain their sewage onsite and are serviced by a sewerage system are connected to that system. The clause also permits a water corporation to require an owner of a property to connect the property to sewerage where the onsite domestic wastewater management system cannot reuse or contain sewage within the boundaries of the property.

This is consistent with water corporations' discretionary power to require an owner of a serviced property to connect the property to the sewerage works of the Authority under section 147 of the **Water Act 1989** as it indicates the circumstance in which it would be appropriate for a water corporation to require an owner to connect.

Section 147(6) of the **Water Act 1989** requires the water corporation to first consult with the Authority and the Secretary to the Department of Health and Human Services prior to requiring a property owner to connect their property to sewerage. Accordingly, this Policy permits the Authority to provide a water corporation with written advice of the consultation undertaken.

DIVISION 2 – MANAGEMENT OF RISKS TO BENEFICIAL USES IN WATERS

32. Planning schemes and permits

(1) Planning authorities must have regard to this Policy when developing or amending planning schemes under the **Planning and Environment Act 1987**.

(2) If a planning permit is required by a planning scheme, the responsible authority may if appropriate, consider this Policy.

Explanatory Notes:

Clause 32 applies to both planning authorities and responsible authorities (as defined in the **Planning and Environment Act 1987**) and provides the policy framework for identifying and assessing the significant effects which a planning scheme amendment or development might have on environmental quality for the purposes of sections 12(2)(b) and 60(1)(e) of the **Planning and Environment Act 1987**.

33. Protecting catchment areas used to supply water

(1) Melbourne Water, Wannon Water and Barwon Water must ensure that public access to designated water supply catchment areas within an Aquatic Reserves segment is restricted in accordance with management policies and risk management plans for the area approved by the responsible Minister.

(2) Land managers responsible for managing the land within designated water supply catchment areas within the Aquatic Reserves segment must manage that land consistent with agreements in place for those areas.

Explanatory Notes:

The **National Parks Act 1975** contains mechanisms to protect drinking water supplies for Melbourne Water, Wannon Water and Barwon Water, where the supply occurs within specific national parks. The **National Parks Act 1975** refers to these areas as designated water supply catchment areas.

The clause maintains the requirement for public access to be restricted, as one of the multiple barriers of protection for water quality in these areas. This accords with the **Safe Drinking Water Act 2003** multiple barrier approach. By restricting public access, water quality can be maintained to reduce risk to human health and reduce treatment costs.

Management arrangements including access restrictions must be in accordance with existing approved management plans, agreements, and memorandums of understanding for the area.

This clause acknowledges the existing responsibilities and obligations that these water corporations have to plan for safe drinking water and manage the catchments for the protection of the water resource and water quality.

34. Management of urban stormwater

(1) Stormwater must be managed to minimise the risks to beneficial uses of receiving waters, so far as reasonably practicable, by reducing the impacts of flow, sediment, nutrients, pathogens, toxicants, litter and other pollutants on those receiving waters.

(2) Councils, as the responsible authority, must ensure all new development meet the objectives for environmental management of stormwater as set out in the *Best Practice Environmental Management Guidelines for Urban Stormwater* to minimise –

(a) the quantity of stormwater leaving the property boundary and to hold or use it as close to where it is generated as possible; and

(b) the pollution of stormwater.

(3) Owners and managers of assets created to protect water quality, including constructed sediment ponds and wetlands, must ensure those assets are –

(a) designed and managed so that –

(i) they are not harmful to humans or animals; and

(ii) their risks to beneficial uses of receiving waters are minimised, so far as reasonably practicable; and

(b) maintained for the purposes for which they were constructed.

(4) Councils must, in consultation with the Authority, Catchment Management Authorities established under the **Catchment and Land Protection Act 1994**, water corporations (other than in respect of irrigation functions, if any), landowners and the community, develop and implement stormwater management or equivalent plans that –

(a) identify potential risks to beneficial uses posed by stormwater and ways to minimise those risks and, in particular, that identify preferred options –

(i) to prevent the generation and transport of pollutants in stormwater; and

(ii) to minimise the generation, velocity and volume of stormwater flows; and

(iii) for stormwater reuse; and

(iv) the costs, funding needs, timelines and priorities for the preferred options; and

(b) outline a monitoring, reporting and evaluation program of the plan.

Explanatory Notes:

Urban stormwater runoff can have significant impacts on receiving waters as stormwater can contain sediments, nutrients, pathogens, toxicants, litter and other pollutants. Urban stormwater runoff volume, flow and frequency can also have significant impacts on receiving waters by degrading the ecological integrity of streams.

Clause 34 outlines roles and responsibilities for ensuring measures are undertaken to minimise these impacts and manage the risks to beneficial uses of surface waters.

Subclause (2) sets out the responsibilities of councils, as the responsible authorities, to assess and approve new developments to ensure that, if required by the **Victoria Planning Provisions**, they are designed to meet the environmental quality objectives set out in Chapter 2.3 of the *Best Practice Environmental Management Guidelines for Urban Stormwater*.

Subclause (3) sets out the provisions for owners and managers of assets created to protect water quality to renew or replace these assets when they are damaged, are no longer functional, or have effectively reached the end of their operational life, with substitute assets that meet equivalent environmental standards. This clause does not purport to give rights to a person to use a stormwater drain or assets for recreational purposes.

Subclause (4) sets out the responsibilities of councils, in consultation with the Authority, water corporations (Melbourne Water has functions under the **Water Act 1989** in respect of water supply, sewerage and waterway management), landowners, Catchment Management Authorities and the community to develop and implement stormwater management or equivalent plans to manage the impacts of urban stormwater runoff on receiving waters. This subclause sets out the required content and issues to be addressed in these plans (including identifying options to prevent the generation and transport of pollutants in stormwater, minimise the generation, velocity and volume of stormwater flows, identifying opportunities for stormwater use and identifying preferred options, together with costs, funding needs, timelines and priorities).

The assessment of reasonably practicable must be consistent with clause 12 of this Policy.

35. Management of saline discharges

(1) The discharge of saline wastewater, including discharges from groundwater pumping for salinity management and irrigation drains, must be managed to minimise the risks to the beneficial uses of receiving waters, so far as reasonably practicable.

(2) Without limiting subclause (1), for the purposes of section 12(2)(b) of the **Planning and Environment Act 1987**, in preparing a planning scheme or amendment to a scheme, a planning authority with areas within its municipal district subject to saline groundwater discharge, or high ground water recharge, must take into account this Policy in considering the significant effects of these on environmental quality.

(3) Without limiting subclause (1), for the purposes of section 60(1A)(f) of the **Planning and Environment Act 1987**, it is appropriate for a responsible authority to take into account this Policy in deciding applications for planning permits under that Act, if the management, use or changes in use of natural resources associated with the application are likely to contribute to, or increase the salinity of, waters.

(4) Without limiting subclause (1), a referral authority, in relation to any matter referred to it under the **Planning and Environment Act 1987**, must take into account this Policy if the management, use and changes in use of natural resources associated with the matter are likely to contribute to or increase the salinity of waters.

(5) Without limiting subclause (1), the Department of Environment, Land, Water and Planning must ensure that the saline discharges authorised by the Murray Darling Basin Authority do not contribute to increasing the salinity of land or waters and do not exceed agreed targets.

(6) Without limiting subclause (1), water corporations with irrigation functions under Part 11 of the **Water Act 1989**, and to which the Minister has delegated powers and functions regarding the administration of licences under that Act, must take into account this Policy and –

(a) manage groundwater pumps and irrigation drains in accordance with relevant regional land and water management plans; and

(b) set conditions on and ensure compliance with licences to use water for irrigation, in accordance with relevant regional irrigation development guidelines.

Explanatory Notes:

Clause 35 sets out which protection agencies have responsibilities for avoiding or minimising the impact of saline discharges and the specific actions that are to be taken in carrying out those responsibilities. The clause sets out responsibilities and tools for managing saline discharges as follow –

- Councils with areas subject to saline groundwater discharge, or high groundwater recharge, must ensure that their Planning Scheme addresses that risk by including objectives and strategies for managing the risk in their Municipal Strategic Statement and by applying the existing Salinity Management Overlay to those areas.
- Referral authorities, for the area covered by a Salinity Management Overlay, must ensure that their advice about the management, use, and changes in use of natural resources does not contribute to increasing the salinity of land or waters.
- The Department of Environment, Land, Water and Planning manages saline discharges relating to irrigation management in northern Victoria in accordance with the Murray Darling Basin Agreement. Increases in the salinity of waters may occur where saline wastewater is disposed of to waterways under the Murray Darling Basin Agreement. In these instances, its impact on surface waters may be offset or managed to achieve and maintain agreed minimum salinity levels in the River Murray system. This cap on salinity is maintained through management actions to comply with the Basin Salinity Target and salinity accountability framework under the Murray Darling Basin Agreement.
- The Department of Environment, Land, Water and Planning prepares guidance to Catchment Management Authorities on how to develop regional land and water management plans and regional irrigation development guidelines, incorporating management of saline discharges. The Department of Environment, Land, Water and Planning provides funding for Catchment Management Authorities to implement, evaluate and update the regional land and water management plans and regional irrigation development guidelines, including for the purposes of managing saline discharges.
- Regional land and water management plans and irrigation development guidelines provide practical guidance to water corporations on carrying out their responsibilities to manage water use licences and meet water use objectives under Parts 4 and 4B (for irrigation development guidelines) and Part 11 (for land and water management plans) of the **Water Act 1989**, within the context of their region.

36. Management of irrigation drains and channels on receiving waters

(1) Irrigation drains must be designed and managed to minimise risks to beneficial uses of receiving waters, so far as reasonably practicable, with particular regard to flow, sediment, nutrients, salt and other pollutants.

(2) Constructed irrigation channels and drains must be designed and managed so that they are not harmful to human health, plants or animals.

Explanatory Notes:

Clause 36 recognises that the discharge of irrigation water may transport pollutants to receiving waters and this must be managed. The discharge of drainage water and level of pollutants in channel and drainage water must be minimised.

Constructed irrigation channels and drains are artificial assets constructed for a specific purpose and, as such, are not expected to contain water suitable for protecting beneficial uses such as water dependent ecosystems and species or water-based recreation. However, in managing these artificial assets for the purposes for which they were constructed, water quality must not be harmful to humans or to animals that may come into contact with the water. This clause does not purport to give rights to a person to use an irrigation drain or channel for recreational purposes.

The assessment of reasonably practicable must be consistent with clause 12 of this Policy.

37. Responsibilities of protection agencies for irrigation drains

(1) Water corporations that have an irrigation district under the **Water Act 1989** should –

(a) when developing and implementing programs for improved irrigation, drainage and salinity mitigation practices under Part 11 of the **Water Act 1989** minimise risks to beneficial uses by –

(i) participating in implementing regional land and water management plans; and

(ii) setting and ensuring compliance with conditions on irrigation water use licences in accordance with regional irrigation development guidelines; and

(b) when reporting on their management of irrigation drains, have regard to the environmental, economic, social and cultural aspects of the catchments they serve when reporting on the achievements against their corporate plan, in accordance with section 251 of the **Water Act 1989**.

(2) The Department of Environment, Land, Water and Planning must maintain, implement, review and periodically renew, for each relevant Catchment Management Authority region, guidelines for the development and implementation of –

(a) land and water management plans that encourage the adoption of on-farm best management practices in order to reduce pollution into irrigation drains, and that seek to identify and implement cost-effective improvements to the management of outfalls from irrigation drains; and

(b) irrigation development guidelines that require the adoption of on-farm best management practices for new irrigation developments and significant redevelopments.

(3) Catchment Management Authorities must, in accordance with any Department of Environment, Land, Water and Planning guidelines referred to in subclause (2), develop and implement land and water management plans and irrigation development guidelines.

(4) The Department of Economic Development, Jobs, Transport and Resources, the Department of Environment, Land, Water and Planning and water corporations with irrigation districts must participate in the development, implementation and monitoring of land and water management plans and irrigation development guidelines.

Explanatory Notes:

Clause 37 provides for the responsibilities of relevant protection agencies in minimising the impact of irrigation drains and channels on receiving waters.

Water corporations with irrigation drainage districts as defined in the **Water Act 1989** are responsible for designing and managing irrigation drainage systems. Subclause 37(1) sets out the actions water corporations should take in managing the impacts of irrigation drains on the beneficial uses of receiving waters, and their requirements for reporting on the actions undertaken.

Under section 93 of the **Water Act 1989**, water corporations must have regard to the environmental, social, economic and equitable considerations of their drainage management functions.

If appropriate, water corporations' functions listed under section 221 of the **Water Act 1989** may be put into effect through participation in the development and implementation of land and water management plans, and the issuing and enforcement of conditions on irrigation water use licences.

Subclauses (2), (3) and (4) recognise and support the role of the Department of Environment, Land, Water and Planning, the Department of Economic Development, Jobs, Transport and Resources and Catchment Management Authorities to ensure that new and existing irrigation activities incorporate effective land management and efficient irrigation and water re-use practices.

- The Department of Environment, Land, Water and Planning holds responsibility for providing state-level guidance to relevant Catchment Management Authorities, water corporations and the Department of Economic Development, Jobs, Transport and Resources on developing and implementing regional land and water management plans and irrigation development guidelines that comply with the regulatory requirements established under section 222 (for land and water management plans), and Part 4B and section 51 (for irrigation development guidelines), of the **Water Act 1989**.
- Catchment Management Authorities hold responsibility to develop and coordinate implementation of regional land and water management plans and irrigation development guidelines as per the Catchment Management Authorities Statement of Obligations under the **Catchment and Land Protection Act 1994**.
- Through this participation in regional land and water management plan and irrigation development guidelines processes, the Department of Economic Development, Jobs, Transport and Resources, Department of Environment, Land, Water and Planning and water corporations with irrigation management functions carry out their responsibilities to manage water use licences and meet water use objectives under Part 4 and Part 4B (for irrigation development guidelines) and section 222 (for land and water management plans) of the **Water Act 1989**.

38. Management of recreation activities

(1) For the purposes of section 12(2)(b) of the **Planning and Environment Act 1987** in preparing a planning scheme or an amendment to a scheme, a planning authority with areas within its municipal district used for recreational activities and infrastructure must take into account the significant effects of the proposed planning scheme or amendment on beneficial uses.

(2) For the purposes of section 60(1A)(f) of the **Planning and Environment Act 1987**, if an application is for a recreational facility, it is appropriate for the responsible authority to consider the impact on beneficial uses arising from that facility and the recreational activities proposed to be conducted there.

(3) Protection agencies with responsibilities for the management of recreational facilities must, so far as reasonably practicable, ensure that –

(a) facilities are managed and maintained to avoid or minimise risks to beneficial uses; and

(b) effective measures to prohibit, manage or control recreational activities that pose a risk to beneficial uses are implemented.

Explanatory Notes:

Clauses 38 require planning authorities and responsible authorities to consider the impacts of recreational activities on beneficial uses of waters when exercising their functions, and for protection agencies to manage recreational activities and facilities, that can result in a level of erosion and sediment dispersal, to minimise risks to beneficial uses.

Subclause (1) refers to section 12(2)(b) of the **Planning and Environment Act 1987** which requires a planning authority, in preparing a planning scheme or amendment, to take into account any significant effects which it considers the scheme or amendment might have on the environment or which it considers the environment might have on any use or development envisaged in the scheme or amendment. As part of this process, a planning authority with areas within its municipal district used for recreational activities and infrastructure must take into account this Policy and, to that end, take into account the significant effects of the activities and infrastructure may have on the beneficial uses.

Subclause (2) refers to section 60(1A)(f) of the **Planning and Environment Act 1987** which states that before deciding on a permit application, a responsible authority must consider any significant social effects and economic effects which the responsible authority considers the use or development may have. In the case of an application for a recreational facility, the responsible authority must take into account this Policy in considering the impact on beneficial uses arising from that facility and the recreational activities proposed to be conducted there.

For the purposes of subclauses (3) 'protection agencies' include the Department of Environment, Land, Water and Planning, Parks Victoria, water corporations / storage managers, councils, the Corangamite Catchment Management Authority and the Victorian Fisheries Authority. The revised clause poses no new obligations. Obligations are to be met through existing legislative roles and responsibility.

Protection agencies can rely upon this Policy to justify the prioritisation of resources to develop strategies and programs to address threats to beneficial uses from recreational activities. This may take the form of imposing speed limits for water craft and the siting and development of facilities, the provision of litter bins and walking tracks to minimise impact, to the creation of new opportunities for recreation particularly along the urban tributaries, through streamside rehabilitation and revegetation, to encourage greater use and appreciation of community resources by the general public. The assessment of reasonably practicable must be consistent with clause 12 of this Policy.

39. Management of agricultural activities

(1) An occupier of a premises used for agricultural activities must minimise risks to beneficial uses associated with those activities, so far as reasonably practicable.

(2) For the purpose of compliance with subclause (1), measures to be implemented, where relevant, include, but are not limited to, the following –

(a) reducing runoff of animal wastes by –

(i) collecting and safe disposal of animal wastes; and

(ii) managing stock access to surface waters;

(b) reducing toxicant runoff through appropriate use of agricultural and veterinary chemicals;

(c) controlling nutrient and fertiliser use near waters;

(d) reducing sediment runoff through the implementation of soil conservation and erosion control measures, including the management of stock access to surface waters and runoff from areas of high stock concentration and farm roads;

(e) reducing sediment, toxicant, saline and nutrient runoff from irrigated land to irrigation drains by using efficient irrigation practices;

(f) implementation of the wastes hierarchy.

Explanatory Notes:

Clause 39 acknowledges that wastes and wastewater runoff from agricultural activities (e.g. intensive agricultural operations) and sources (e.g. stock entering waters) can cause elevated nutrients, pathogen and other pollutant levels, resulting in unsafe and poor quality water that can impact on a range of beneficial uses.

Subclause (1) requires occupiers of premises used for agricultural activities to minimise risks to beneficial uses, so far as reasonably practicable. The assessment of reasonably practicable must be consistent with clause 12.

Subclause (2) provides examples of some of the measures that occupiers may consider adopting to minimise the runoff of pollutants from their premises to waters. The measures identified are intended to be suggestive and not prescriptive, as what will be appropriate will depend on the circumstances of the occupier.

40. Management of instream works

(1) A person undertaking works in or adjacent to surface waters must minimise risks to beneficial uses associated with those works, so far as reasonably practicable.

(2) Protection agencies must ensure that works in, or adjacent to surface waters, are managed to minimise risks to beneficial uses associated with those works, so far as reasonably practicable, including by ensuring that –

(a) works do not pose a barrier to fish movement; and

(b) sediment resuspension and risks to water dependent ecosystems and species are minimised.

Explanatory Notes:

Excess sediment causes water to become turbid or muddy. It also increases the level of nutrients and other pollutants attached to sediments, and smothers habitats. Works in or near waterways can contribute to increased sedimentation. To protect beneficial uses, particularly water dependent ecosystems and species, work in, on, or adjacent to surface waters must be managed so that erosion and sediment resuspension are minimised. Clause 40 requires persons undertaking works to minimise risks to beneficial uses.

Relevant protection agencies must ensure that works in, on or adjacent to surface waters are managed to minimise risks posed to water dependent ecosystems and biodiversity. Relevant protection agencies are water corporations with licensing functions, Catchment Management Authorities and Melbourne Water with a bylaw under the **Water Act 1989**.

41. Management of the storage and handling of chemicals and hazardous substances

An occupier of a premises that includes the storage and handling of chemicals or other hazardous substances (including agricultural and veterinary chemicals, fertilizers, and oils and fuels) must minimise risks to beneficial uses associated with those chemical substances, so far as reasonably practicable.

Explanatory Note:

Clause 41 requires that potentially polluting chemicals are used and stored in such a way that minimises risks to beneficial uses, so far as reasonably practicable. The assessment of reasonably practicable must be consistent with clause 12. For assistance in complying with this clause, occupiers of premises should refer to the *Bunding Guidelines* (EPA Publication 347).

42. Management of construction activities

A person responsible for a construction activity must –

(a) ensure their activities are managed to minimise the risks to beneficial uses, so far as reasonably practicable, including risks from dewatering, land disturbance, soil erosion or the discharge of sediments and other pollutants to waters; and

(b) monitor surface waters where the construction activity adjoins or crosses surface waters to assess if beneficial uses are being protected; and

(c) comply with guidelines published or approved by the Authority in relation to the construction activity.

Explanatory Notes:

Clause 42 requires persons responsible for construction activities to ensure those activities do not cause mobilisation of existing groundwater contamination, and to implement effective management practices consistent with relevant guidelines. This includes undertaking monitoring where construction activities adjoin or cross surface waters, to assess if beneficial uses are being protected. The purpose of the clause is to reduce the risks of sediments and other pollutants entering waters from construction activities.

The following guidelines provide advice to assist in reducing risks to beneficial uses from construction activities –

- *Environmental Guidelines for Major Construction Sites* (EPA Publication 480);
- *Construction Techniques for Sediment Pollution Control* (EPA Publication 275);
- *Doing it Right on Subdivisions: Temporary Environment Protection Measures for Subdivision Construction Sites* (EPA Publication 960);
- *Hydrogeological Assessment (Groundwater Quality) Guidelines* (EPA Publication 668)*;*
- *Groundwater Sampling Guidelines* (EPA Publication 669).

43. Management of extraction risks to waters

Water corporations, where the Minister has delegated powers and functions in respect to the administration of licences under the **Water Act 1989**, must ensure that their licensing decisions do not pose a risk to beneficial uses through reducing the quality and quantity of the adjoining waters.

Explanatory Notes:

The management of ground and surface water through licensing decisions can affect the quality and quantity of the adjoining waters. It is important that groundwater management and extraction does not detrimentally affect the beneficial uses of surface waters, including impacts on surface waters associated with contaminated discharges of groundwater. Equally, surface water management and extraction should not detrimentally affect the beneficial uses of groundwater. Clause 43 provides that water corporations, where the Minister has delegated powers and functions in respect of the administration of licences under the **Water Act 1989**, can ensure through licensing provisions (section 40 matters) that water use does not impose a risk to the beneficial uses of the adjoining waters. The Ministerial *Guidelines for Groundwater Licensing and the Protection of High Value Groundwater Dependent Ecosystems* provides water corporations with a definition of the environmental values their licensing procedures are to consider.

44. Commitment to water conservation

Water corporations and councils must work with communities and businesses to implement water saving practices and measures, particularly for new developments.

Explanatory Notes:

Clause 44 recognises and supports the existing obligations and responsibilities of water corporations, referral authorities and councils (as the responsible authority) to implement water saving practices and efficiencies through the statutory planning process, particularly clauses 55.07-5 Apartment Developments, 56.07 Integrated water management planning provisions, 58.03-8 Site Layout and 14.02 Water conservation, of the **Victoria Planning Provisions**.

The **Water Act 1989** also contains requirements for water corporations to implement water saving practices and measures.

45. Native vegetation protection and rehabilitation

(1) For the purposes of section 60(1A)(f) of the **Planning and Environment Act 1987**, if an application is for the removal of native vegetation, the responsible authority must consider the impact on water quality from the proposed removal, and the role of native vegetation in protecting water quality and waterway and riparian ecosystems.

(2) Relevant protection agencies must coordinate and undertake the rehabilitation of riparian and instream vegetation, native coastal vegetation and marine vegetation identified through their –

(a) business planning; and

(b) relevant plans dealing with native vegetation protection and rehabilitation actions.

Explanatory Notes:

Councils, as responsible authorities, have responsibilities under the **Victoria Planning Provisions** (for example 56.17 Native Vegetation) to manage native vegetation to minimise land and water degradation through existing planning processes. This includes that before deciding on an application to remove, destroy or lop native vegetation the responsible authority must consider as appropriate the role of native vegetation in protecting water quality and waterway and riparian ecosystems.

Subclause (1) identifies the circumstances where it will be appropriate for responsible authorities to consider the impact on water quality and riparian ecosystems of a proposal to remove native vegetation.

Subclause (2) retains the requirement for protection agencies, such as the Department of Environment, Land, Water and Planning, Parks Victoria, Catchment Management Authorities, regional coastal boards and councils, in minimising the removal of native vegetation, and facilitating revegetation alongside and in rivers, streams, wetlands, lakes, estuaries and coasts.

It is intended that revegetation works carried out by protection agencies such as Parks Victoria, Catchment Management Authorities and regional coastal boards continue to be undertaken on a priority basis to the extent that resources allow and as developed through business planning cycles and as identified in regional waterway strategies, waterway or coastal action plans, or park management plans, where they contain native vegetation and rehabilitation actions.

This clause is not intended to preclude permitted activities under legislation for example, permitted harvesting activities under the **Fisheries Act 1995**. However, to the extent that such activities impact on beneficial uses, this Policy would need to be taken into consideration in the permitting process.

46. Management of floodplains and flood detention

(1) Councils, as the responsible authority, must ensure that floodplains are managed to protect beneficial uses, and in particular that –

(a) land use development or works on flood prone areas do not increase the risk of pollutants being transported during flood events which would pose a risk to beneficial uses; and

(b) waterways and their floodplains retain sufficient flood detention capacity to moderate peak flows to protect the beneficial uses of downstream waterways.

(2) Melbourne Water, when carrying out drainage, floodplain or waterway management functions under the **Water Act 1989**, must ensure that floodplains are managed to protect beneficial uses and, in particular that –

(a) land use development or works on flood prone areas do not increase the risk of pollutants being transported during flood events which would pose a risk to beneficial uses; and

(b) waterways and their floodplains retain sufficient flood detention capacity to moderate peak flows to protect the beneficial uses of downstream waterways.

(3) Catchment Management Authorities (other than the Port Phillip and Western Port Catchment Management Authority), when carrying out floodplain and waterway management functions under the **Water Act 1989** must ensure that floodplains are managed to protect beneficial uses, in particular that –

(a) land use development or works on flood prone areas do not increase the risk of pollutants being transported during flood events which would pose a risk to beneficial uses; and

(b) waterways and their floodplains retain sufficient flood detention capacity to moderate peak flows to protect the beneficial uses of downstream waterways.

Explanatory Notes:

Floodplains play an important role in reducing peak flows of floodwaters downstream during flood events and need to be managed to reduce the risk of pollutants being transported during flood events and avoid or minimise the increase in future flood risks. It is therefore important to ensure that land uses and any works on floodplains are closely scrutinised to ensure they do not adversely affect the functioning of floodplains during flood events.

Clause 46 requires councils, as the responsible authority, protection agencies, Melbourne Water and Catchment Management Authorities (with the exception of the Port Phillip and Western Port Catchment Management Authority) who have drainage, floodplain and waterway management functions, to ensure land use on floodplains minimises the risk of waterway contamination occurring during floods and floodplains that are able to function as temporary storage to moderate peak flows and minimise downstream impacts.

47. Management of roads

(1) A road authority responsible for the management of roads and infrastructure along urban, sealed, unsealed and forestry roads must minimise risks to beneficial uses, so far as reasonably practicable, from erosion, sediment and pollution transport.

(2) A protection agency responsible for the approval, construction or management of unsealed roads must minimise risks to beneficial uses, so far as reasonably practicable, from erosion, sediment and pollution transport.

Explanatory Notes:

Clause 47 requires road authorities and relevant protection agencies, such as the Department of Environment, Land, Water and Planning and Parks Victoria, to contribute to the protection of surface waters and their beneficial uses by reducing the amount of sediment and pollutant runoff from sealed and unsealed roads. The assessment of reasonably practicable must be consistent with clause 12 of this Policy. If this Policy conflicts with the duties imposed on a road authority under the **Road Management Act 2004**, then the **Road Management Act 2004** applies.

48. Management of forestry activities

(1) Forestry managers must manage their activities on both public and private land to minimise risks to beneficial uses from land disturbance and the runoff of pollutants, particularly sediment.

(2) To achieve this forestry managers must conduct their activities in compliance with the *Code of Practice for Timber Production* adopted under the **Sustainable Forests (Timber) Act 2004** as it relates to water quality.

Explanatory Notes:

Clause 48 ensures that forestry and timber harvesting activities on both private and public land are carried out in according with the *Code of Practice for Timber Production*, to minimise environmental impacts from land disturbance and runoff of pollutants into waters. This clause applies to forestry activities, forestry managers and operators.

Forestry managers must manage their activities on both public and private land to minimise impacts of forestry activities on beneficial uses including land disturbance and the runoff of pollutants, particularly sediments, to waters.

The Code of Practice applies to the planning and conducting of all commercial timber production and timber harvesting operations on both public and private land in Victoria. Timber harvesting operations are defined in the **Sustainable Forests (Timber) Act 2004** as any felling, cutting, removing and haulage activities carried out for the purposes of processing and sale of timber.

The Code of Practice does not apply to the collection or production of firewood for domestic use. Any roading, tending, regeneration or rehabilitation activities conducted in association with a timber harvesting operation are by definition, also a timber harvesting operation.

49. Management of releases from water storages

(1) For the purposes of section 122ZL(2)(c) of the **Water Act 1989**, storage managers must have regard to the risks that releases from water storages pose to downstream beneficial uses.

(2) For the purposes of section 171B of the **Water Act 1989**, Melbourne Water must have regard to the risks that releases from water storages pose to downstream beneficial uses.

(3) For storages where there is no appointed storage manager under section 122ZK of the **Water Act 1989**, the water corporation must have regard to the risks that releases from water storages pose to downstream beneficial uses.

(4) For the purposes of subclause (1), (2) and (3), storage managers, Melbourne Water and water corporations may demonstrate their consideration of risks by preparing a risk management plan that includes –

(a) an assessment of the impacts of variations of flow, sediment, salt, nutrients, temperature, dissolved oxygen and other pollutants; and

(b) risk mitigation measures to protect water quality and downstream beneficial uses which should be implemented, in consultation with affected stakeholders.

Explanatory Notes:

Releases from water storages are necessary to provide water for a range of uses, however these releases can alter flow regimes and result in changes in chemical and thermal properties of receiving waters. Clause 49 reinforces the requirement for relevant water storage managers to consider the water quality impacts of releases when performing their release functions.

Subclause (1) identifies obligations on storage managers identified under section 122ZK of the **Water Act 1989**. These obligations are consistent with requirements identified in section 122ZL(2)(c) of the **Water Act 1989** which requires storage managers to minimise the impact on the environment when carrying out its functions.

Subclause (2) identifies obligations on Melbourne Water which has storage management functions under section 171B of the **Water Act 1989**. Subclause 7-2.5 of the Statement of Obligations (General) requires water corporations to ensure that water releases do not pose a risk through changes in temperature, dissolved oxygen, sediment, nutrients and other substances when renewing or carrying out major works on dams or existing structures on waterways.

Subclause (3) identifies obligations where there may be no storage manager identified under section 122ZK of the **Water Act 1989**. In such situations, there may be a requirement in the relevant Bulk Entitlement for the water corporations to assess and manage the environmental effects of operating a storage. This is usually termed an 'Environmental Obligation'.

Storage managers should prepare a risk management plan (or equivalent) to demonstrate that risks to downstream beneficial uses have been considered. Subclause (4) recommends that this should be done in consultation with affected stakeholders.

50. Management of dredging and desilting

(1) A person that undertakes dredging and desilting activities must minimise risks to beneficial uses associated with those activities, so far as reasonably practicable.

(2) Without limiting subclause (1), a person must implement the environmental management practices outlined in the *Best Practice Environmental Management Guidelines for Dredging,* if applicable to the person's activities.

Explanatory Notes:

Dredging is necessary to create and maintain shipping and boating channels and canal developments, to enable international trade, safe fishing, recreational boating and to maintain estuary openings. Desilting is also required in water storages to maintain their storage capacity.

These activities have the potential to cause environmental impact. The main environmental impacts are the release of contaminants and nutrients from disturbed sediments (which can have toxic effects on aquatic life) and increases in turbidity (which can impact on the aquatic ecology by limiting light penetration and by smothering habitats). Therefore, these activities need to be managed to minimise their impact on the environment and its uses.

Clause 50 requires that persons undertake dredging activities in accordance with effective management practices in the *Best Practice Environmental Management Guidelines for Dredging* (EPA Publication 691) published by the Authority.

These guidelines outline the process for considering and approving dredging proposals. The guidelines also describe issues to be addressed to minimise the environmental impact of dredging and enable the long-term protection of beneficial uses. A key issue is that dredge spoil is disposed to land in preference to water. In some circumstances the *National Assessment Guidelines for Dredging* (2009) have been applied for the environmental impact assessment and permitting of the ocean disposal of dredged material. The guidelines provide a detailed, rigorous process for assessing sediment quality to determine disposal options.

The assessment of reasonably practicable must be consistent with clause 12 of this Policy.

51. Management of waste and wastewater from ports, marinas and vessels

(1) An operator of a port or marina must ensure operations and maintenance activities are conducted in accordance with an environment management plan approved under the **Ports Management Act 1995** or any relevant guidance published or approved by the Authority.

(2) An operator of a vessel must ensure that wastes produced on board the vessel are contained and subsequently transferred to an approved or authorised treatment or disposal facility.

(3) An operator or manager of a port or marina should provide appropriate facilities to receive wastes from vessels, consistent with any guidelines published or approved by the Authority.

(4) Subclause (2) does not apply to the disposal of houseboat greywater on Lake Eildon, however, if the Water (Lake Eildon Recreation Area) (Houseboat) Regulations 2013 specify requirements for the disposal of houseboat greywater on Lake Eildon, operators must comply with the requirements in those regulations.

Explanatory Notes:

Clause 51 sets out the responsibilities of port, marina and vessel operators to ensure that wastes and wastewater from port, marina and vessel operations and maintenance activities are managed to minimise risks to beneficial uses.

Subclause (1) reflects the existing obligations on port operators and managers to develop environment management plans under the **Port Management Act 1995**, usually referred to as Safety and Environment Management Plans (SEMP). Marina operators and managers can meet this obligation if they are accredited by the International Clean Marina Program.

Port operators and managers should ensure these plans identify and implement effective management practices to protect beneficial uses (e.g. when undertaking mechanical or servicing activities, painting and fibreglass repair, and refuelling).

These plans should also consider the risks associated with vessel biofouling. Prevention measures to manage the risk of vessel biofouling may include regular hull maintenance, cleaning of biofouling, appropriate disposal of biofouling waste, the application of bio-fouling paint and the cleaning of internal and external systems and equipment.

Guidance is available to assist port, marina and vessel operators to implement effective management practices to minimise risks to beneficial uses, including, but not limited to the following –

- *The Ministerial Guidelines: Port Safety and Environment Management Plans (2012);*
- *IMO MEPC.1/Circ.834 Consolidated guidance for port reception facility providers and users (2014);*
- *Best Practice Guidelines for Waste Reception Facilities at Ports, Marinas and Boat Harbours in Australia and New Zealand (1997);*
- *International clean marina program accreditation guidebook;*
- *Cleaner marinas: EPA guidelines for protecting Victoria's marinas* (EPA Publication 624).

Subclause (2) identifies that it is the responsibility of all vessel operators to ensure that wastes, including sewage, produced on the vessel are contained and subsequently transferred to appropriate disposal facilities. However, subclause (2) does not apply to the disposal of houseboat greywater on Lake Eildon.

The Water (Lake Eildon Recreation Area) (Houseboat) Regulations 2013 contain more detailed requirements for the management of wastewater from houseboats in this area. At the time of gazettal, there are no requirements included in these regulations as they are being reviewed. This means that at present the discharge of untreated greywater from houseboats into Lake Eildon is permitted.

52. Management of aquatic pests

Vessel owners and operators should implement effective maintenance practices to prevent the introduction and spread of aquatic pests from biofouling on vessels.

Explanatory Notes:

Clause 52 encourages vessel operators to implement effective management practices to prevent the introduction and spread of aquatic pests.

As aquatic pests can be introduced by vessel biofouling, vessel operators should undertake regular hull maintenance and cleaning of biofouling, appropriately dispose of biofouling waste, apply anti-fouling paint and ensure that internal and external systems and equipment are cleaned. Safety and Environment Management Plans (SEMP) also provide an existing mechanism for port and marina operators to address biofouling of artificial structures, such as piers and pontoons, which are major harbourers of invasive species.

This clause does not include ballast water because this is managed through the Waste Management Policy (Ships Ballast Water) 2017.

DIVISION 3 – PROTECTING GROUNDWATER BENEFICIAL USES

53. Direct waste discharge to groundwater

(1) A person must not directly discharge waste to an aquifer by means of a bore, underground mine workings, infiltration basin, evaporation basin, excavations, or other similar structures, unless the Authority or other relevant protection agencies approve that discharge.

(2) Subject to subclause (3), the Authority or other relevant protection agency must only approve a discharge referred to in subclause (1) if it is satisfied that –

(a) the discharge will not exceed the environmental quality objectives specified in Schedule 3 of this Policy; and

(b) the discharge of waste is for any of the following purposes –

(i) aquifer recharge;

(ii) irrigation drainage;

(iii) stormwater disposal;

(iv) backfilling of underground mine workings with tailings;

(v) mine rehabilitation;

(vi) in-situ desalination;

(vii) groundwater tracers;

(viii) greenhouse gas sequestration operations.

(3) Despite subclause (2)(a), the Authority or other relevant protection agency may approve a discharge referred to in subclause (1) if it is satisfied that:

(a) risks to beneficial uses will be minimised, so far as reasonably practicable; and

(b) the discharge will not pose an unacceptable risk to beneficial uses.

(4) The Authority may approve a groundwater clean up project involving the injection of water or remediation chemicals to an aquifer, if the Authority is satisfied that –

(a) the environmental quality objectives specified in Schedule 3 will be met by the completion of the project; and

(b) there will be no risk to beneficial uses beyond the boundary of the premises on which the project is being conducted; or

(c) remediation is undertaken in accordance with –

(i) relevant guidelines published or approved by the Authority; or

(ii) the requirements of clause 58.

Explanatory Notes:

Clause 53 identifies the circumstances in which the direct discharge of waste to an aquifer may be permitted by the Authority. This is provided only for the limited circumstances listed in subclause 2(b) and is at the discretion of the Authority or other relevant protection agencies. The assessment of reasonably practicable must be consistent with clause 12.

Direct injection should be undertaken in accordance with relevant guidelines, including –

- *The cleanup and management of polluted groundwater* (EPA Publication 840);
- *Guidelines for managed aquifer recharge (MAR) – health and environmental risk management* (EPA Publication 1290);
- Policies for Managing Section 76 Approvals –
  - * *Technical Advisory Notes: Groundwater Desalination with Underground Disposal; and*
  - * *Managed Aquifer Recharge: Technical Advisory Notes to Delegates*;
- *Abandonment of mineral drillholes, Guidelines for Environmental Management in Exploration and Mining Minerals & Petroleum Division;*
- *Rehabilitation Plans & Other Environmental Aspects of Work Plans, Guidelines for Environmental Management in Exploration and Mining, Minerals and Petroleum Division.*

54. Clean up of non-aqueous phase liquids

(1) An occupier of premises –

(a) where non-aqueous phase liquid is present in an aquifer, must clean up the non-aqueous phase liquid; or

(b) where non-aqueous phase liquid is present in an aquifer and the source of the liquid is located on the premises, must –

(i) clean up the non-aqueous phase liquid; and

(ii) remove or control the source of the non-aqueous phase liquid.

(2) To minimise risks to beneficial uses, an occupier under this clause must clean up the non-aqueous phase liquid, so far as reasonably practicable and consistent with any relevant guidelines published or approved by the Authority.

Explanatory Notes:

Clause 54 provides that where non-aqueous phase liquid pollution is present in an aquifer, the occupier of the premises must clean up the pollution. If the source of the pollution is located on the premises, the occupier must also remove or control the source. The clean up of pollution must be undertaken so far as reasonably practicable. The assessment of reasonably practicable must be consistent with clause 12 and relevant guidance approved or published by the Authority, including –

- *The cleanup and management of polluted groundwater* (EPA Publication 840);

Other guidelines of relevance include –

- *Hydrogeological assessment (groundwater quality)* (EPA Publication 668); and
- *The design, installation and management requirements for underground petroleum storage systems (UPSS*) (EPA Publication 888).

55. Rising water tables

If a protection agency receives an application for the discharge, deposit or disposal of waste to land that may pose a risk to environmental quality or beneficial uses, the agency must consider the background rate of rise of the water table and impacts associated with a rise of the water table on environmental quality and beneficial uses.

Explanatory Notes:

Land based waste disposal facilities (e.g. wastewater storage lagoons or landfills) and activities (e.g. discharge of dairy effluent or wastewater irrigation) may pose a risk to groundwater quality and impact on beneficial uses of groundwater, surface water and land.

The objective of clause 55 is to manage risks to beneficial uses in locations where water tables may rise and affect the integrity of the storage or disposal areas, which may lead to leakage and pollution. Protection agencies that consider land-based waste disposal applications must consider the impacts that naturally occurring shallow water tables or rising water tables may have on beneficial uses.

56. Hydrogeological assessment

The Authority may require a hydrogeological assessment be undertaken by an applicant for, or holder of, a works approval or licence, or a recipient of a notice to determine –

(a) existing groundwater contamination and resulting risks to beneficial uses; and

(b) potential risks to groundwater quality and beneficial uses.

Explanatory Notes:

Clause 56 provides that the Authority may require a person to undertake a hydrogeological assessment as part of a works approval or in licence conditions or notice requirements. The *Hydrogeological Assessment (Groundwater Quality) Guidelines* (EPA Publication 668) provides further information on the process for undertaking a hydrogeological assessment. An essential component of a hydrogeological assessment is the development of a clear conceptual model of the hydrogeology, the contamination and the potential human health and environmental risks.

57. Groundwater attenuation zones

(1) In issuing or amending a works approval, licence or notice, the Authority may determine a groundwater attenuation zone, within which some or all of the environmental quality objectives set out in this Policy are not required to be achieved.

(2) The Authority must not determine a groundwater attenuation zone unless it is satisfied that all the following matters apply –

(a) the applicant has taken all reasonably practicable measures to minimise the pollution of groundwater;

(b) the groundwater attenuation zone will only be used for one or more of the following activities –

(i) landfills receiving council waste;

(ii) wastewater irrigation;

(iii) wastewater lagoons;

(iv) ash ponds;

(v) evaporation basins that are incorporated in Government approved salinity management plans;

(c) the environmental quality objectives set out in Schedule 3 of this Policy are met at the boundaries of the premises to which the works approval, licence or notice relates;

(d) there will be no risk to beneficial uses at the boundary of the groundwater attenuation zone.

(3) A works approval, licence or notice must specify the location and boundaries of the groundwater attenuation zone and which environmental quality objectives are not required to be achieved.

(4) A works approval, licence or notice may require –

(a) a groundwater monitoring program to be carried out from sampling points at the boundaries of the groundwater attenuation zone or close to any source of pollution; and

(b) preparation of a contingency plan to the Authority's satisfaction that will be implemented if groundwater at or beyond the boundaries of the groundwater attenuation zone is polluted.

(5) On revocation of a notice or upon surrender or revocation of a licence or works approval in which a groundwater attenuation zone has been designated, the Authority may determine that area as a groundwater quality restricted zone.

Explanatory Notes:

Clause 57 provides that if the Authority is satisfied that all reasonably practicable measures have been taken to prevent pollution of groundwater, it may determine a groundwater attenuation zone for the listed activities. The assessment of reasonably practicable must be consistent with clause 12.

A groundwater attenuation zone allows the groundwater quality objectives set out in clause 7 of Schedule 3 to be exceeded. This may be allowed on the condition that the pollutants present in the groundwater are attenuated such that water quality meets the environmental quality objectives at the boundary of the groundwater attenuation zone.

Subclause (2) provides rules for the Authority to follow in making a determination for a groundwater attenuation zone and subclause (3) provides that a works approval, licence or notice must specify the location and boundaries of the zone. This ensures that the pollution of groundwater does not occur beyond the boundary of the zone or beneath other properties. Subclause (2)(b)(iii) is intended to apply to wastewater storage lagoons or wastewater treatment lagoons associated with wastewater treatment plants.

58. Groundwater quality restricted use zones

(1) If the Authority is satisfied that an existing level of pollution of groundwater precludes one or more beneficial uses that would otherwise apply to that groundwater, the Authority may determine a groundwater quality restricted use zone.

(2) The Authority must require groundwater within the groundwater quality restricted use zones to be managed to contain polluted groundwater within the zone.

(3) To protect the beneficial uses set out in this Policy, the Authority may require a person to clean up, so far as reasonably practicable, groundwater within a groundwater quality restricted use zone.

(4) The Authority may periodically require the reassessment of the practicability of a clean up required by subclause (3).

(5) The Authority must not issue or amend a works approval or licence, or transfer a licence in respect of premises situated within a groundwater quality restricted use zone, unless it is satisfied that there will be no –

(a) risk of further degradation of groundwater quality in the groundwater quality restricted use zone as a result of an activity or proposed activity at the premises, beyond a proposed or currently designated attenuation zone; and

(b) risk to beneficial uses, beyond the boundaries of the groundwater quality restricted use zone.

Explanatory Notes:

Clause 58 enables a groundwater quality restricted use zone to be identified by the Authority where there is an existing level of groundwater pollution that precludes one or more beneficial uses that would otherwise apply.

Subclause (3) requires that the Authority may require clean up of groundwater pollution within a groundwater quality restricted use zone. The Authority may require this through a condition of a licence or works approval, for example. In this context, clean up has the same meaning set out in section 4 of the Act. The assessment of reasonably practicable must be consistent with clause 12 with further guidance provided in the following publications –

- *Groundwater quality restricted use zone* (EPA Publication 862);
- *The cleanup and management of polluted groundwater* (EPA Publication 840).

SCHEDULES

SCHEDULE 1: SEGMENTS

This Schedule prescribes the segments of the water environment referred to in clause 9. These criteria must be used to determine which segment water belongs in order to determine which beneficial uses of water apply to that segment.

1. Groundwater segments

(1) The segments of the groundwater environment specified in Table 1 of this Schedule are defined by the background level of Total Dissolved Solids (TDS) in the groundwater.

(2) For the purposes of this schedule '**Total Dissolved Solids**' is a measure of salinity.

TABLE 1: GROUNDWATER SEGMENTS

SEGMENT	A1	A2	B	C	D	E	F
TDS range (mg/L)	0-600	601-1,200	1,201-3,100	3,101-5,400	5,401-7,100	7,101-10,000	>10,001

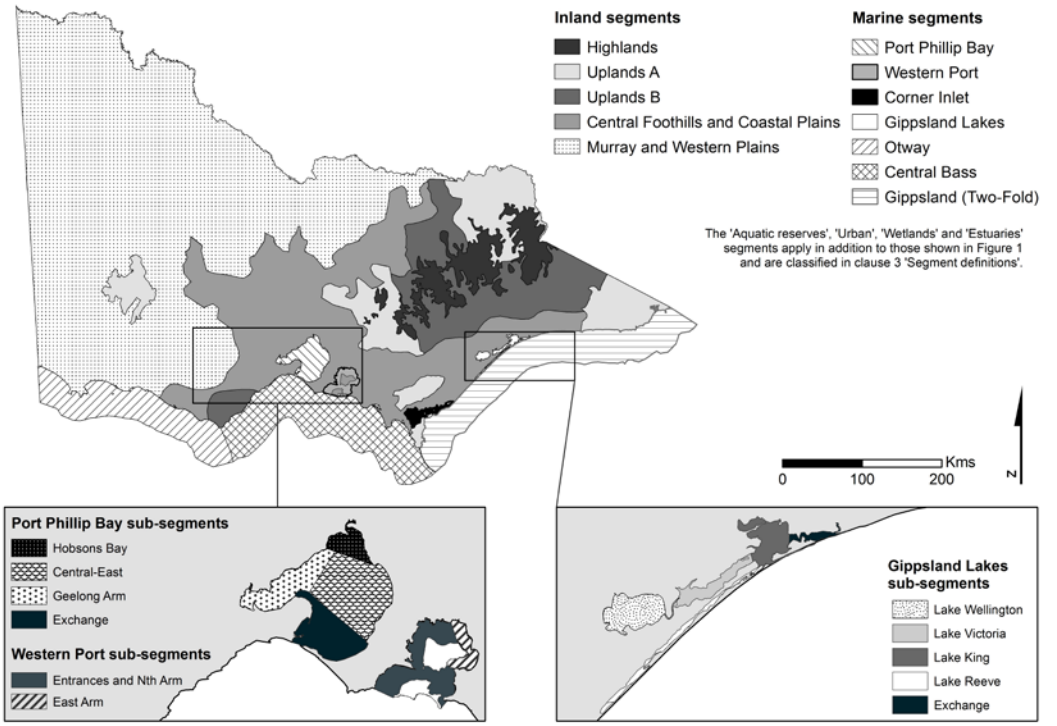
Explanatory Notes:

Clause 1 and Table 1 of this Schedule 'Segments' define the segments for groundwater by reference to Total Dissolved Solids, which is a measure of salinity. For example, where a measure of salinity is taken from water in an aquifer and is in the range of 1,201–3,100 mg/L, the groundwater is classified as segment B and the beneficial uses applying to that segment (set out in Table 2 of Schedule 2) are to be protected in relation to water in that aquifer.

2. Surface water segments

For the purposes of this Policy, segments are divided into geographic regions for surface waters, set out in Figure 1 and clause 3.

FIGURE 1: SURFACE WATER SEGMENTS



Explanatory Notes:

Clause 2 of Schedule 1 'Segments' and Figure 1 defines geographic regions that constitute the segments for surface waters. For surface waters, segments are further classified into sub-segments by clause 3 of this Schedule. The beneficial uses of water and surface waters will vary depending on the segment and sub-segment. The application of beneficial uses to particular segments is set out in Schedule 2 'Beneficial Uses'.

3. Segment definitions

For the purposes of this Schedule the segments of surface water environments are as follows –

(1) *Aquatic Reserves* segment consisting of the surface waters –

(a) in nature conservation reserves reserved or approved by Order of the Governor in Council for public purposes or the conservation of their natural values under the **Crown Land (Reserves) Act 1978**;

(b) State Wildlife Reserves under the **Wildlife Act 1975**;

(c) reference areas proclaimed under the **Reference Areas Act 1978**;

(d) areas listed in Schedules 2,4,7 and 8 to the **National Parks Act 1975**;

(e) fisheries reserves declared under section 88 of the **Fisheries Act 1995**.

(2) *Rivers and streams* comprising the following six segments (but not including the rivers and streams within the Aquatic Reserves segment) –

(a) *Highlands* – the mountain river and stream reaches in the Upper Murray, Mitta Mitta, Kiewa, Ovens, Goulburn, Yarra, Latrobe, Thomson, Macalister, Mitchell, Tambo and Snowy basins, being the mountain river and stream reaches in the generally alpine and sub-alpine environments above 1,000 m in altitude;

(b) *Uplands A* – comprising the river and stream reaches of the following (which are generally above 400 m in altitude but also including some coastal areas) –

(i) Wilsons Promontory, Strzelecki Ranges, and uplands of the East Gippsland basin;

(ii) uplands of the Upper Murray and Kiewa basins;

(iii) the Grampians;

(iv) uplands of the Upper Thomson, Latrobe, South Gippsland, Bunyip and Yarra basins;

(v) uplands of the Upper Goulburn (part) and Broken basins;

(c) *Uplands B* – comprising the river and stream reaches of the following (which are generally above 400 m in altitude) –

(i) Otway Ranges;

(ii) uplands of southern draining basins - East Gippsland, Snowy, Tambo and Mitchell;

(iii) uplands of northern draining basins – Ovens, Broken and Goulburn (part);

(d) *Central Foothills and Coastal Plains* – comprising the river and stream reaches of the following (the central foothills are generally above 200 m in altitude and the coastal plains are below 200 m in altitude, but do not include the river and stream reaches in the Urban segment) –

(i) lowlands of the Barwon, Moorabool, Werribee and Maribyrnong basins and the Curdies and Gellibrand Rivers;

(ii) lowlands of the Yarra, South Gippsland, Bunyip, Latrobe, Thomson, Mitchell, Tambo and Snowy basins;

(iii) uplands of the Moorabool, Werribee, Maribyrnong, Campaspe, Loddon Avoca, Wimmera and Hopkins basins;

(iv) foothills of the Ovens, Broken and Goulburn basins;

(e) *Urban* – the areas within the urban growth boundary for Metropolitan Melbourne (as shown on the metropolitan fringe planning schemes set out in section 46AA of the **Planning and Environment Act 1987**), including Dandenong Creek, the tributaries of the Yarra, Maribyrnong and Werribee Rivers, and the current developed areas in the Mornington Peninsula and Western Port catchments, but not including –

(i) the Yarra, Maribyrnong and Werribee Rivers which are included in the Central Foothills and Coastal Plains segment; or

(ii) the undeveloped urban land in the Urban Growth Zones and Low Density Urban Residential Zone in the metropolitan fringe planning schemes, as set out in the **Victoria Planning Provisions** which are included in the Central Foothills and Coastal Plains segment;

(f) *Murray and Western Plains* – comprising the river and stream reaches of the following (which are generally below 200 m in altitude) –

(i) lowlands of the Kiewa, Ovens, and Goulburn basins;

(ii) lowlands of the Campaspe, Loddon, Avoca, Wimmera and Mallee basins;

(iii) lowlands of the Glenelg, Hopkins, Portland and Corangamite and Millicent Coast basins.

(3) *Wetlands* segment being the surface waters in alpine bogs, large open lakes, inland hyper-saline lakes, floodplains and billabongs, swamps and mudflats (but not including marine and estuarine wetlands, wetlands within the Aquatic Reserves segment or constructed stormwater wetlands) and comprising the following two subsegments –

(a) *Lakes* – the areas defined in the Victorian Wetland Inventory as 'lacustrine';

(b) *Swamps* – the areas defined in the Victorian Wetland Inventory as 'palustrine' (swamps, marshes, meadows).

(4) *Marine and Estuarine* comprising the following six segments –

(a) *Estuaries* – the surface waters that have substantial variation in salinity due to mixing of marine and fresh waters and are at least 1 km long or have lagoonal lengths of at least 300 m (and including the riparian, animal and plant communities that are affected by the waters of the estuary), and –

(i) including tributary estuaries that flow into Corner Inlet, Gippsland Lakes, Western Port and Port Phillip Bay; but

(ii) not including the Gippsland Lakes subsegments and the predominately marine waters of Port Phillip Bay, Western Port and Corner Inlet segments or estuaries within the Aquatic Reserves segment;

(b) *Port Phillip Bay* – the surface water bounded by high water and the Port Phillip Bay heads and comprising the following four subsegments (but not including marine waters within the Aquatic Reserves segment) –

(i) *Hobsons Bay* – the surface waters in the northern section of Port Phillip Bay bounded by Point Cook and Ricketts Point that are directly influenced by outflows from the Yarra River and urban stormwater;

(ii) *Central-East* – the surface waters of the central section of Port Phillip Bay extending from Point Cook and Ricketts Point in the north, to Mt Martha and Point Richards in the south;

(iii) *Geelong Arm* – the surface waters of the Werribee coastal zone extending 5 km offshore from Point Cook and south to Point Richards and encompassing the Geelong Arm;

(iv) *Exchange* – the surface waters of the section of Port Phillip Bay extending south from Point Richards and Mt Martha to Port Phillip Heads;

(c) *Western Port* – the surface waters bounded by high water of Western Port shores and the western and eastern entrances to Bass Strait and comprising the following two subsegments (but not including marine waters within the Aquatic Reserves segment) –

(i) *Entrances and North Arm* – the surface waters of the section of the bay bounded by the western (West Head to Point Grant) and eastern (Cape Woolamai) entrances to Bass Strait and the boundaries of the East Arm;

(ii) *East Arm* – the surface waters of the section of the bay bounded in the west by Tooradin (Pelican Point and Palmer Point), and in the south east by Corinella (Stockyard Point to Settlement Point);

(d) *Corner Inlet* – the surface waters bounded by high water of the Corner Inlet shores (including coastal islands) and the entrances to Bass Strait (but not including marine waters within the Aquatic Reserves segment);

(e) *Gippsland Lakes* – the surface waters bounded by the entrance to Gippsland Lakes and the shores of the following five subsegments (but not including marine waters within the Aquatic Reserves segment) –

(i) *Lake Wellington* – the surface waters of Lake Wellington and McLennans Strait;

(ii) *Lake Victoria* – the surface waters bounded by Lake King in the east and the entrance to McLennans Strait in the west;

(iii) *Lake King* – the surface waters bounded by the Exchange and Lake Victoria subsegments;

(iv) *Lake Reeve* – the surface waters bounded by the entrance to Lake Victoria;

(v) *Exchange* – the surface waters bounded by the entrance to Gippsland Lakes and the entrance to Lake King in the west;

(f) *Open Coast* – the surface waters of the territorial seas adjacent to the coasts of Victoria bounded by high water and the New South Wales and South Australian borders and extending 12 nautical miles seaward, and including the following three subsegments that are based upon the Integrated Marine and Coastal Regionalisation of Australia (IMCRA) bioregions in Victoria (but not including marine waters within the Aquatic Reserves segment) –

(i) *Otway* – the surface waters of the open coast bounded by the South Australian state border and Cape Otway; and extending 12 nautical miles seaward from high water;

(ii) *Central Bass Strait* – the surface waters of the open coast bounded by Cape Otway and Wilsons Promontory and extending 12 nautical miles seaward from high water;

(iii) *Gippsland (Two-Fold)* – the surface waters of the open coast bounded by Wilsons Promontory and the NSW border and extending 12 nautical miles seaward from high water.

Explanatory Notes:

Clause 3 of Schedule 1 'Segments' further classifies the geographic regions that constitute the segments for surface waters.

Subclause (2) identifies the *Rivers and Streams* segment which consists of the *Highlands, Uplands A, Uplands B, Central Foothills and Coastal Plains and Murray* and *Western Plains* drawn in Figure 1 of this Schedule, and the *Urban* segment for waterways within the urban boundary of Melbourne.

The Urban segment has been included so that environmental quality objectives that are more reflective of highly modified environments can be applied. The inclusion of the segment is intended to drive urban stormwater management plans and waterway strategies to improve water quality. Objectives for this segment are based on reference sites in modified agricultural areas, so represent a condition for urban waterways that are largely free of urban impacts and therefore still a target for improvement. The *Urban* segment also excludes the Yarra, Maribyrnong and Werribee rivers to protect the better water quality of these waterways.

The *Urban* segment excludes undeveloped urban land in the Urban Growth Zones and the Low Density Residential Zone in planning schemes, as listed in the **Victoria Planning Provisions**. For the purposes of the *Urban* segment, undeveloped land means land where civic works associated with urban development, have not commenced.

Subclause (3) identifies the *Wetlands* segment, which includes two sub-segments for *Lakes* and *Swamps*. However, there is currently insufficient data available in Victoria to set environmental quality objectives for the *Swamps* sub-segment. Given the importance of this wetland type in terms of numbers and extent, this sub-segment has been included in this Policy to support the development of environmental quality indicators and objectives over the life of this Policy.

Subclause (4) identifies the sub-segments of the *Marine and Estuaries* segment.

SCHEDULE 2: BENEFICIAL USES

This Schedule sets out the beneficial uses of the waters referred to in clauses 14, 15 and 16 that are to be protected in accordance with this Policy. These uses are set out in three categories to define how they are applicable to waters, or specific to groundwaters or surface water.

1. The beneficial uses of water

(1) The beneficial uses of all waters are set out in Table 1.

(2) The beneficial uses of groundwater set out in Table 2 are protected in all segments marked with a tick.

(3) Subject to subclause (5) the beneficial uses of surface waters set out in Table 3 and Table 4 are protected in all segments marked with a tick.

(4) For the purposes of Table 3 and Table 4, if a segment is marked with a tick that is asterisked there is an exclusion identified in Table 5.

(5) For the purposes of this Schedule, Table 5 sets out exclusions where beneficial uses are not protected in a particular segment.

Explanatory Notes:

Clause 1 of Schedule 2 'Beneficial Uses' sets out the beneficial uses of waters and the segments to which they apply.

The beneficial uses of all waters (both surface water and groundwater) are defined in Table 1 of this Schedule, with columns 1 of that Table listing the use and column 2 of that Table describing what the purpose or intent of that use is. For example, to protect the beneficial use of Aquaculture the intent is that water quality be suitable for the production of fish for human consumption.

Table 2 of this Schedule describes groundwater segments in which the beneficial uses for water are applicable and are protected by marking each segment with a tick.

Tables 3 and Table 4 of this Schedule describes surface water segments in which the beneficial uses for water are applicable and are protected by marking each segment with a tick.

Subclauses (4) and (5) provide for exclusions to the protection of beneficial uses of surface waters in the circumstances described in Table 5

TABLE 1: BENEFICIAL USES FOR WATER

Beneficial use	**Beneficial use purpose or intent**
Water dependent ecosystems and species	Water quality that is suitable to protect the integrity and biodiversity of water dependent ecosystems. This beneficial use encompasses: • protection of the integrity of riparian vegetation as it contributes to the health of water dependent ecosystems and bank stability; • that groundwater quality does not adversely affect surface water ecosystems; • ensures that groundwater quality does not adversely affect natural ecosystems that require access to groundwater to meet all or some of their water requirements on a permanent or intermittent basis to maintain their communities of organisms, ecological processes and ecosystem services. This includes wetlands, rivers and streams reliant on groundwater baseflow, some terrestrial vegetation and some estuarine and near-shore marine systems, stygofauna and troglofauna; • maintenance of fish passage.

Beneficial use	Beneficial use purpose or intent
Human consumption after appropriate treatment	Water quality that is suitable for use by drinking water suppliers after appropriate treatment as drinking water and for delivery to consumers. Water quality that is suitable for use by the Wonthaggi desalinisation plant.
Potable water supply	Groundwater quality that is suitable for raw/potable water supply.
Potable mineral water supply	Water quality that is suitable for drinking and, in its natural state, contains soluble minerals and natural gases causing effervescence.
Agriculture and irrigation	Water quality that is suitable for agricultural activities such as stock watering and irrigation, as well as a range of other uses such as the irrigation of domestic gardens, commercial agriculture, parks and golf courses.
Human consumption of aquatic foods (natural populations – commercial and recreational catch)	Water quality that is suitable for the safe human consumption of fish and any other aquatic plant, algae or invertebrate.
Aquaculture	Water quality that is suitable for the production of fish for human consumption via aquaculture.
Industrial and commercial use	Water quality that is suitable for industrial and commercial use.
Water-based recreation	Water quality that is suitable for primary contact recreation (e.g. swimming, diving, water skiing, caving and spas), secondary contact recreation (e.g. boating and fishing) and for aesthetic enjoyment.
Traditional Owner cultural values	Water quality that protects the cultural values of Traditional Owners, having recognised primary responsibility for protecting the values of water for cultural needs, to ensure that Traditional Owner cultural practices can continue. Values may include traditional aquaculture, fishing, harvesting, cultivation of freshwater and marine foods, fish, grasses, medicines and filtration of water holes.
Cultural and spiritual values	Water quality that is suitable for cultural and spiritual needs and that will ensure that cultural, spiritual and ceremonial practices can continue. These include the cultural values held by communities (e.g. baptisms, water-based festivals and cultural celebrations).
Navigation and shipping	Water quality that is suitable for shipping transport and harbour facilities.
Buildings and structures	Groundwater quality where introduced contaminants do not cause groundwater quality to become corrosive to buildings, structures, property and materials.
Geothermal properties	Groundwater quality that will not affect the natural thermal capacity of the groundwater (e.g. temperature).

TABLE 2: BENEFICIAL USES FOR GROUNDWATER

BENEFICIAL USE	**SEGMENT (TDS mg/L)**						
	A1 (0-600)	A2 (601-1,200)	B (1,201-3,100)	C (3,101-5,400)	D (5,401-7,100)	E (7,101-10,000)	F (>10,001)
Water dependent ecosystems and species	✓	✓	✓	✓	✓	✓	✓
Potable water supply (desirable)	✓						
Potable water supply (acceptable)		✓					
Potable mineral water supply	✓	✓	✓	✓			
Agriculture and irrigation (irrigation)	✓	✓	✓				
Agriculture and irrigation (stock watering)	✓	✓	✓	✓	✓	✓	
Industrial and commercial	✓	✓	✓	✓	✓		
Water-based recreation (primary contact recreation)	✓	✓	✓	✓	✓	✓	✓
Traditional Owner cultural values	✓	✓	✓	✓	✓	✓	✓
Cultural and spiritual values	✓	✓	✓	✓	✓	✓	✓
Buildings and structures	✓	✓	✓	✓	✓	✓	✓
Geothermal properties	✓	✓	✓	✓	✓	✓	✓

TABLE 3: BENEFICIAL USES FOR INLAND WATERS

Beneficial uses	**Water Segment**	**Aquatic Reserves** Aquatic Reserves	**Rivers and Streams** Highlands	Uplands A	Uplands B	Central Foothills and Coastal Plains	Urban	Murray and Western Plains	**Wetlands** Lakes and Swamps
Water dependent ecosystems and species that are:	Largely unmodified	✓	✓	✓	✓				
	Slightly to moderately modified					✓		✓	✓
	Highly modified						✓		
Human consumption after appropriate treatment		where water is sourced for supply in accordance with the special water supply catchments **area** set out in Schedule 5 of the **Catchment and Land Protection Act 1994** or the **Safe Drinking Water Act 2003.**							
Agriculture and irrigation			✓	✓	✓	✓	✓	✓	✓
Human consumption of aquatic foods		✓	✓	✓	✓	✓	✓	✓	✓
Aquaculture		✓ where the environmental quality is suitable and an aquaculture licence has been approved in accordance with the **Fisheries Act 1995**							
Industrial and commercial				✓	✓	✓	✓	✓	
Water-based recreation (primary contact)		✓*	✓	✓	✓	✓	✓	✓	✓
Water-based recreation (secondary contact)		✓*	✓	✓	✓	✓	✓	✓	✓
Water-based recreation (aesthetic enjoyment)		✓*	✓	✓	✓	✓	✓	✓	✓
Traditional Owner cultural values		✓	✓	✓	✓	✓	✓	✓	✓
Cultural and spiritual values		✓	✓	✓	✓	✓	✓	✓	✓
Navigation and shipping									

Note: If a segment is marked with a tick that is asterisked there is an exclusion identified in Table 5 (see clause 1(4) of this Schedule).

TABLE 4: BENEFICIAL USES FOR MARINE AND ESTUARINE WATERS

Beneficial uses	**Water**	Aquatic Reserves	Marine and Estuarine																
	Segment	Aquatic Reserves	Estuaries	Port Phillip Bay				Western Port		Corner Inlet	Gippsland Lakes					Open Coasts		
	Subsegment			Hobsons Bay	Central -East	Geelong Arm	Exchange	Entrances and North Arm	East Arm		Lake Wellington	Lake Victoria	Lake King	Lake Reeve	Exchange	Otway	Central Bass Strait	Gippsland (Two-Fold)
Water dependent ecosystems and species that are:	Largely unmodified	✓			✓		✓	✓							✓	✓	✓	✓
	Slightly to moderately modified		✓	✓		✓			✓	✓	✓	✓	✓	✓				
	Highly modified																	
Human consumption after appropriate treatment																	✓	
Agriculture and irrigation																		
Human consumption of aquatic foods		✓*	✓	✓*	✓*	✓*	✓*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Aquaculture		✓ where the environmental quality is suitable and an aquaculture licence has issued under the **Fisheries Act 1995**																
Industrial and commercial			✓	✓	✓	✓	✓	✓	✓	✓						✓		✓
Water-based recreation (primary contact)		✓	✓	✓	✓	✓*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water-based recreation (secondary contact)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water-based recreation (aesthetic enjoyment)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Traditional Owner cultural values		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cultural and spiritual values		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Navigation and shipping		✓*	✓*	✓	✓	✓	✓	✓*		✓					✓	✓	✓	✓

Note: If a segment is marked with a tick that is asterisked there is an exclusion identified in Table 5 (see clause 1(4) of this Schedule).

TABLE 5: EXCLUSIONS TO BENEFICIAL USES

Beneficial use	Segment	Exclusion
Water-based recreation	Aquatic Reserves	Within the *Aquatic Reserves* segment, water-based recreation is not a beneficial use within water supply areas with restricted public access, comprising the surface waters of – i) the catchments upstream of the water supply off-takes at Upper Yarra Reservoir, O'Shannassy Weir, Armstrong Creek Weirs (east and west branches), Starvation Creek Weir, Big Flume Weir, Cement Creek (east branch) Weir, Coranderrk Creek Weir, Graceburn Creek Weir, Maroondah Reservoir, Sawpit Creek Weir, Donnelly's Creek Weir, Torrourrong Reservoir, Yan Yean Reservoir, Silvan Reservoir and Greenvale Reservoir (not including catchment upstream of diversion drains); and ii) the catchments upstream of O'Shannassy Aqueduct from which waters drain directly into the aqueduct; and iii) special water supply catchment areas with restricted public access within National Parks under the management of Barwon Water and Wannon Water.
Water-based recreation (primary contact)	Geelong-Arm	Within the Port Phillip Bay segment, water-based recreation (primary contact) is not a beneficial use in surface waters off the Werribee coast bounded from high water at Point Wilson, along the shore to the south west head of the Werribee River entrance, and perpendicular offshore to the 10-metre contour from these two points, bounded alongshore by the 10-metre contour.
Human consumption of aquatic foods	Aquatic Reserves within Port Phillip Bay	Within the Aquatic Reserves segment of Port Phillip Bay, human consumption of aquatic foods is not a beneficial use except in those parts of the segment where the activity is permitted under a fishery management plans declared under the **Fisheries Act 1995**.
Human consumption of aquatic foods	Port Phillip Bay	Within the Port Phillip Bay segment, human consumption of aquatic foods (molluscs only), the following are not beneficial uses – i) in surface waters off the Werribee coast bounded from high water at Point Wilson, along the shore to the south west head of the Werribee River entrance, and perpendicular offshore to the 10-metre contour from these two points, bounded alongshore by the 10-metre contour; ii) in the surface waters of Corio Bay lying west of a line drawn between Point Henry and Point Lillias and bounded by high water; iii) in the surface waters of Hobsons Bay below high water, bounded by the Yarra River entrance in the north, and Point Gellibrand to Point Ormond in the south; iv) in the surface waters outside the above three areas and bounded by high water and a line drawn 600 m seawards from the low water mark, except within declared aquaculture and commercial fishing zones subject to **Fisheries Act 1995** and **Seafood Safety Act 2003** licensing requirements.

Beneficial use	Segment	Exclusion
Navigation and shipping	Port Phillip Bay Aquatic Reserves	Within the Aquatic Reserves segment of Port Phillip Bay, navigation and shipping, is not a beneficial use except in those parts of the segment where the activity is permitted under approved management plans.
Navigation and shipping	Western Port	Within Western Port, navigation and shipping is not a beneficial use except in the surface waters of the Entrances and North Arm subsegment bounded by high water and within an area north of a line drawn between West Head and Point Grant and north of a line drawn at a 45° angle in a north-easterly direction from Cape Woolamai to the coast, and south of a line drawn between Stockyard Point and Settlement Point and west of a line drawn between Pelican Point and Palmer Point.
Navigation and shipping	Estuaries	Within the Estuaries segment, navigation and shipping is not a beneficial use except in the following surface waters of – i) the Yarra River between Dights Falls and A.M.G. Easting E 3178000 (to the west of Victoria Dock) (upper estuaries segment); ii) Victoria Dock (upper estuaries segment); iii) the Yarra River between A.M.G. Easting E 3178000 (to the west of Victoria Dock) and a line drawn across the mouth of the Yarra River (A.M.G. Co-ordinates E 315300 N 5809000) corresponding with the parallel 37° 50′ 30″; iv) Stony Creek east of Hyde Street, City of Hobsons Bay; v) Swanson Dock and Appleton Dock; vi) Railway Canal or Moonee Ponds Creek south of Macaulay Road, Flemington; vii) Maribyrnong River, south of Footscray Road. (which captures the No. 1 Maribyrnong Berth.
All	All	Within the following artificial assets, beneficial uses do not need to be protected in – i) irrigation channels and drains; ii) stormwater drains; iii) wetlands; iv) landfill cells; v) any other artificial asset that has been constructed for a specific purpose.

SCHEDULE 3: ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES

This Schedule sets out the environmental quality indicators and objectives required to protect beneficial uses of the waters referred to in clauses 14, 15 and 16.

1. Environmental quality indicators and objectives

(1) Environmental quality indicators and objectives of this Policy are set out in Tables 1–14 of this Schedule.

(2) This Policy adopts the risk-based approach of the ANZECC Guidelines for the purposes of using the environmental quality indicators and objectives in this Schedule to assess whether a beneficial use is at risk.

(3) The environmental quality objectives must be assessed using monitoring protocols or guidance, published or approved by the Authority.

(4) For the purposes of the Aquatic Reserve segment, environmental quality needs to remain at background levels as defined in clause 17.

(5) For the purposes of protecting the beneficial uses of water dependent ecosystems and species the environmental quality indicators and objectives are specified in Tables 1–11.

(6) For the purposes of Tables 1–14 of this Schedule, where referenced, the following apply –

(a) 75th/25th percentiles must be calculated for a minimum of 11 data points collected from monitoring over one year;

(b) unless otherwise stated, the level of ecosystem protection in the ANZECC Guidelines that must be used to determine the objectives is –

(i) 99% for largely unmodified aquatic ecosystems;

(ii) 95% for slightly to moderately modified ecosystems;

(iii) 90% for highly modified aquatic ecosystems;

(iv) toxicants which are bioaccumulative must adopt the next level of protection higher than the level of protection set out for toxicants water;

(c) for toxicants sediment, 'low' and 'high' refer to sediment values set out in the ANZECC Guidelines;

(d) for toxicants water, '% Protection' refers to the '% Ecosystem Protection' values set out in the ANZECC Guidelines;

(e) R75 and R25 means that a single objective value could not be specified due to a lack of data or variability of data collected in a segment and, for these areas, the environmental quality objective must be calculated as the 75th percentile and 25th percentile of the data collected at a reference site.

Explanatory Notes:

Clause 1 of Schedule 3 'Environmental Quality Indicators and Objectives' sets out the environmental quality indicators and objectives that apply to the assessment of risk for beneficial uses.

Subclause (2) provides that for the purposes of determining whether a beneficial use is at risk the risk-based approach of the ANZECC Guidelines is to be followed. It is expected that the non-attainment of an objective will trigger an investigation process to assess risks to beneficial uses and identify actions to address those risks within the context of this Policy.

Subclause (3) provides that the attainment of environmental quality objectives must be assessed using monitoring protocols, or guidance published or approved, by the Authority.

Subclause (4) provides that for the purposes of the Aquatic Reserves segment, environmental quality needs to remain at background levels in accordance with clause 17 of this Policy. Clause 17 provides that where the existing background levels of indicators are better than specified objectives, then background levels become the objective. This is to ensure that water environments which have not been significantly degraded by human activities, particularly areas of high environmental quality found in protected catchments and national parks, will maintain a high level of environmental quality and cannot be degraded towards the objectives specified in this Schedule.

Subclause (5) sets out the environmental quality indicators and objectives that apply to the assessment of risk to water-based ecosystems. For beneficial uses that do not have specific environmental quality indicators or objectives provided in this Policy, the objectives for water-based ecosystems and species can be adopted. This is based on the assumption that water-based ecosystems and species are typically the most sensitive beneficial use to pollution. Environmental quality objectives that protect water-based ecosystems and species are, thus, likely to represent levels of pollutants that are protective of, and indicate low risks, to other beneficial uses. This assumption may not hold true in all cases and should be evaluated when adopting these objectives to determine risks to other beneficial uses.

Subclause (6) describes key terms, references and values for the purposes of interpreting Tables 1–14 in this Schedule. Subclause (6)(b)(iv) requires that, if a level of ecosystem protection is set out in Tables 1–11 for 'toxicants water', the next higher level of ecosystem protection must be adopted for bio-accumulative toxicants when the 95% or 90 % level is specified for toxicant water for that segment in Tables 1–11.

An objective specified as a 75th percentile indicates a risk to beneficial uses when levels of an indicator in ambient water, calculated as a 75th percentile from data collected consistently with subclause (6)(a), are greater than the objective specified. An objective specified as a 25th percentile indicates a risk to beneficial uses when levels of an indicator in ambient water, calculated as a 25th percentile from data collected consistently with subclause (6)(a), are less than the objective specified.

Subclause (6)(b) and (d) refers to Chapter 3, including *Table 3.4.1 – Trigger values for toxicants at alternative levels of protection*, and Volume 3, Chapter 9 of the ANZECC Guidelines.

Subclause (6)(c) refers to *Table 3.5.1 – Recommended sediment quality guidelines* of the ANZECC Guidelines.

Subclause (6)(e) refers to reference sites which are sites within segments that characterise background levels, desirable conditions or the best available sites in that segment.

2. Inland waters

(1) For the beneficial use of water dependent ecosystems and species, different levels of ecosystem protection are recognised in Table 1 of this Schedule for different segments of rivers and streams.

(2) In Table 2 of this Schedule 'R' means riffle, 'E' means edge, and 'ER' means combined riffle and edge, 'A' refers to Band A and 'B' refers to Band B of the divisions of Observed/Expected (O/E) scores and 'N/A' means not applicable.

(3) For the purposes of the environmental quality objectives set out in Table 2 of this Schedule for inland water segments, the following apply –

(a) 'SIGNAL2' means Stream Invertebrate Grade Number – Average Level, which is an index of water pollution based on pollution tolerance sources from Chessman (2003);

(b) 'AUSRIVAS' means the Australian Rivers Assessment System, which consists of a predictive mathematical model for comparing the similarity of the invertebrate community of a sampled site to minimally disturbed reference sites;

(c) 'EPT' means Ephemeroptera, Plectoptera and Trichoptera, which are pollution sensitive invertebrate orders commonly used as indicators;

(d) 'Band' means the division of the Observed/Expected (0/E) scores into different levels of biological condition;

(e) biological sampling must be undertaken –

(i) using a collection method set out in the *Guidelines for Environmental Management: Rapid Bioassessment Methodology for Rivers and Streams*; and

(ii) in either spring or autumn, and from both riffle and pool habitats if present.

(4) For the purposes of the environmental quality objectives set out in Table 4 of this Schedule –

(a) VLAKES means the Victorian lakes macroinvertebrate index set out in the *Environmental Quality Guidelines for Victorian Lakes*; and

(b) the *Environmental Quality Guidelines for Victorian Lakes* must be referred to for methods and calculations of VLAKES macroinvertebrate index.

(5) For the purposes of the Urban segment, the objectives set out in Table 1 of this Schedule apply, except for the areas of the Yarra, Maribyrnong and Werribee rivers which apply the objectives of the Central Foothills and Coastal Plains segment.

Explanatory Note:

Clause 2 of Schedule 3 'Environmental Quality Indicators and Objectives' explains how to interpret and apply the tables for environmental quality indicators and objectives for inland waters.

Subclause (1) provides that for the beneficial use of water dependent ecosystems and species – there is different levels of ecosystem protection for different segments of inland waters. The environmental quality objectives for Rivers and Streams in Table 1 reflect these different levels of ecosystem protection. Where environmental quality in a location does not meet these objectives, this may be a trigger to consider regional target setting under clause 18 in order to drive the progressive rehabilitation of environmental quality.

Subclause (2) defines key references for the purposes of interpreting Table 2 *Environmental Quality Objectives for Biological Indicators for Rivers and Streams*.

Subclause (3) defines key terms used in Table 2 *Environmental Quality Objectives for Biological Indicators for Rivers and Streams.*

Subclause (4) defines key terms used in Table 4 *Environmental Quality Objectives for Biological Indicators for Wetlands* and provides that for the purposes of Table 4 *Environmental Quality Objectives for Biological Indicators for Wetlands*, the methods and calculations for VLAKES macroinvertebrate index are to be derived from the *Environmental Quality Guidelines for Victorian Lakes* (EPA Publication 1302) published by the Authority.

Subclause (5) provides that the *Environmental Quality Indicators and Objectives for Rivers and Streams* in Table 1 apply to the Urban segments except in the specified areas where the objectives applicable to the Central Foothills and Coastal Plains are to be applied.

3. Marine waters

For the purposes of protecting the beneficial uses of the marine waters set out in this clause, the following environmental quality objectives for biological indicators apply in addition to those set out in Tables 5–10 of this Schedule –

(a) inputs of nutrients and sediments into Gippsland Lakes, Western Port, Corner Inlet and Port Phillip Bay must be at levels that support the maintenance or improvement of the current cover, extent and condition of seagrasses, within the bounds of natural variation;

(b) inputs of nutrients, particularly nitrogen and phosphorus, into Victorian marine and estuarine waters must be below levels that promote increases in the frequency, duration or spatial extent of harmful algal blooms that cause nuisance or adversely affect beneficial uses;

(c) in relatively unmodified environments, the frequency of harmful algal blooms should not be above natural levels.

Explanatory Notes:

Clause 3 of Schedule 3 provides additional biological indicators that provide an integrated measure to determine when inputs of nutrients and sediments into marine waters are at levels that pose a risk to aquatic ecosystems and associated beneficial uses.

Algae and seagrass are additional environmental quality indicators that can be used to provide further information on level of detail as to whether beneficial uses of marine environments are being protected beyond the environmental quality indicators set in Tables 6-10 of Schedule 3.

4. Sediment quality objectives for water dependent ecosystem and species protection

(1) To protect water dependent ecosystem and species, the environmental quality objectives for sediment quality in rivers and streams, wetlands, estuaries and marine waters which represent low risk are set out in '*Ranking 1 – low risk*' column of Table 11 of this Schedule.

(2) For the purposes of 'Chemistry – Toxicants' in Table 11 of this Schedule, 'Concentrations' refer to test values in comparison to the ANZECC Guidelines. 'Species protection levels' refers to the ANZECC Guidelines Table 3.4.1. 'High' and 'Low' refer to 'High' and 'Low' in the ANZECC Guidelines Table 3.5.1.

(3) For the purposes of 'Ecotoxicity – Sediment' and 'Bioaccumulation' in Table 11 of this Schedule, the values identified are –

(a) default effect size values and need to be significantly different to the control; and

(b) smaller effect sizes may be used on the basis of power analysis, for example where multiple references sites or synthetic sediment control are used.

(4) For the purposes of the environmental quality objectives for sediment in Table 11 of this Schedule, further information on calculations for the weight of evidence approach may be provided in guidance published or approved by the Authority.

Explanatory Notes:

Environmental quality objectives for sediment have been set to protect water dependent ecosystems and species in rivers and streams, wetlands, estuaries and marine waters. These objectives are intended to guide water managers and the Authority on the impairment of aquatic ecosystem beneficial uses of ambient waters from toxicants. The assessment of sediment and water toxicity indicators is based on a weight of evidence assessment. In the context of weight of evidence objectives, 'line of evidence' means the information for an indicator or set of indicators used to monitor, assess or manage water or sediment quality.

5. Aquaculture

(1) For the purposes of protecting the beneficial use of aquaculture the environmental quality indicators and objectives are set out in Table 12 of this Schedule.

(2) In Table 12 of this Schedule for aquaculture –

(a) PA means the levels specified for the physico-chemical stressor guidelines for the protection of aquaculture species as defined in the ANZECC Guidelines; and

(b) TA means the levels specified for the toxicant guidelines for the protection of aquaculture species as defined in the ANZECC Guidelines; and

(c) OFC means the levels specified for chemical compounds in water found to cause tainting of the flesh of fish and other aquatic organisms as defined in the ANZECC Guidelines.

(3) For the purposes of protecting the beneficial uses of aquaculture, environmental quality is to be protected and maintained so that the levels of contaminants in the tissue of aquaculture species can meet levels specified in the *Australia New Zealand Food Standards Code*.

(4) If an environmental quality objective is not specified for the protection of aquaculture and the human consumption of aquatic foods in this Policy, then an objective specified for water dependent ecosystems and species becomes the objective.

(5) If an environmental quality objective involves the alternatives of a numerical limit provided for the protection of aquaculture, or a numerical limit for the protection of other beneficial uses, whichever limit is the most protective applies.

Explanatory Notes:

Clause 5 of Schedule 3 provides the levels at which inputs of pollutants in marine waters are to be managed to in order to protect the beneficial use of aquaculture.

Because aquaculture operations are situated within surface waters, or draw water directly from adjacent surface waters, they typically co-exist alongside other beneficial uses, such as aquatic ecosystems. Where multiple beneficial uses co-exist multiple objectives for a given indicator could apply, and can differ, depending on the level required to protect the particular beneficial use. This clause clarifies which objectives will apply.

Subclause (2) defines key terms used in Table 12 *Environmental Quality Indicators and Objectives for Aquaculture.*

Subclause 2(a) refers to *Table 4.4.2 – Physico-chemical stressor guidelines for the protection of aquaculture species* of the ANZECC Guidelines.

Subclause 2(b) refers to *Table 4.4.3 – Toxicant guidelines for the protection of aquaculture species* of the ANZECC Guidelines.

Subclause 2(c) refers to *Table 4.4.5 Guidelines for chemical compounds in water found to cause tainting of fish flesh and other aquatic organisms* of the ANZECC Guidelines.

Subclause (3) provides that in order to protect aquaculture the levels to be maintained are those set out in *Schedule 19: Maximum levels of contaminants and natural toxicants* of the *Australia New Zealand Food Standards Code.*

Subclause (4) provides that if an objective is not specified in this Policy, for the protection of aquaculture and the human consumption of aquatic foods, the objective specified for the protection of aquatic ecosystems becomes the objective to be applied.

Subclause (5) provides that where multiple beneficial uses overlap in a water environment, and where different objectives for a particular indicator exist, the most protective limit applies. This ensures that all beneficial uses of an area are protected.

TABLE 1: ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR RIVERS AND STREAMS

SEGMENT	ENVIRONMENTAL QUALITY INDICATOR									
	Total phosphorus (µg/L)	Total nitrogen (µg/L)	Dissolved oxygen (percent saturation)		Turbidity (NTU)	Electrical conductivity (µS/cm@ 25°C)	pH (pH units)		Toxicants Water	Toxicants Sediment
	75th percentile	75th percentile	25th percentile	Maximum	75th percentile	75th percentile	25th percentile	75th percentile	% protection	
Highlands (*Largely unmodified*)										
Streams above 1,000 m altitude	≤20	≤150	≥85	130	≤3	≤30	≥5.9	≤6.9	95	Low
Uplands A (*Largely unmodified*)										
Wilsons Promontory, Strzelecki Ranges, and East Gippsland basin	≤30	≤520	≥90	130	≤10	≤200	≥6.6	≤7.6	95	Low
Upper Murray and Kiewa basins	≤30	≤470	≥90	130	≤10	≤100	≥6.5	≤7.5	95	Low
The Grampians	≤35	≤370	≥80	130	≤5	≤200	≥5.4	≤7.0	95	Low
Upper Thomson, Latrobe, South Gippsland, Bunyip and Yarra basins	≤35	≤900	≥80	130	≤15	≤100	≥6.4	≤7.6	95	Low
Upper Goulburn (part) and Broken basins	≤25	≤550	≥90	130	≤10	≤100	≥6.4	≤7.4	95	Low

SEGMENT	ENVIRONMENTAL QUALITY INDICATOR									
	Total phosphorus (µg/L)	Total nitrogen (µg/L)	Dissolved oxygen (percent saturation)		Turbidity (NTU)	Electrical conductivity (µS/cm@ 25°C)	pH (pH units)		Toxicants Water	Toxicants Sediment
	75th percentile	75th percentile	25th percentile	Maximum	75th percentile	75th percentile	25th percentile	75th percentile	% protection	
Uplands B (*Largely unmodified*)										
Otway Ranges	≤25	≤650	≥85	130	≤10	≤200	≥6.5	≤7.5	95	Low
Uplands of southern draining basins - East Gippsland, Snowy, Tambo and Mitchell	≤25	≤350	≥90	130	≤10	≤100	≥6.7	≤7.7	95	Low
Uplands of northern draining basins – Ovens, Broken and Goulburn (part)	≤25	≤400	≥85	130	≤10	≤50	≥6.4	≤7.4	95	Low
Central Foothills and Coastal Plains *(Slightly to moderately modified)*										
Lowlands of Barwon, Moorabool, Werribee and Maribyrnong basins and the Curdies and Gellibrand Rivers	≤60	≤1,100	≥70	130	≤25	≤2,000	≥6.8	≤8.0	95	Low
Lowlands of Yarra, South Gippsland, Bunyip, Latrobe, Thomson, Mitchell, Tambo and Snowy basins	≤55	≤1100	≥75	130	≤25	≤250	≥6.7	≤7.7	95	Low
Uplands of Moorabool, Werribee, Maribyrnong, Campaspe, Loddon Avoca, Wimmera and Hopkins basins.	≤55	≤1,050	≥70	130	≤15	≤2,000	≥6.8	≤8.0	95	Low
Foothills of Ovens, Broken and Goulburn basins	≤50	≤800	≥70	130	≤20	≤250	≥6.4	≤7.4	95	Low

SEGMENT	ENVIRONMENTAL QUALITY INDICATOR									
	Total phosphorus (µg/L)	Total nitrogen (µg/L)	Dissolved oxygen (percent saturation)		Turbidity (NTU)	Electrical conductivity (µS/cm@ 25°C)	pH (pH units)		Toxicants Water	Toxicants Sediment
	75th percentile	75th percentile	25th percentile	Maximum	75th percentile	75th percentile	25th percentile	75th percentile	% protection	
Urban (*Highly modified*)										
Tributaries of Werribee and Maribyrnong Rivers	≤110	≤1,200	≥60	130	≤30	≤3,000	≥6.5	≤8.2	90	Low
Lowlands of Dandenong Creek, Mornington Peninsula, Western Port catchment and tributaries of the Yarra River	≤110	≤1,300	≥70	130	≤35	≤500	≥6.4	≤7.9	90	Low
Murray and Western Plains (*Slightly to moderately modified*)										
Lowlands of Kiewa, Ovens and Goulburn basins	≤55	≤800	≥75	130	≤25	≤500	≥6.4	≤7.5	95	Low
Lowlands of Campaspe, Loddon, Avoca, Wimmera and Mallee basins	≤50	≤900	≥65	130	≤40	≤2,000	≥6.8	≤7.8	95	Low
Lowlands of Glenelg, Hopkins, Portland and Corangamite and Millicent Coast basins	≤55	≤1,000	≥65	130	≤20	≤2,000	≥7.0	≤8.0	95	Low

TABLE 2: ENVIRONMENTAL QUALITY OBJECTIVES FOR BIOLOGICAL INDICATORS FOR RIVERS AND STREAMS

SEGMENT	Season	Habitat	ENVIRONMENTAL QUALITY INDICATOR			
			EPT	SIGNAL2	Number of Families	AUSRIVAS Band
Highlands	Summer	R	9	6.1	17	N/A
		E	6	5	14	N/A
		ER	9	5.2	21	A
Uplands A	Autumn	R	8	5.6	19	A
		E	6	4.5	17	A
		ER	10	5.1	26	N/A
	Spring	R	7	5.6	17	A
		E	5	4.7	17	A
		ER	10	5.1	25	N/A
Uplands B	Autumn	R	7	5.2	18	A
		E	N/A	3.8	15	A
		ER	9	4.6	28	N/A
	Spring	R	8	5.5	18	A
		E	6	4.2	17	A
		ER	10	4.9	28	N/A
Central Foothills and Coastal Plains	Autumn	R	5	4.5	16	A
		E	N/A	3.4	17	A
		ER	6	4.0	27	N/A
	Spring	R	5	4.5	16	A
		E	N/A	3.4	20	A
		ER	7	4.2	27	N/A
Urban	Autumn	R	4	3.9	13	B
		E	1	3.1	14	B
		ER	4	3.7	22	N/A
	Spring	R	3	4.2	13	B
		E	3	3.2	16	B
		ER	3	3.8	22	B
Murray and Western Plains	Autumn	E	N/A	3.3	18	A
		ER	5	3.9	25	A
	Spring	R	N/A	4.4	14	N/A
		E	N/A	3.2	17	A
		ER	6	3.8	24	N/A

TABLE 3: ENVIRONMENTAL QUALITY OBJECTIVES FOR PHYSICAL AND CHEMICAL INDICATORS FOR WETLANDS

Wetland Type	**Sub-type**	**ENVIRONMENTAL QUALITY INDICATOR**							
		pH range	**Dissolved oxygen range (% saturation)**	**Electrical conductivity (µScm^{-1})**	**Turbidity (NTU)**	**Total Nitrogen (µg/L)**	**Total Phosphorus (µg/L)**	**Toxicants Water**	**Toxicants Sediment**
		Min-Max	**Min-Max**	**75th percentile**	**75th Percentile**	**75th Percentile**	**75th Percentile**	**% protection**	
Riverine	Flow-through	6.5-8.5	80-120	1,500	5	500	30	95	Low
	Terminal	6.5-8.5	80-120	N/A	15	1,500	100		
	Floodplain	6.5-8.5	80-120	N/A	15	1,500	100		
Coastal Dune	Eastern	6-7.5	80-120	1,500	5	500	30	95	Low
	Western	6.5-8.5	80-120	1,500	5	500	30		
Deep inland	Fresh	6.5-8.5	80-120	1,500	5	500	30	95	Low
	Saline	6.5-8.5	80-120	N/A	5	500	30		
Shallow inland	With an outflow	6.5-8.5	80-120	N/A	15	1,500	100	95	Low
	Closed	N/A	N/A	N/A	N/A	N/A	N/A		

TABLE 4: ENVIRONMENTAL QUALITY OBJECTIVES FOR BIOLOGICAL INDICATORS FOR WETLANDS

Wetland Type	Sub-type	ENVIRONMENTAL QUALITY INDICATOR		
		Number of macroinvertebrate families	VLAKES	Chlorophyll a (µg/L)
Riverine	Flow-through	15	4.7	5
	Terminal	15	4.3	N/A
	Floodplain	15	4.3	N/A
Coastal dune	Eastern	15	4.7	5
	Western	15	4.7	5
Deep (>5 m) inland	Fresh	15	4.3	5
	Saline	N/A	N/A	5
Shallow (<5 m) inland	With an outflow	15	4.3	N/A
	Closed	N/A	N/A	N/A

TABLE 5: ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR ESTUARIES

SEGMENT	ENVIRONMENTAL QUALITY INDICATOR								
	pH (pH units)	Dissolved oxygen (surface) (% saturation)	Dissolved oxygen (bottom) (% saturation)	Total Phosphorus (µg/L)	Total Nitrogen (µg/L)	Turbidity (NTU)	Chlorophyll-a (µg/L)	Toxicants Water	Toxicants Sediment
	25th -75th Percentile	25th Percentile - Max	25th Percentile - Max	75th Percentile	75th Percentile	75th Percentile	75th Percentile	% protection	
Estuaries	7.0-8.0	80-130	30-130	90	1,000	10	3	95	Low

TABLE 6: ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR PORT PHILLIP BAY

SEGMENT	ENVIRONMENTAL QUALITY INDICATOR												
	Surface / Bottom	Total phosphorus (µg/L)	Total nitrogen (µg/L)	Dissolved Oxygen (% saturation)	Chl-a (µg/L)	Dissolved Inorganic Phosphorus (µg/L)	Dissolved Inorganic Nitrogen (µg/L)	TSS (mg/L)	Salinity (PSU)	Light Attenuation (m-1)	pH	Toxicants Water	Toxicants Sediment
		75th Percentile	75th Percentile	25th Percentile - Max	75th Percentile	75th Percentile	75th Percentile	75th Percentile	25th – 75th Percentile	75th Percentile	25th – 75th Percentile	% protection	
Hobsons Bay	Surface	100	300	95-130	4	70	50	5	34-37	0.5	7.5-8.5	95	Low
	Bottom	N/A	N/A	80-130	N/A	N/A	N/A	N/A	N/A	N/A	7.5-8.5	95	Low
Central-East	Surface	70	150	95-130	1.5	50	10	3	35-37	0.3	7.5-8.5	99	Low
	Bottom	N/A	N/A	80-130	N/A	N/A	N/A	N/A	N/A	N/A	7.5-8.5	99	Low
Geelong Arm	Surface	100	300	95-130	3	70	20	5	35-38	0.4	7.5-8.5	95	Low
Exchange	Surface	50	150	N/A	1	30	10	2	35-36	0.3	7.5-8.5	99	Low

TABLE 7: ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR WESTERN PORT

SEGMENT	ENVIRONMENTAL QUALITY INDICATOR											
	Total phosphorus (µg/L)	Total nitrogen (µg/L)	Dissolved Oxygen (% saturation)	Chl-a (µg/L)	Dissolved Inorganic Phosphorus (µg/L)	Dissolved Inorganic Nitrogen (µg/L)	TSS (mg/L)	Salinity (PSU)	Light Attenuation (m-1)	pH	Toxicants Water	Toxicants Sediment
	75th Percentile	75th Percentile	25th Percentile - Max	75th Percentile	75th Percentile	75th Percentile	75th Percentile	25th - 75th Percentile	75th Percentile	25th - 75th Percentile	% protection	
Entrances and North Arm	10	150	95-130	2	5	10	5	34-36	0.5	7.5-8.5	99	Low
East Arm	50	350	95-130	4	5	30	30	32-36	1.5	7.5-8.5	95	Low

TABLE 8: ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR CORNER INLET

SEGMENT	ENVIRONMENTAL QUALITY INDICATOR											
	Total phosphorus (µg/L)	Total nitrogen (µg/L)	Dissolved Oxygen (% saturation)	Chl-a (µg/L)	Dissolved Inorganic Phosphorus (µg/L)	Dissolved Inorganic Nitrogen (µg/L)	TSS (mg/L)	Salinity (PSU)	Light Attenuation (m-1)	pH	Toxicants Water	Toxicants Sediment
	75th Percentile	75th Percentile	25th Percentile - Max	75th Percentile	75th Percentile	75th Percentile	75th Percentile	25th – 75th Percentile	75th Percentile	25th – 75th Percentile	% protection	
Corner Inlet	20	R75	90-130	R75	R75	R75	R75	R75	R75	7.0-8.0	95	Low

TABLE 9: ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR THE GIPPSLAND LAKES

SEGMENT	ENVIRONMENTAL QUALITY INDICATOR													
	Surface / Bottom	Total phosphorus (µg/L)	Total nitrogen (µg/L)	Dissolved Oxygen (% saturation)	Chl-a (µg/L)	Dissolved Inorganic Phosphorus (µg/L)	Dissolved Inorganic Nitrogen (µg/L)	TSS (mg/L)	Salinity (PSU)		Light Attenuation (m-1)	pH	Toxicants Water	Toxicants Sediment
		75th Percentile	75th Percentile	25th Percentile - Max	75th Percentile	75th Percentile	75th Percentile	75th Percentile	25th Percentile	75th Percentile	75th Percentile	25th - 75th Percentile	% protection	
Lake Wellington	Surface	120	1,000	95-130	25	15	15	30	NA	15	2.5	7.5-8.5	95	Low
Lake Victoria	Surface	90	600	95-130	20	20	10	10	15	25	1.5	7.5-8.5	95	Low
	Bottom	110	600	50-130	15	50	50	10	21	28	N/A	N/A	95	Low
Lake King	Surface	50	500	95-130	10	10	10	5	20	30	0.7	7.5-8.5	95	Low
	Bottom	70	500	50-130	5	30	100	5	25	30	N/A	N/A	95	Low
Lake Reeve	Surface	R75	R75	R25-R75	R75	R75	R75	R75	R25	R75	R75	R25-R75	95	Low
Exchange	Surface	50	500	95-130	10	10	10	5	20	30	0.6	7.5-8.5	95	Low
	Bottom	30	300	80-130	5	15	40	10	30	35	N/A	N/A	95	Low

TABLE 10: ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR OPEN COASTS

SEGMENT	ENVIRONMENTAL QUALITY INDICATOR												
	Surface / Bottom	Total phosphorus (µg/L)	Total nitrogen (µg/L)	Dissolved Oxygen (% saturation)	Chl-a (µg/L)	Phosphate (µg/L)	Nitrate (µg/L)	TSS (mg/L)	Salinity (PSU)	Light Attenuation (m-1)	pH	Toxicants Water	Toxicants Sediment
		75th Percentile	75th Percentile	25th Percentile - Max	75th Percentile	75th Percentile	75th Percentile	75th Percentile	25th - 75th Percentile	75th Percentile	25th - 75th Percentile	% protection	
Otway	Surface	R75	R75	R25-75	0.5	30	60	R75	35-36	R75	7.5-8.5	99	Low
	Bottom	R75	R75	R25-75	N/A	40	400	R75	N/A	N/A	7.5-8.5	99	Low
Central Bass Strait	Surface	R75	R75	R25-75	0.6	30	60	R75	35-36	R75	7.5-8.5	99	Low
	Bottom	R75	R75	R25-75	N/A	50	250	R75	N/A	N/A	7.5-8.5	99	Low
Gippsland (Two-Fold)	Surface	R75	R75	R25-75	0.7	30	90	R75	35-36	R75	7.5-8.5	99	Low
	Bottom	R75	R75	R25-75	N/A	70	670	R75	N/A	N/A	7.5-8.5	99	Low

TABLE 11: SEDIMENT QUALITY OBJECTIVES – WEIGHT OF EVIDENCE TOXICANT RISK SCORING SYSTEM

Line of evidence	Indicator or segment	Ranking		
		3 - high risk	2 - medium risk	1 - low risk
Chemistry	Toxicants Water	Concentration does not meet 90% species protection levels	Concentration exceeds 95% protection levels but meets 90% protection levels	Concentration meets 95% species protection levels
	Toxicants Sediment	Concentration > High	Concentration > Low but < High	Concentration < Low
	Toxicants Pore water	Concentration does not meet 90% species protection levels	Concentration exceeds 95% protection levels but meets 90% protection levels	Concentration meets 95% species protection levels
Ecotoxicity	Sediment or water	Significant difference (P<0.05) and >50% effect vs control	Significant difference (P<0.05) and 20-50% effect vs control	No significant difference (P<0.05) and <20% effect vs control
Ecology	Rivers and Streams	-AUSRIVAS band C -SIGNAL >0.5 below objectives	-AUSRIVAS band B -SIGNAL <0.5 below objectives	-AUSRIVAS band A -Meets SIGNAL below objectives
	Wetlands	VLAKES index >0.5 below objectives	VLAKES index <0.5 below objectives	VLAKES index meets objectives
	Marine and Estuaries	Significant and high effects on abundance or diversity	Significant and moderate effects on abundance or diversity	No significant effects on abundance or diversity
Bioaccumulation		Significant difference (P<0.05) and >3x control	Significant difference (P<0.05) and <3x control	Not significantly different from control
Biomarkers		Significantly different from control and high effect size	Significantly different from control and moderate effect size	Not significantly different from control
Other Lines of evidence		Significantly different from control and high effect size	Significantly different from control and moderate effect size	Not significantly different from control
Weight of evidence assessment		High risk of significant adverse effects	Medium risk of adverse effects	Low risk of adverse effects – meets environmental quality objectives for the protection of beneficial uses

TABLE 12: ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR AQUACULTURE

Pathogens	Physico-chemical stressors	Toxicant levels for the protection of aquaculture species	Off-flavour compounds
Total Faecal (thermotolerant) coliforms (median from 5 samples) 14 orgs/100 mL	PA	TA	OFC

6. Water-based recreation

(1) The protection of the beneficial use of water-based recreation is measured using long-term and short-term environmental quality indicators and environmental quality objectives.

(2) For the purposes of assessing the attainment of long-term microbial environmental quality objectives for primary and secondary contact, a rolling water quality data set with a minimum number of 60 samples is to be developed and maintained.

(3) For the purposes of protecting beneficial uses of water-based recreation for primary contact the long term microbial environmental quality indicators and objectives are set out in Table 13 of this Schedule and the following apply –

(a) the long term microbial environmental quality indicators and objectives are assessed against long-term sampling data collected during periods of high recreational use, to inform longer-term management of risks to microbial water quality;

(b) for freshwater segments, either the environmental quality indicator of *E. coli* or enterococci can be used to assess risk to this beneficial use;

(c) for marine and estuarine segments, only the environmental quality indicator of enterococci can be used to assess risk to this beneficial use;

(d) the microbial environmental quality objective for this beneficial use in all waters are the water quality grades of very good, good, or fair as specified in Table 13 of this Schedule;

(e) for the purposes of generating water quality grades a rolling water quality dataset, and a sanitary inspection at a site are needed;

(f) for the purposes of the assessment of microbial environmental quality indicators, both general and dry weather water quality grades must be generated –

(i) for general water quality grades, these must be based on water quality data collected across a range of weather conditions; and

(ii) for dry weather water quality grades, these must be based on dry weather water quality data.

(4) For the purposes of protecting beneficial uses of water-based recreation for secondary contact the long term microbial environmental quality indicators and objectives are set out in Table 13 of this Schedule and the following apply –

(a) for all waters, a microbial assessment category no greater than as set out in column D of Table 13;

(b) must be determined by rolling water quality data set against microbial assessment categories in columns A–E of Table 13 of this Schedule;

(c) for the purposes of the microbial environmental quality indicators, these must be assessed in both general and dry weather conditions.

(5) For the purposes of protecting beneficial uses of water-based recreation for primary contact the short term microbial environmental quality indicators and objectives are set out in Table 14 of this Schedule and the following apply –

(a) are assessed against single samples regularly collected during periods of high recreational use, to determine if a public warning or other communication is needed, or are used for one-off assessments for other purposes;

(b) for freshwater, either the environmental quality indicator of *E. coli* or enterococci can be can be used to assess risk to this beneficial use;

(c) for marine and estuarine segments, only the environmental quality indicator of enterococci can be used to assess risk to this beneficial use;

(d) the microbial environmental quality objectives for this beneficial use are the corresponding levels as specified in columns for *E. coli* (freshwater) and enterococci (freshwater, marine and estuarine waters) of Table 14 of this Schedule;

(e) these must be assessed against only dry weather water quality data if warning about risk to water quality from stormwater pollution following rain is communicated to the public by –

(i) daily water quality forecasting; and

(ii) permanent signs warning of risk after stormwater pollution.

(6) For the purposes of short term cyanobacteria and algae environmental quality indicators and objectives for water-based recreation set out in Table 14 of this Schedule –

(i) short-term environmental quality objectives must be assessed against single samples, to determine if a public warning or other communication is needed; and

(ii) the environmental quality objectives are the corresponding levels and species as specified in the cyanobacteria and algae column of Table 14.

(7) For the purposes of short term chemical hazard environmental quality indicators and objectives for water-based recreation –

(a) waters must not be contaminated with chemicals that are either toxic or irritating to skin or mucous membrane; and

(b) waters must have a pH range of –

(i) 6.5–8.5; or

(ii) 5–9 for recreational waters with a very low buffering capacity.

(8) For the purposes of short term aesthetic indicators and objectives for water-based recreation –

(a) are assessed against single samples or observations to determine if a public warning or other communication is needed; and

(b) waters are observed as being free from the following –

(i) visible materials that may settle to form objectionable deposits;

(ii) floating debris, oil, scum and other matter;

(iii) substances producing objectionable colour, odour, taste or turbidity;

(iv) substances and conditions that produce undesirable aquatic life.

Explanatory Notes:

Clause 6 of this Schedule provides environmental quality indicators and objectives for the beneficial use of water based recreation. These are intended to be applied consistent with the risk-based approach recommended by the National Health and Medical Research Council (NHMRC*) Guidelines for Managing Risk in Recreational Water* (2008).

Subclauses (2)–(5) provide long and short-term microbial environmental quality objectives for primary and secondary contact water-based recreation. Long term water quality grades are based on water quality data and a site-specific sanitary inspection which assesses risks from faecal sources in the catchment or along the foreshore. They are intended to inform catchment management as to whether water quality in the long term is improving or declining. Short term environmental quality objectives are intended to be used to inform public warnings of potential health risks or to identify previously unidentified or new sources of faecal contamination. In situations where long-term monitoring is not undertaken, the short term environmental quality objectives can also be used for one-off assessments.

If a Quantitative Microbial Risk Assessment has been undertaken for an area used for water-based recreation, the results may be used to develop microbial indicators and objectives specific to this area. Further guidance on applying these objectives will be provided by the Authority.

Subclause (7) recognises that potential risks to recreational users from chemical hazards are more likely to be from long-term exposure, not single exposures. Short term objectives are provided as a precautionary approach to managing risks from chemical hazards and are intended for:

- the assessment of short-term events, such as spills; or
- use in quantitative risk assessments of high use recreational waters, involving screening of water quality results to determine if there is a need for further monitoring.

TABLE 13: CLASSIFICATION MATRIX FOR LONG-TERM MICROBIAL ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR PRIMARY AND SECONDARY CONTACT RECREATION

		Microbial Assessment Category (95th percentile (Hazen method) of rolling data set with min. of 60 samples)				
		A	**B**	**C**	**D**	**E**
		Suitable for primary contact and secondary recreation		**Not suitable for primary contact; suitable for secondary contact recreation**		**Not suitable for any contact recreation**
Freshwater		**< 130 *E. coli*/100 mL**	**130 – 260 *E. coli*/100 mL**	**261 – 550 *E. coli*/100 mL**	**551 – 5,500 *E. coli*/100 mL**	**> 5,500 *E. coli*/100 mL**
Freshwater, Marine, Estuarine		**< 40 enterococci/ 100 mL**	**40 – 200 enterococci/ 100 mL**	**201 - 500 enterococci/ 100 mL**	**501-5,000 enterococci/ 100 mL**	**> 5,000 enterococci/ 100 mL**
Sanitary Inspection Category	**Very Low**	Very Good	Very Good	Follow-up	Follow-up	Follow-up
	Low	Very Good	Good	Follow-up	Follow-up	Follow-up
	Moderate	Good	Good	Poor	Poor	Follow-up
	High	Good	Fair	Poor	Very Poor	Follow-up
	Very High	Follow-up	Follow-up	Poor	Very Poor	Follow-up

Note: The primary contact objective in all waters are the water quality grades of very good, good, or fair (see subclause (3)(d) of this Schedule). For the secondary contact objective to be met, a microbial assessment category must be no greater than as set out in column D above (see subclause (4)(a) of this Schedule).

TABLE 14: SHORT TERM ENVIRONMENTAL QUALITY INDICATORS AND OBJECTIVES FOR WATER-BASED RECREATION

Short term indicators and objectives for water-based recreation				
***E. coli* orgs/100 mL freshwater**	**enterococci orgs/100 mL marine, estuarine and freshwater**	**Cyanobacteria /algae**	**Chemical hazards**	**Aesthetic effects**
Consecutive sample: ≤ 260 Single sample: ≤ 550	Consecutive sample: ≤ 200 Single sample: ≤ 500	**Freshwater** < 10 **µg**/L total microcystins; < 50,000 cells/mL toxic *Microcystis aeruginosa*; or biovolume equivalent of < 4 mm^3/L for the combined total of all cyanobacteria where a known toxin producer is dominant in the total biovolume; or < 10 mm^3/L for total biovolume of all cyanobacterial material where known toxins are not present; or cyanobacterial scums absent **Marine and estuarine** < 10 cells/mL *Karenia brevis*; or *Lyngbya majuscula* or *Pfiesteria* not present in high numbers	refer to clause 6(7) of this Schedule	refer to clause 6(8)(b) of this Schedule

7. Groundwater

(1) For the purposes of protecting water dependent ecosystems and species –

(a) groundwater must not cause receiving waters to be affected to the extent that the level of any environmental quality indicator is greater than the level of that indicator specified for surface waters in this Policy; and

(b) groundwater quality must not adversely affect the maintenance of environmental values that depend on groundwater.

(2) For the purposes of potable water supply (desirable) –

(a) groundwater must not be affected to the extent that the level of any environmental quality indicator is greater than the health-related guideline value for that indicator as specified in the *Australian Drinking Water Guidelines*; and

(b) the constituents of groundwater must not be affected in a manner or to an extent that leads to an aesthetic guideline value being exceeded, as defined in the *Australian Drinking Water Guidelines*.

(3) For the purposes of potable water supply (acceptable) –

(a) groundwater must not be affected to the extent that the level of any environmental quality indicator is greater than the health-related guideline value for that indicator as specified in the *Australian Drinking Water Guidelines*; and

(b) the constituents of groundwater must not be affected in a manner or to an extent that leads to an aesthetic guideline value being exceeded, as defined in the *Australian Drinking Water Guidelines*.

(4) For the purposes of potable mineral water supply –

(a) groundwater must not be affected to the extent that the level of any environmental quality indicator is greater than the level of that indicator specified in the *Australia New Zealand Food Standards Code – Standard 2.6.2 – Non-alcoholic beverages and brewed soft drinks*; and

(b) the constituents of groundwater must not be affected in a manner or to an extent that leads to an aesthetic guideline value being exceeded, as defined in the *Australian Drinking Water Guidelines*.

(5) For the purposes of agriculture and irrigation (irrigation), groundwater must not be affected to the extent that the level of any environmental quality indicator is greater than the level of that indicator specified for irrigation in the ANZECC Guidelines.

(6) For the purposes of agriculture and irrigation (stock watering), groundwater must not be affected to the extent that the level of any environmental quality indicator is greater than the level of that indicator specified for livestock in the ANZECC Guidelines.

(7) For the purposes of industrial and commercial, groundwater must not be affected to the extent that industrial or commercial water quality is impacted.

(8) For the purposes of water-based recreation (primary contact recreation) –

(a) microbial water quality must not be affected to the extent that the environmental quality indicator of *E. coli* is greater than 10 *E. coli*/100 mL;

(b) when human faecal contamination sources have been identified no *E. coli* must be present; and

(c) any other water quality indicator must not be greater than the level of that indicator specified for water-based recreation for surface waters in this Policy.

(9) For the purposes of buildings and structures –

(a) introduced contaminants must not cause groundwater to become corrosive to structures or building materials; and

(b) specific indicators include pH, sulphate, chloride, redox potential, salinity or any chemical substance or waste that may have a detrimental impact on the structural integrity of buildings or other structures.

(10) For the purposes of geothermal –

(a) no activity must affect the geothermal properties of groundwater; and

(b) specific indicators include temperature between 30 and 70 degrees Celsius.

Explanatory Notes:

Clause 7 of Schedule 3 sets the environmental quality indicators and objectives for groundwater. As there is limited groundwater quality data available in Victoria to derive local objectives, these objectives refer to the most appropriate national guideline values or standards.

Subclause (2)(a) and (3)(a) refer to the Australian Drinking Water Guidelines, of which the full guidelines are relevant. For specific levels, refer to *Table 10.5 – Performance measure for Escherichia coli within the distribution system* and *Table 10.6 – Guideline values for physical and chemical characteristics (Health)* and the associated fact sheets in Part V of this document.

Subclause (2)(b) and (3)(b) refer to the Australian Drinking Water Guidelines, of which the full guidelines are relevant. For specific levels, refer to *Table 10.4 – Performance measure for aesthetic, chemical and physical characteristics within the distribution system* and *Table 10.6 – Guideline values for physical and chemical concentrations* and the associated fact sheets in Part V of this document.

Subclause (4) refers to *Standard 2.6.2. – Non-alcoholic beverages and brewed soft drinks* of the *Australia New Zealand Food Standards Code*.

Subclause (5) refers to *Section 4.2 – Water quality for irrigation and general water use* and Volume 3, Chapter 9 of the ANZECC Guidelines.

Subclause (6) refers to *Section 4.3 – Livestock drinking water quality* and Volume 3, Chapter 9 of the ANZECC Guidelines.

Subclause (7) refers to the beneficial use of industrial and commercial. As the ANZECC Guidelines provide no specific guidance for industrial and commercial water use, consideration must be given to *Section 2.2.4.* of this document for guidance on deriving guidelines for compounds where no guidelines currently exist.

Subclause (8) refers to the microbial environmental quality objectives for groundwater. These objectives have been provided to manage the risk posed by human faecal contamination sources, such as septic tanks or sewerage infrastructure, to groundwater quality. Further guidance is provided in EPA Publication 668 and 669.

Subclause (9) refers to the beneficial use of building and structures. As the ANZECC Guidelines provide no specific guidance for building and structures, best practice standards and guidelines should be referred to, including, but not limited to, the *Australian Standard AS 2159-2009 Piling – Design and Installation,* Standards Australia (2009) and National Environment Protection (Assessment of Site Contamination) Measure 1999.

SCHEDULE 4: POLLUTANT LOAD TARGETS

1. General

(1) Annual pollutant load targets specific to this Policy are set out in clauses 2 to 5 of this Schedule.

(2) In order to meet these targets and help protect the beneficial uses in the segments referred to in this Schedule the agencies referred to in this Schedule must develop and implement plans using an adaptive management approach including periodic monitoring, evaluation and reporting arrangements.

Explanatory Notes:

Schedule 4 sets out pollutant load targets for Lake Wellington, Corner Inlet, Port Phillip Bay and Western Port as a means to drive management interventions and investment to reduce pollution from diffuse sources. The overarching pollutant load targets are provided in clauses 2–5 and are described in terms of quantity. The pollutant load targets set out either the reduction of loads from the most recently estimated baseline to a future target or baseline loads that must be maintained at, or not exceed, current levels that are needed to protect beneficial uses in the specified areas.

Schedule 4 sets out which specific protection agencies must develop and implement plans for the pollutant load targets. This includes the periodic review and refinement of management actions identified in the plans, baseline loads and reduction targets to reflect advances in scientific understanding, during the life of this Policy. The influences that variation in climate and the flow of waterways, which can cause substantial variation of annual loads, will need to be considered and incorporated into any evaluation of whether pollutant load targets are being met.

It is expected that actions to achieve pollutant load targets are to be implemented through existing management frameworks. The extent that actions and plans to achieve the pollutant load targets can be implemented by the agencies identified is dependent on the funding available, and will be supported through current funding and management arrangements.

2. Pollutant load target for Lake Wellington

(1) The pollutant load target for Lake Wellington is set out in in Table 1 of this Schedule.

(2) To protect the beneficial uses of Lake Wellington set out in Table 4 of Schedule 2, the annual baseline total phosphorus load specified in column 2 of Table 1 must be progressively reduced to the target total phosphorus load specified in column 3 by the year specified in column 4.

(3) For the purposes of subclause (2), the West Gippsland Catchment Management Authority must –

(a) include, in the Gippsland Lakes Ramsar Site Strategic Management Plan, a requirement that average annual total phosphorus loads discharged from the combination of dryland and waterway sources in the Lake Wellington catchment must be reduced by 7.5 tonnes by 2030; and

(b) include, in the Lake Wellington Land and Water Management Plan, a requirement that average annual total phosphorus loads discharged from irrigation sources in the Lake Wellington catchment must be reduced by 7.5 tonnes by 2030, and

(c) jointly with Southern Rural Water, work to develop and implement the Lake Wellington Land and Water Management Plan to reduce total phosphorus loads discharged from irrigated land in the Lake Wellington catchment.

TABLE 1: LAKE WELLINGTON TOTAL PHOSPHORUS LOAD TARGET

Column 1	Column 2	Column 3	Column 4
	Baseline total phosphorus load (average annual tonnes) as at 2017	**Target total phosphorus load (average annual tonnes)**	**Year by which target to be achieved**
Lake Wellington	115	100	2030

Explanatory Notes:

Clause 2 provides the pollutant load target for Lake Wellington. As elevated levels of phosphorus in water and stored in sediments within Lake Wellington provide large quantities of bioavailable phosphorus that drive nuisance plant growth and harmful algal blooms, the pollutant load target seeks to reduce sediment phosphorus stores over the long term, by reducing the loads entering the lake. The intent is to shift Lake Wellington from a eutrophic to mesotrophic state, thereby reducing the frequency and severity of algal blooms.

For pollutant load targets to have been be achieved, annual loads entering Lake Wellington need to be progressively reduce between 2018 and 2030 so that average annual loads beyond 2030 are at or below 100 tonnes. This requires achieving a reduction in average annual load of 15 tonnes by 2030, which equates to a reduction of, on average, 1.25 tonnes or greater every year between 2018 and 2030, accounting for variation in annual loads due to variations in rainfall and flows.

To achieve the target, West Gippsland Catchment Management Authority will be responsible for incorporating one half of the reduction target (7.5 tonnes) into the Gippsland Lakes Ramsar Site Strategic Management Plan, to address loads entering Lake Wellington from the combination of dryland and waterway sources. West Gippsland Catchment Management Authority will also be responsible for incorporating the other half of the reduction target (7.5 tonnes) into the Lake Wellington Land and Water Management Plan, to address phosphorous entering Lake Wellington from irrigation sources. Subclause (3)(c) requires West Gippsland Catchment Management Authority and Southern Rural Water to work jointly to develop and implement the Lake Wellington Land and Water Management Plan to reduce total phosphorous discharges from irrigated land in the Lake Wellington catchment

3. Pollutant load targets for Corner Inlet and Nooramunga

(1) The pollutant load targets for Corner Inlet and Nooramunga are set out in in Tables 2–4 of this Schedule.

(1) To protect the beneficial uses of Corner Inlet and Nooramunga set out in Table 4 of Schedule 2, the annual baseline loads specified in column 2 of Tables 2–4 of this Schedule must be progressively reduced to the target total loads specified in column 3 by the year specified in column 4.

(2) For the purposes of subclause (2), the West Gippsland Catchment Management Authority should coordinate management actions and develop partnerships to implement the Corner Inlet Water Quality Improvement Plan.

TABLE 2: CORNER INLET AND NOORAMUNGA TOTAL NITROGEN LOAD TARGETS

Column 1	**Column 2**	**Column 3**	**Column 4**
	Baseline total nitrogen load (average annual tonnes) as at 2013	**Target total nitrogen load (average annual tonnes)**	**Year by which target to be achieved**
Corner Inlet	105	90	2033
Nooramunga	75	68	2033

TABLE 3: CORNER INLET AND NOORAMUNGA TOTAL PHOSPHORUS LOAD REDUCTION TARGETS

Column 1	**Column 2**	**Column 3**	**Column 4**
	Baseline total phosphorus load (average annual tonnes) as at 2013	**Target total phosphorus load (average annual tonnes)**	**Year by which target to be achieved**
Corner Inlet	19	16	2033
Nooramunga	7	6	2033

TABLE 4: CORNER INLET AND NOORAMUNGA TOTAL SUSPENDED SOLIDS LOAD REDUCTION TARGETS

Column 1	**Column 2**	**Column 3**	**Column 4**
	Baseline total suspended solids load (average annual tonnes) as at 2013	**Target total suspended solids load (average annual tonnes)**	**Year to achieve target**
Corner Inlet	2,050	1,800	2033
Nooramunga	1,820	1,730	2033

Explanatory Notes:

Clause 3 identifies the pollutant load target for Corner Inlet, in average annual tonnes. For pollutant load targets to be achieved, annual loads entering Corner Inlet need to be progressively reduced between 2013 and 2033 so that average annual loads beyond 2033 are at, or below, the specified target. To achieve this target, the West Gippsland Catchment Management Authority will be responsible for coordinating management actions and developing partnerships to implement the Corner Inlet Water Quality Improvement Plan, as the means for achieving the target.

4. Pollutant load targets for Port Phillip Bay

(1) To protect the beneficial uses of Port Phillip Bay set out in Table 4 of Schedule 2, for the period 2017 to 2027 (the relevant period) –

(a) annual pollutant loads entering Port Phillip Bay from the surrounding waterways must not exceed the following ranges –

(i) 1,500 to 2,200 tonnes of total nitrogen; and

(ii) 60,000 to 70,000 tonnes of total suspended solids; and

(b) annual loads of total nitrogen from the Western Treatment Plant must not exceed 3,100 tonnes during the period (based on a rolling three-year average).

(2) Measures to achieve the targets set out in subclause (1) include ensuring that during the relevant period –

(a) seasonal loads of total nitrogen do not adversely impact on the denitrification efficiency of Port Phillip Bay or increase the risk of nuisance algal blooms; and

(b) there is no net increase in annual loads of total nitrogen discharging directly into Port Phillip Bay, or into waterways in the Port Phillip Bay catchment, from sewage treatment plants (both existing and proposed); and

(c) the contribution of the Yarra and Maribyrnong rivers do not exceed 70% of the annual total nitrogen and total suspended sediment loads discharging into Port Phillip Bay.

(3) The Department of Environment, Land, Water and Planning, in conjunction with Melbourne Water and the Authority, must implement and periodically review the Port Phillip Bay Environmental Management Plan to –

(a) protect the beneficial uses set out in Table 4 of Schedule 2 of this Policy and meet the environmental quality objectives set out in Table 6 of Schedule 3 of this Policy; and

(b) incorporate the pollutant load targets and measures required for Port Phillip Bay as set out in subclauses (1) and (2).

(4) Protection agencies must ensure that their planning documents have regard to the environmental quality objectives and actions identified in the Port Phillip Bay Environmental Management Plan.

Explanatory note:

Clause 4 identifies the pollutant load targets for Port Phillip Bay. As nutrient enrichment and increased sediments (and associated sediment bound toxicants) are recognised as significant threats to the Bay, targets are set for total nitrogen (TN) and total suspended solids (TSS). As the main sources of loads to the Bay are from the surrounding catchment and from the Western Treatment Plant, specific targets at set for these sources.

Subclause (1)(a) requires that annual loads of TN and TSS entering Port Phillip Bay from surrounding waterways not exceed current estimated baselines. The pollutant load targets for waterways are expressed as a minimum and maximum range of nutrients in tonnes per year and represent the range of loads that must not be exceeded within a single year between 2017–27 to protect beneficial uses.

Subclause (1)(b) sets out the pollutant load target for the Western Treatment Plant which requires that current loads must not be exceeded based on a three-year rolling average.

Between 2017 and 2027 pollutant loads from waterways, including inputs from stormwater and run-off, are predicted to increase significantly in response to the pressure of increasing population growth and land-use change. Subclause (2) sets out key measures that will be needed to maintain nutrient and sediment inputs at levels that will achieve the target set out in subclause (1) in response to population growth and land-use change.

Subclause (3) requires the Department of Environment, Land, Water and Planning in conjunction with Melbourne Water and the Authority to develop a plan to protect the beneficial uses of Port Phillip Bay, meet the environmental quality objectives identified in Table 6 of Schedule 3 and to incorporate the targets and measures set out in subclauses (1) and (2).

5. Pollutant load targets for Western Port

(1) To protect the beneficial uses of Western Port set out in Table 4 of Schedule 2 for the period 2018 to 2028 –

(a) average annual load of total suspended solids entering Western Port from the catchment and coast must not exceed 28,000 tonnes; and

(b) there must be a 15 percent decrease in the total suspended sediment concentration in the East Arm segment from an annual mean of 40 mg/L to an annual mean of 34 mg/L by 2028.

(2) The Department of Environment, Land, Water and Planning, in conjunction with Melbourne Water and the Authority, must develop and implement a plan to –

(a) protect the beneficial uses and meet the environmental quality objectives identified in Table 7 of Schedule 3; and

(b) incorporate the targets set out in subclause (1).

Clause 5 identifies the pollutant load targets for Western Port. To achieve the pollutant load target for Western Port the average annual load of total suspended solids (TSS) calculated between 2018 and 2028 should not exceed 28,000 tonnes. Subclause (1) specifies the target for the concentration of TSS within the ambient waters of Western Port. If loads entering Western Port do not exceed their current baseline a decrease in the concentration of TSS is expected to be facilitated through the natural movement and flushing of sediments out of Western Port by tidal currents, which can be further supported by actions to stabilise in-bay sediment.

Subclause (2) requires the Department of Environment, Land, Water and Planning in conjunction with Melbourne Water and the Authority to develop a plan to protect the beneficial uses of Western Port, meet the environmental quality objectives identified in Table 7 of Schedule 3 and to incorporate the targets set out in subclause (1) and (2). The clause does not specify the management actions which must be adopted to achieve this target. This is intended to provide flexibility for how the agencies will work together with the community to develop cost-effective plans for environmental improvements. The pollutant load target is intended to drive management interventions to coordinate and link actions between the catchment, coast and bay to reduce sediment inputs into Western Port.

SCHEDULE 5: AREAS OF HIGH CONSERVATION VALUES

Areas of high conservation value include those areas in the Aquatic Reserves segment and –

(a) high value wetlands including wetlands of international importance listed under the *Convention on Wetlands of International Importance* (Ramsar, Iran, 1971) and listed in *A Directory of Important Wetlands in Australia* (Environment Australia 2001); and

(b) areas of significance for spawning, nursery, breeding, roosting and feeding areas of aquatic species and fauna listed under, or set out in, the following –

  (i) the Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment (1986);

  (ii) the Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment (1974);

  (iii) the Agreement between the Government of Australia and the Government of the Republic of Korea for the Protection of Migratory Birds in Danger of Extinction and their Environment (2006);

  (iv) the Convention on the Conservation of Migratory Species of Wild Animals (Bonn, Germany, 1979); and

  (v) the **Flora and Fauna Guarantee Act 1988**, where the discharge of waste may create a barrier to the passage of a migratory species.

SCHEDULE 6: TABLE OF REVOKED INSTRUMENTS

The following table of instruments are revoked:

Title	Gazettal
State Environment Protection Policy (Groundwaters of Victoria)	**No. S160, Gazette 17/12/1997**
	As varied: 19/3/2002, No. G12, Gazette 21/3/2002
State Environment Protection Policy (Waters of Victoria)	**No. S13, Gazette 26/2/1988**
	As varied: 6/2/1990 No. G12, Gazette 21 March 1990 No. S122, Gazette 22/10/1996: Schedule F5 (Waters of the Latrobe and Thompson River Basins and the Merriman Creek Catchment) No. S101, Gazette 27/8/1997: Schedule F6 (Waters of the Port Phillip Bay) No. S89, Gazette 22/6/1999: Schedule F7 (Waters of the Yarra Catchment) No. S192, Gazette 2/11/2001: Schedule F8 (Waters of Western Port and Catchment) 3/6/2003, No. S107, Gazette 4/6/2003 5/10/2004. No. S210, Gazette 5/10/2004

ENDNOTES

1 Table of Applied, Adopted or Incorporated Matter

The following table of applied, adopted or incorporated matter was included in [reference Gazettal] in accordance with the requirements of regulation 5 of the Subordinate Legislation Regulations 2014.

In this table –

Statutory Rule Provision	Title of applied, adopted or incorporated document	Matter in applied, adopted or incorporated document
Clause 17(4)(a) Schedule 3, clauses 1(2), 1(6)(b)-(d), (4)(2), 5(1)(a)-(c), 7(5), 7(6) Schedule 3, Table 12	Australian and New Zealand Guidelines for Fresh and Marine Water Quality, published by the ANZECC and the ARMCANZ in 2000	The whole
Clause 26	Guidelines for Environmental Management – Use of Reclaimed Water (2003), published by the Environment Protection Authority Victoria	The whole
Clause 28(2)(a) Clause 29(2)(b)(ii)	Victorian Land Capability Assessment Framework (2014), published by the Municipal Association of Victoria, Department of Environment and Primary Industries and Environment Protection Authority Victoria	The whole
Clause 28(2)(b) Clause 29(2)(d)	Guidelines for planning permit applications in open, potable water supply catchment areas (2012), published by the Department of Sustainability and Environment	The whole
Clause 28(3)	Code of Practice - Onsite Wastewater Management (2016), published by the Environment Protection Authority Victoria	The whole
Clause 34(2)	Urban Stormwater – Best Practice Environmental Management Guidelines, prepared by the Victorian Stormwater Committee and published by the CSIRO in 1999	Chapter 2.3; Stormwater performance objectives
Clause 48(2)	Code of Practice for Timber Production adopted under the **Sustainable Forests (Timber) Act 2004**	The whole
Clause 50(2)	Best Practice Environmental Management Guidelines for Dredging (2001), published by the Environment Protection Authority Victoria	The whole

Statutory Rule Provision	**Title of applied, adopted or incorporated document**	**Matter in applied, adopted or incorporated document**
Schedule 3, clause 2(3)(e)(i)	Guidelines for Environmental Management: Rapid Bioassessment Methodology for Rivers and Streams (2003), published by the Environment Protection Authority Victoria	The whole
Schedule 3, clause 2(4)(a)-(b) Schedule 3, Table 4, Table 11	Environmental Quality Guidelines for Victorian Lakes (2010), published by Environment Protection Authority Victoria	The whole
Schedule 3, clause 5(3) Schedule 3, clause 7(4)(a)	Australia New Zealand Food Standards Code	Schedule 19 Standard 2.6.2 – Non-alcoholic beverages and brewed soft drinks
Schedule 3, clauses 7(2)(a), 3(a) and (b), and 4(b)	Australian Drinking Water Guidelines (2011), published by the National Health and Medical Research Council in 2011	The whole
Schedule 5, clause 1(a)	List of Wetlands of International Importance, published by secretariat of the Convention on Wetlands of International Importance (Ramsar), on 13 September 2017	The whole
Schedule 5, clause 1(a)	Directory of Important Wetlands in Australia, published by Environment Australia in 2001	Chapter 11 – Victoria
Schedule 5, clause 1(b)(i)	Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment (1986)	Annex
Schedule 5, clause 1(b)(ii)	Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment (1974)	Annex
Schedule 5, clause 1(b)(iii)	Agreement between the Government of Australia and the Government of the Republic of Korea on the Protection of Migratory Birds (2007)	Annex
Schedule 5, clause 1(b)(iv)	Convention on the Conservation of Migratory Species of Wild Animals (Bonn, Germany, 1979)	Appendix I

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The *Victoria Government Gazette* is published by Blue Star Print with the authority of the Government Printer for the State of Victoria

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