

**DEPARTMENT OF NATURAL RESOURCES AND MINES
WATER AND SUSTAINABLE LANDSCAPES OUTPUT**

RESOURCE PLANNING GUIDELINES

GUIDELINE F10

**POLICY & CODE FOR PRESERVING WATER QUALITY IN
DECLARED CATCHMENT AREAS**

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Authorised by:

Compiled by:

Issued by:

(Signed)

(Signed)

(Signed)

Graham Milligan
General Manager
Water Management & Use

Jennifer Finlay
Planning Officer
Water Management & Use

Randall Cox
Manager
Water Allocation

Purpose of this paper

This paper sets out a policy and a code for preserving water quality in *declared catchment areas*. It includes some guiding principles, a code for regulating the use of land and construction and use of buildings; and suggestions on how to incorporate the policy into planning schemes as a ‘state interest’.

The paper is to assist staff in decision-making within declared catchment areas and in making submissions to local governments about their planning schemes or development applications.

1. Background

1.1 Purposes of the policy and code

The purposes of the policy and code are to provide:

1. Guiding principles for preserving the quality of water in a catchment area declared under the *Water Act 2000* ('declared catchment area').
2. A code that sets the bounds of the assessment interests for certain development in the declared catchment area, including the use of land, construction and use of buildings and structures on the land in a declared catchment area.
3. Information on the background and purpose of a declared catchment area and suggestions on how preserving water quality in a declared catchment area can be incorporated into planning schemes as a 'state interest'.

2. Purpose 1: provide guiding principles for preserving the quality of water in a declared catchment area

2.1 Explanation

The *Water Act 2000* seeks to advance sustainable management of water resources. Sustainable management, among other things, is management that protects the biological diversity and health of natural ecosystems and contributes to maintaining and improving the quality of naturally occurring water; and protecting water, watercourses, lakes, springs, aquifers, natural ecosystems and other resources from degradation and if practicable, reversing degradation that has occurred.

Preserving the quality of water in a catchment area is more about managing the effects of land use on the environment than the sustainable management of water resources. Planning for preserving the quality of water in a catchment area must seek to achieve sustainable land use outcomes, which are characterised as having no unsustainable impacts on land and water resources.

2.2 Guiding principles for preserving water quality in a catchment area

1. Preserving water quality and minimising the likelihood of unsustainable impacts on water quality in a catchment need to be fundamental considerations in decision-making.
2. Promote land use, development and management practices which maintain or improve the quality of naturally occurring water, and protect the physical integrity of watercourses, lakes, springs, riparian areas and natural ecosystems in a catchment from degradation.
3. Actively discourage the establishment and expansion of uses, particularly intensive land use, and development and management practices that are likely to degrade or contribute to the degradation of the quality of water in a catchment. This includes actively discouraging uses and activities that adversely affect the physical integrity of watercourses, lakes, springs, riparian areas and natural ecosystems.
4. Separation distances between activities on land and catchment waters reflect the risk posed by activities on land on the quality of water in the catchment, and act as a buffer to give adequate opportunity for sediment and nutrients to be captured by soils or taken up by (riparian) vegetation before entering a watercourse or lake.

3. Purpose 2: provide a code (assessment guidelines) for regulating the use of land in a declared catchment area

3.1 Explanation: when to use this code

This code is to be used to assess development applications in a *declared catchment area*. Arrangements applying to regulating land use in a declared catchment area are set out in the

Water Act 2000 and are administered through the *Integrated Planning Act 1997* (IPA). Schedule 5 of the *Water Regulation 2002*¹ lists declared catchment areas. In schedule 5, column 1 gives the catchment area name and column 2 identifies the map² number, for example, Bjelke-Peterson Dam catchment area is map AP10007 (in the Shires of Kilkivan, Murgon, Nanango and Wondai). Section 4.3 of this paper also lists the declared catchment areas including map number, map code (that links to a printable ‘pdf’ version of the map), map size, and local government areas/s to which the declared catchment applies.

Under IPA all development is exempt unless it is made self-assessable or assessable development. Schedule 8 of IPA, the *Integrated Planning Regulation 1998*, or a planning scheme determines the level of assessability for aspects of development. Under the Integrated Planning Regulation schedule 2, table 2 item 19, within declared catchment areas, NR&M (the chief executive under the *Water Act 2000*) has jurisdiction, as a concurrence agency, to consider the impacts from reconfiguring of a lot (if any lot resulting from the reconfiguring is less than 16 hectares) and certain development involving wastewater disposal (specified in the Integrated Planning Regulation schedule 2, table 3, item 5), to preserve the quality of water in a catchment.

Assessment criteria

Table 1 (below) sets out performance requirements and acceptable solutions for development in a declared catchment area. For each performance requirement an ‘acceptable solution’ is provided. An application will satisfy the performance requirement if it complies with the acceptable solution. Alternatively an application may demonstrate a different approach to meet the performance requirement provided the approach has an equivalent result in terms of performance.

3.2 Table 1: Performance requirements and acceptable solutions

Performance requirement	Acceptable solutions
<p>Separation distances</p> <p>Separation between development and watercourses, lakes and springs in the catchment are sufficient to preserve riparian areas – including riparian vegetation – and their capacity maintain water quality by filtering sediments, nutrients and other pollutants.</p>	<p><i>For non-urban development</i></p> <p>Development is not to occur within:</p> <ul style="list-style-type: none"> • 100 metres of the high bank of a designated watercourse, or • 400 metres of the full supply level (or planned full supply level) or flood margin reserve, whichever will provide the greatest distance from the water edge of the lake. • 25 metres of each bank of other watercourses. <p><i>For urban development</i></p> <p>Development is not to occur within:</p> <ul style="list-style-type: none"> • 100 metres of the high bank of a designated watercourse, or the full supply level (or planned full supply level) or flood margin reserve whichever will provide the greatest distance from the water edge of the lake. • 25 metres of each bank of other watercourses. <p>Endemic vegetation is retained or reinstated within the riparian areas.</p> <p>Riparian areas are fenced to restrict stock access.</p>

¹ [Water Regulation 2002](#)

<p>Allotment size</p> <p>Allotment size and configuration allow for on-site disposal of wastewater with no unsustainable impacts on catchment water quality; and public health risks are minimised.</p>	<p>Site-and-soil evaluation process in the <i>On-site Sewerage Code (Standard Sewerage Law)</i>, is used to determine suitability of each lot for an on-site sewerage facility and the land requirements of the facility.</p> <p>A reserve land application area of up to 100% of the design area is available on the lot.</p> <p>Development envelopes are identified for all lots indicating compliance with siting requirements and acceptable solutions for vertical and horizontal separation distances incorporated in the <i>On-site Sewerage Code (Standard Sewerage Law)</i> and the <i>On-site Sewerage Facilities Guidelines for Vertical and Horizontal Separation Distance</i>.</p> <p>Allotment layout and building design ensures that riparian vegetation is retained.</p> <p>Subdivision design and layout minimise the extent of vehicle access ways, road works and construction of new road.</p>
<p>Stormwater management</p> <p>Stormwater treatment and disposal are managed through appropriate infrastructure.</p> <p>Any changes to runoff characteristics are minimised in an ecologically sensitive manner and have no adverse affect on catchment water quality.</p>	<p>Relevant water quality objectives for receiving waters are identified and site specific discharge standards are met. Development plans and designs clearly demonstrate how relevant environmental values and water quality objectives for the receiving waters are achieved.</p> <p>Roads, vehicle accessways and other infrastructure are constructed so the final pavement level is contoured to the original ground level.</p> <p>Catch drains, or a system of off-line gross pollutant traps and wet retention ponds, are used to manage stormwater flows by directing flows along existing (or created) drainage lines and removing silt and debris.</p> <p>Catch drains are to be designed to intercept overland flow from allotments adjacent to the water storage and must be designed in accordance with the rainfall event outlined in (ii) below.</p> <p>Gross pollutant traps must be:</p> <ul style="list-style-type: none"> • based on sub-catchments of 5-10 ha • designed in accordance with the rainfall event outlined in (ii) below, and • located upstream of wet retention ponds. <p>Wet retention ponds are designed as follows:</p> <ol style="list-style-type: none"> (i) to provide a permanent retention component for first flush capture of settleable matter (ii) to provide permanent retention for first flush capture equivalent to the amount of runoff occurring during the

	<p>one year ARI critical duration storm over a period equal to the time of concentration plus five minutes</p> <p>(iii) located off line from drainage lines and paths</p> <p>(iv) depths of ponds must be 1m during dry weather and approximately 2.5m following first flush capture;</p> <p>(v) length to width ratio must be greater than 2:1</p> <p>(vi) retention must be designed for a 24 hour period to facilitate settling of matter</p> <p>(vii) ponds must be based on a sub-catchment of 5-10 ha.</p> <p>Details being provided on soil conservation and erosion control measures which will minimise the movement of sediment and residues by stormwater that comply with <i>Engineering Guidelines for Queensland Construction Sites, IEA, 1996</i> to be introduced during the construction phase.</p>
<p>On-site sewerage facility</p> <p>The siting, installation and operation of a domestic wastewater system must:</p> <ul style="list-style-type: none"> ensure that the effects of the facility are contained within the property boundaries and have no unsustainable impacts on catchment water quality reflect the risk of contamination of catchment waters due to failure of on-site wastewater disposal systems and export of pollutants and sediments via stormwater runoff. 	<p>All new development is connected to a reticulated sewerage system.</p> <p><i>Where reticulated sewerage or common effluent disposal systems are not available and wherever else on-site waste water treatment is appropriate:</i></p> <p>Site-and-soil evaluation process in the <i>On-site Sewerage Code (Standard Sewerage Law)</i>, is used to determine suitability of each lot for an on-site sewerage facility and the land requirements of the facility.</p> <p>Development envelopes are identified for all lots indicating compliance with acceptable solutions for horizontal and vertical separation distances prescribed in the <i>On-site Sewerage Facilities Guidelines for Vertical and Horizontal Separation Distance</i> – with respect to the protection of public health, protection of surface and groundwater quality, control of odours and control of noise.</p> <p>The on-site sewerage facility, land application area and reserve land application area are sited on land:</p> <ul style="list-style-type: none"> with a slope of less than 8%, or, that is terraced to receive the full disposal area requirements not within 400 metres of the high bank of a watercourse, or the full supply level (or planned full supply level) or flood margin reserve whichever will provide the greatest distance from the water edge of the lake <p>not within 2 metres of any water supply pipe, gas pipe, underground powerline, telecommunications cable, stormwater drain, or other pipeline not being part of an approved system.</p>
<p>Naturally occurring water quality</p> <p>Safeguard and improve the quality natural resource values and identified environmental values of naturally occurring water in the catchment area.</p>	<p>The quality of effluent that is discharged from an on-site sewerage treatment plant to the land application area complies with the <i>On-site Sewerage Facilities Guideline for Effluent Quality</i>.</p>

<p>Water quality is maintained to a standard suitable for primary contact recreation.</p>	<p>Compliance with relevant water quality guidelines.</p> <p>Compliance with <i>Queensland Water Quality Guidelines</i> (EPA) and <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (ANZECC).</p>
<p>Filling and excavation (including works associated with reconfiguring a lot)</p> <p>Land disturbing works including filling, excavation do not adversely affect catchment water quality.</p>	<p>No filling and excavation is undertaken in any watercourse or lake.</p> <p>Any changes to runoff characteristics of a site are minimised in an ecologically sensitive manner and do not affect catchment water quality.</p> <p>Compliance with <i>Soil Erosion and Sediment Control: Engineering Guidelines for Construction Sites</i> (Institute of Engineers Australia publication).</p>

3.3 Definitions and interpretation

development: See the *Integrated Planning Act 1997* (s.1.3.2).

urban development: For the purpose of applying the code the term is used in a generic sense and is to be interpreted in the context of the local government planning scheme for the particular area and includes all ancillary works necessarily associated with the proposed use or development. Whether or not the proposed use is, or is able to be, connected to reticulated sewerage system or common effluent disposal system may be a defining influence to consider a proposal as urban development.

non-urban development: For the purpose of applying the code the term is used in a generic sense and is to be interpreted in the context of the local government planning scheme for the particular area and includes all ancillary works necessarily associated with the proposed use or development.

watercourse or lake: See the *Water Act 2000* (schedule 4).

4. Purpose 3: Background and purpose of a declared catchment area and preserving water quality in a catchment as a state interest for planning schemes

4.1 Background and purpose of a declared catchment area — to preserve the quality of water in a catchment

The chief executive administering the *Water Act 2000* has maintained involvement in the assessment of development applications for certain development in declared areas for purpose of preserving the quality of water. This interest is set out in sections 258 and 259 of the *Water Act 2000* and exercised via the integrated development assessment system (IDAS) under the IPA. The current arrangements for the Department of Natural Resources & Mines involvement in IDAS for declared catchment areas, is that the chief executive administering the *Water Act 2000*:

- is a concurrence agency for certain development (*Integrated Planning Regulation 1998* schedule 2, table 2, item 19 and schedule 2, table 3 item 5), and
- is a referral agency for prescribed applications that undergo referral coordination (IPA section 3.3.5 and *Integrated Planning Regulation 1998* schedules 7 and 8).

The regulatory interests and influence are currently limited to development, other than assessable development under the *Environmental Protection Act 1994*, section 75 (environmentally relevant activities), if the development is the reconfiguring of a lot and any lot resulting from the reconfiguration is less than 16 hectares; or the establishment or expansion of a waste water disposal system.

There are 20 declared catchment areas in the Queensland, affecting parts of 24 local government areas. The majority of the declared catchment areas were gazetted between 1973-1975 and the last time a catchment area was gazetted was in 1990. A declared catchment area is an (assessable) development related and triggered mechanism for preserving the quality of water in a critical part of a water supply catchment.

The concept of declaring a catchment area – the critical part of a catchment area comprising properties directly adjoining a water supply dam – was the instrument the Commissioner for Irrigation and Water Supply or Water Resources, now chief executive administering the *Water Act 2000*, relied on to exercise control over changes in land use, subdivision and generally prevent pollution of the waters of the reservoir within the declared catchment area, or other detrimental effects on the environment.

Under state water laws, an interest was exercised in regulating any subdivision of land (which would create any area of land less than 40 acres/16 hectares), the establishment of a piggery, or any beef cattle lot feeding enterprise, or any noxious industry. As activities generating point source pollution are likely to impact the quality of water in a catchment, these are now environmentally relevant activities and are licensed under the *Environmental Protection Act 1994* including: domestic on-site sewerage facilities with a peak design capacity of 21 or more equivalent persons; piggeries; feedlots; other forms of intensive livestock operation or animal keeping; noxious and extractive industry; and mining. Mining activities are exempt development for the purposes of local government planning schemes.

Standards for construction, installation and operation of on-site sewerage facilities are contained in codes and standards under the *Plumbing and Drainage Act 2002*. Compliance permitting and approval for on-site sewerage facilities under this Act are the responsibility of the local government. The *Environmental Protection (Water) Policy 1997* also has specific requirements for on-site domestic waste water treatment systems for a local government preparing or amending a planning scheme or considering a development application.

Diffuse sources of pollution likely to degrade the quality of water in catchments also arise through other land use activities. Grazing practices, intensive cropping – land management practices associated with agricultural production are not considered environmentally relevant activities, are generally not regulated by local government planning schemes, do not trigger a development application, nor an opportunity to assess any likely impacts on catchment water quality.

4.2 State interest for planning schemes – preserving the quality of water in a catchment by ‘protecting catchments and natural waters from degradation and inappropriate use’

The *Integrated Planning Act 1997* requires all local government planning schemes to coordinate and integrate state and regional dimensions of core matters. This is achieved through the incorporation of and integration of state interests in planning schemes. As a core matter for planning schemes, water resources and features contributing to the quality of water (including catchments and recharge areas), are valuable features to be recognised and appropriately dealt with by planning schemes.

Preserving the quality of water in a catchment area by managing the use of land and the effects of development is a statutory obligation of the state that must be given effect through a planning scheme. Achieving water quality outcomes in a declared catchment area is, to an extent, reliant on local government planning schemes.

Strategic plans need to recognise catchment values and functions that contribute to preserving water quality as features to be protected and influence future development directions. Desired environmental outcomes are to reflect inherent limitations and constraints to developing in a water sensitive environment and seek to achieve sustainable development outcomes, supported by appropriate levels of assessment for changes in land use, works and other actions likely to degrade the quality of water.

4.3 Schedule of declared catchment areas and reference maps

Catchment / Dam	Map no.	Map code	Map (pdf) size	Local government area/s
Atkinson Dam	AP10022	A3-506177	(PDF, 389 kB)	Esk Laidley
Bill Gunn Dam	AP10024	A3-506158	(PDF, 312 kB)	Laidley
Bjelke Petersen Dam	AP10007	A3-506159	(PDF, 656 kB)	Kilkivan Murgon Nanango Wondai
Burdekin Falls Dam	AP10008	A3-506160	(PDF, 1.3 MB)	Belyando Bowen Dalrymple
Burnett Barrage	AP10009	A3-506161	(PDF, 523 kB)	Bundaberg
Callide Dam	AP10010	A3-506162	(PDF, 328 kB)	Banana
Cedar Pocket Dam	AP10011	A3-506163	(PDF, 357 kB)	Noosa Cooloola
Coolmunda Dam	AP10012	A3-506164	(PDF, 406 kB)	Inglewood
Eungella Dam	AP10013	A3-506165	(PDF, 306 kB)	Mirani
Fairbairn Dam	AP10014	A3-506166	(PDF, 608 kB)	Emerald
Fred Haigh Dam	AP10025	A3-506192	(PDF, 736 kB)	Kolan Miriam
Glenlyon Dam	AP10015	A3-506167	(PDF, 452 kB)	Stanthorpe
Kinchant Dam	AP10016	A3-506168	(PDF, 395 kB)	Mirani
Kolan River Barrage	AP10017	A3-506169	(PDF, 393 kB)	Burnett
Leslie Dam	AP10018	A3-506170	(PDF, 414 kB)	Warwick
Maroon Dam	AP10019	A3-506171	(PDF, 338 kB)	Boonah
Moogerah Dam	AP10020	A3-506173	(PDF, 773 kB)	Boonah
Peter Faust Dam	AP10021	A3-506174	(PDF, 305 kB)	Whitsunday
Tinaroo Falls Dam	AP10023	A3-506176	(PDF, 655 kB)	Atherton Eacham
Wivenhoe Dam	AP10024	A3-506175	(PDF, 1.3 MB)	Esk

End of Guideline