

Lakeland groundwater management policy

WAP/2013/5549

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Version history

Version	Date	Comments
1.0	3/09/2013	Draft for approval
1.1	20/09/2013	Approved by Director-General

Purpose

This policy provides the framework for decision making regarding subartesian water within the Lakeland groundwater management area for dealings other than seasonal water assignments and aids in the consistent interpretation and application of legislation.

Rationale

This policy is to provide for the sustainable use of subartesian water and ensure an environmentally sustainable level of extraction of subartesian water is achieved by preventing deterioration in water security to existing water users and the environment within the Lakeland groundwater management area.

Overview

The *Lakeland groundwater management policy* (the policy) applies to taking subartesian water in the Lakeland groundwater management area and development permits for works that take subartesian water. The policy applies to groundwater from the McLean Basalt and Hodgkinson Formation aquifers within the geographical boundary of the Lakeland groundwater management area. The policy will define the sustainable level of water extraction from the aquifer and provide a framework for managing that water.

The provisions relating to subartesian water entitlements in this policy do not apply to water users that take water for only stock and or domestic purposes. Persons who take water for those purposes will not require an entitlement or a development permit (as stated in schedule 11, Water Regulation 2002 for the Cook subartesian area).

The policy must be read in conjunction with the seasonal water assignment rules for the Lakeland groundwater management area.


Attachment 1 contains a reproduction of the Lakeland groundwater management area map that shows the extent of the management area.

Subartesian water

Applications for new licences

Applications in sub-areas 1 to 2

The sustainable level of extraction identified for the Lakeland groundwater management area is 1749 megalitres. The current volume of entitlements is 2415 megalitres, with an additional 30 megalitres used for stock and domestic supply.



Applications for seasonal water assignments or water permits in these sub-areas can still be made.

All other applications

An application for a new water licence under section 206 of the *Water Act 2000* (the Act) for the taking of subartesian water may be granted in a subartesian area where a person once had a licence, but has failed to renew (section 220 of the Act), reinstate (section 221 of the Act), or replace (section 229 of the Act) a licence. The applicant should demonstrate that:

- the works associated with the expired water licence were installed at the time the water licence expired
- there is an established history (within the previous three years) of authorised water use associated with the expired water licence
- the amount of water applied for is no more than the amount of water held under the previous licence.

The volume of water granted under the new licence must be no greater than the previous entitlement and the previous conditions will also apply. An officer may apply further conditions on the new licence if it is appropriate in the circumstances, or reduce the volume to be granted as the application will be dealt with as a new application.

Dealings with existing subartesian licences

When dealing with applications regarding existing licences (i.e. renewals s220, reinstatements section 221, amendments sections 216A and 216 (other than to increase the entitlement), amalgamations section 224, subdivisions section 225 and replacements section 229) the chief executive must consider potential impacts on the aquifer/s and potential impacts on existing entitlement holders in deciding whether to approve the relevant application.

Impacts the chief executive may consider include:

- sustainable level of extraction
- water quality issues
- interference between bores.

The chief executive must consider the sustainable level of extraction, water quality issues and interference between bores if a licence dealing results in a change in the location from which water may be taken.

Development permits

New or replacement bores

Properly made applications for development permits associated with seasonal water assignments or associated with existing water licences or water permits will be assessed in accordance with the *Sustainable Planning Act 2009* and the State Development Assessment Provisions.



Explanatory notes

Identifying the Lakeland groundwater management area

The Lakeland groundwater management area is generally bounded by the McLean Basalt, from approximately Lily Creek in the west, to Butchers Hill in the east, to the northern end of Hurse Road in the north, and The Brothers in the south, as identified in Attachment 1. The Lakeland groundwater management area is divided into two sub-areas for management purposes. These sub-areas are also identified in Attachment 1.

Water within the Lakeland groundwater management area to which this policy applies includes water from both the McLean Basalt and Hodgkinson Formation aquifers.

Note: The attached map is indicative only and is not the legally recognised map of the area under the provisions of the Water Regulation 2002. The area and the exact location of the boundaries of the water management area are held in digital electronic form by the department and may be inspected by the public at the department's Mareeba office.

Applying the policy

This policy will be applied to assist in the responsible management of the Lakeland groundwater management area water resources.

In making decisions regarding entitlements (e.g. amendments, subdivisions, amalgamations, etc.), the Act requires the decision maker to consider all the criteria in section 210 of the Act, including departmental policies 'for the sustainable management of water in the area to which the application relates' and policies for 'regional aquifer systems', such as this policy.

Other rules

The policy operates in conjunction with other rules regulating declared subartesian areas, surface entitlements and associated development permits. Therefore this policy must be read in conjunction with relevant sections of:

- the *Water Act 2000*
- the *Water Regulation 2002*
- the *Sustainable Planning Act 2009*
- the *Sustainable Planning Regulation 2009*
- the seasonal water assignment rules for the Lakeland groundwater management area
- any other policies, strategies or work practices applicable to the area.

Policy rationale

The take of groundwater resources for the area has reached sustainable extraction limits.

Two investigations have been undertaken of the groundwater availability within the Lakeland groundwater management area. The *Review of Groundwater Resources Associated with the Lakeland Downs Basalt* report (AGE, 2006) stated that the study area had a potential recharge of 2000 ML. Allocated entitlements as at 11 February 2013 are 2410 ML from the basalt, leaving a deficit of 410 ML. An investigation completed in 2013 (DNRM, 2013) found that the basalt aquifers in the study area were near or at their sustainable yield. Table 1 contains data taken from the DNRM report (2013) and shows that for both the northern and southern sectors, based on the working storage volumes, the aquifers are unable to support further extraction.

Table 1: Yield and allocation estimates (DNRM, 2013)

	Extractable water*	Recharged extractable storage	Discharge	Evapo-transpiration	Allocated Entitlement [^]	Stock and Domestic Use	Remaining Yield	Aquifer Condition
Northern Sector McLean Basalt	4115 ML	3150 ML	1332 ML	21 ML	2242 ML	24 ML	-469 ML	Over Allocated
Southern Sector McLean Basalt	1084 ML	1084 [#] ML	1112 ML	20 ML	173 ML	6 ML	-227 ML	Over Allocated
LGMA Overall	5199 ML	4234 ML	2444 ML	41 ML	2415 ML	30 ML	-696 ML	Over Allocated

* Excludes water held in saturated storage that is unable to be extracted.

Recharge is limited to the extractable water volume.

[^] Data from the department's Water Management System for the McLean Basalt and Hodgkinson Formation within the Lakeland groundwater management area correct as at 11/02/2013

The McLean Basalt aquifers within the Lakeland groundwater management area are assessed to be allocated at levels beyond those which the area as a whole can sustain. Any further allocation from the McLean Basalt would not be sustainable and will adversely affect existing entitlement reliability (DNRM, 2013).

Hydraulic connectivity between the basement aquifers and lower basalt aquifer layers is seen to be present in some of the bore logs (DNRM, 2013). The fractures within the Hodgkinson Formation are capable of receiving leakage from the overlying basalt aquifer where hydraulic connectivity and hydraulic gradients exist (DNRM, 2013). Recharge from the Hodgkinson Formation to the overlying/adjacent basalt units may also occur where connectivity of aquifer units and hydraulic gradients are present (DNRM, 2013). It is likely that there is limited opportunity for further development of the Hodgkinson Formation aquifer sequence within the Lakeland groundwater management area as it is a low yielding aquifer and any additional allocation of water from the Formation would likely reduce the security and reliability of current water licences (DNRM, 2013).



Policy review

This policy will be reviewed within five years of implementation, or sooner if sufficient additional information has been collected and analysed to provide additional understanding of the subartesian system in the Lakeland groundwater management area.

Minor changes (e.g. for workability, format, or to correct minor errors) may be made to this policy without consultation.

Major changes to this policy must be subject to assessment and consultation with the Lakeland community.

This policy will remain in force until reviewed or replaced by a water resource plan.

Contact

For enquiries relating to any aspect of water management within the Lakeland groundwater management area, please contact:

Position: Licensing Officer, Water Services

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Definitions

Aquifer means a geological formation, group of formations, or part of a formation capable of transmitting and yielding quantities of water.

Bore means a subartesian water bore and may include a shaft, well, gallery, spear or excavation, and any works constructed in connection with the shaft, well, gallery, spear or excavation, that taps an aquifer and the water does not flow and has never flowed naturally to the surface.

Remaining yield means the volume of water in megalitres (ML) either surplus (+) or deficit (-) to the allocable yield once losses and current entitlement volumes have been subtracted.

References

Australasian Groundwater & Environmental Consultants Pty Ltd (AGE), 2006, 'Review of Groundwater Resources Associated with the Lakeland Downs Basalt', June 2006.

Department of Natural Resources and Mines, 2013, 'Lakeland Groundwater Review'. February 2013.

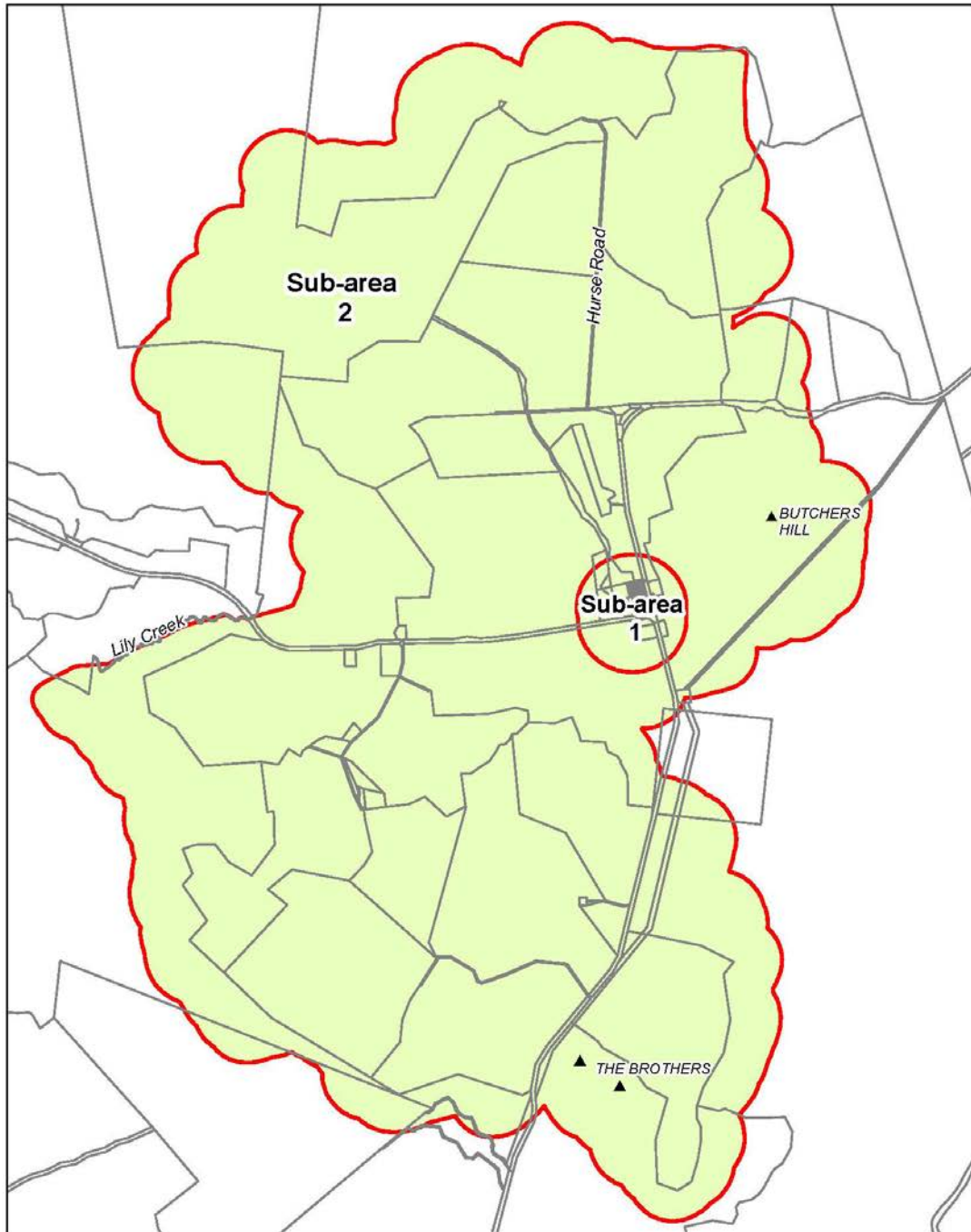
Legislation

Water Act 2000

Water Regulation 2002

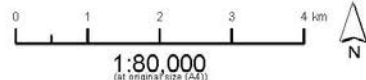
Sustainable Planning Act 2009

Attachment 1 – Lakeland groundwater management area CAS3049



Lakeland Groundwater Management Area

- Legend**
- Digital Cadastral Data Base (DCDB) Lot on Plan extracted July 2013
 - Lakeland Groundwater Management Area (GMA) including sub-areas



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Horizontal Datum: Geocentric Datum of Australia 1994 (GDA94)

Cadastral data provided with the permission of the Department of Natural Resources and Mines

Property boundaries shown on this map are provided as a locational aid only. DCDB boundaries do not represent legal cadastral boundaries.

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