New South Wales

Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011

under the

Water Management Act 2000

I, the Minister for Primary Industries, in pursuance of section 50 of the *Water Management Act 2000*, do, by this Order, make the following Minister's Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources.

Dated this 30th day of September, 2011.

KATRINA HODGKINSON, MP

Minister for Primary Industries

Explanatory note

This Order is made under section 50 of the *Water Management Act 2000*.

The object of this Order is to make the *Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011*. The concurrence of the Minister for the Environment was obtained prior to the making of this Order.

Published LW 2 December 2011

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Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011

Part 1 Introduction

Note. Part 12 allows for amendments to be made to Part 1.

1 Name of this Plan

This Plan is the *Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011* (hereafter ***this Plan***).

2 Nature and status of this Plan

(1) This Plan is made under section 50 of the *Water Management Act 2000* (hereafter ***the Act***).

(2) This Plan is a plan for water sharing, and generally deals with the matters set out in sections 20 and 21 of the Act, as well as other sections of the Act.

Note. Where a provision of this Plan is made under another section of the Act, the section is referred to in notes to this Plan.

3 Commencement of this Plan

This Plan commences on 16 January 2012.

Notes.

1 In accordance with section 43 of the Act, this Plan will have effect for 10 years from 1 July 2012.

2 The Minister may extend this Plan for a further period of 10 years after it is due to expire, in accordance with section 43A of the Act.

4 Application of this Plan

(1) This Plan applies to the NSW Murray Darling Basin Fractured Rock Groundwater Sources (hereafter ***these groundwater sources***) comprised of the following groundwater sources within the Border Rivers Water Management Area, the Central West Water Management Area, the Gwydir Water Management Area, the Lachlan Water Management Area, the Lower Murray Darling Water Management Area, the Murray Water Management Area, the Murrumbidgee Water Management Area, the Namoi Water Management Area and the Western Water Management Area :

(a) Adelaide Fold Belt MDB Groundwater Source,

(b) Inverell Basalt Groundwater Source,

(c) Kanmantoo Fold Belt MDB Groundwater Source,

(d) Lachlan Fold Belt MDB Groundwater Source,

(e) Liverpool Ranges Basalt MDB Groundwater Source,

(f) New England Fold Belt MDB Groundwater Source,

(g) Orange Basalt Groundwater Source,

(h) Warrumbungle Basalt Groundwater Source,

(i) Yass Catchment Groundwater Source, and

(j) Young Granite Groundwater Source.

Note. The Border Rivers Water Management Area, Central West Water Management Area, Gwydir Water Management Area, Lachlan Water Management Area, Lower Murray Darling Water Management Area, Murray Water Management Area, Murrumbidgee Water Management Area, Namoi Water Management Area and Western Water Management Area were constituted by Ministerial order made under section 11 of the *Water Management Act 2000* published in the NSW Government Gazette No 180 on 23 November 2001 at page 9389.

(2) These groundwater sources are shown on the registered map called the NSW Murray Darling Basin Fractured Rock Groundwater Sources held by the NSW Office of Water (hereafter the ***Registered Map*)**.

Note. An overview of the Registered Map is shown in Appendix 1. Copies of the Registered Map may be inspected at the offices listed in Appendix 2.

(3) Subject to subclause (13), the Adelaide Fold Belt MDB Groundwater Source includes all water contained in:

(a) all rocks within the outcropped and buried areas, and

(b) all alluvial sediments within the outcropped areas

within the boundary of the Adelaide Fold Belt MDB Groundwater Source as shown on the Registered Map.

(4) Subject to subclause (13), the Inverell Basalt Groundwater Source includes all water contained in:

(a) all basalt and sediments of Tertiary age, and

(b) all alluvial sediments

within the boundary of the Inverell Basalt Groundwater Source as shown on the Registered Map.

(5) Subject to subclause (13), the Kanmantoo Fold Belt MDB Groundwater Source includes all water contained in:

(a) all rocks within the outcropped and buried areas, and

(b) all alluvial sediments within the outcropped areas

within the boundary of the Kanmantoo Fold Belt MDB Groundwater Source as shown on the Registered Map.

(6) Subject to subclauses (13) and (14), the Lachlan Fold Belt MDB Groundwater Source includes all water contained in:

(a) all rocks within the outcropped and buried areas, and

(b) all alluvial sediments within the outcropped areas

within the boundary of the Lachlan Fold Belt MDB Groundwater Source as shown on the Registered Map.

(7) Subject to subclause (13), the Liverpool Ranges Basalt MDB Groundwater Source includes all water contained in:

(a) all basalt and sediments of Tertiary age, and

(b) all alluvial sediments

within the boundary of the Liverpool Ranges Basalt MDB Groundwater Source as shown on the Registered Map.

(8) Subject to subclauses (13) and (15), the New England Fold Belt MDB Groundwater Source includes all water contained in:

(a) all rocks within the outcropped and buried areas, and

(b) all alluvial sediments within the outcropped areas

within the boundary of the New England Fold Belt MDB Groundwater Source as shown on the Registered Map.

(9) Subject to subclause (13), the Orange Basalt Groundwater Source includes all water contained in:

(a) all basalt and sediments of Tertiary age, and

(b) all alluvial sediments

within the boundary of the Orange Basalt Groundwater Source as shown on the Registered Map.

(10) Subject to subclause (13), the Warrumbungle Basalt Groundwater Source includes all water contained in:

(a) all basalt and sediments of Tertiary age, and

(b) all alluvial sediments

within the boundary of the Warrumbungle Basalt Groundwater Source as shown on the Registered Map.

(11) Subject to subclause (13), the Yass Catchment Groundwater Source includes all water contained in all rocks and alluvial sediments within the boundary of the Yass Catchment Groundwater Source as shown on the Registered Map.

(12) Subject to subclause (13), the Young Granite Groundwater Source includes all water contained in all rocks and alluvial sediments within the boundary of the Young Granite Groundwater Source as shown on the Registered Map.

(13) These groundwater sources do not include water contained in:

(a) the water source as defined in the *Water Sharing Plan for the Lower Gwydir Groundwater Source 2003,*

(b) the water source as defined in the *Water Sharing Plan for the Lower Lachlan Groundwater Source 2003,*

(c) the water sources as defined in the *Water Sharing Plan for the Lower Macquarie Groundwater Sources 2003,*

(d) the water source as defined in the *Water Sharing Plan for the Lower Murray Groundwater Source,*

(e) the water sources as defined in the *Water Sharing Plan for the Lower Murrumbidgee Groundwater Sources 2003,*

(f) the water sources as defined in the *Water Sharing Plan for the Upper and Lower Namoi Groundwater Sources 2003,*

(g) the water sources as defined in the *Water Sharing Plan for the NSW Great Artesian Basin Groundwater Sources 2008,*

(h) the water sources as defined in the *Water Sharing Plan for the Peel Valley Regulated, Unregulated, Alluvium and Fractured Rock Water Sources 2010,*

(i) the water sources as defined in the *Water Sharing Plan for the Castlereagh below Binnaway Unregulated and Alluvial Water Sources 2011,*

(j) the water sources as defined in the *Water Sharing Plan for the Murray Darling Basin Porous Rock Groundwater Sources 2011*,

(k) any alluvial sediments below the surface of the ground within the excluded alluvial areas as shown on the Registered Map, or

(l) all geological formations to a depth of 60 metres below the surface of the ground within the excluded GAB shallow areas as shown on the Registered Map.

(14) The Lachlan Fold Belt MDB Groundwater Source does not include water contained in the Liverpool Ranges Basalt MDB Groundwater Source, Orange Basalt Groundwater Source, Warrumbungle Basalt Groundwater Source, Yass Catchment Groundwater Source and Young Granite Groundwater Source.

(15) The New England Fold Belt MDB Groundwater Source does not include water contained in the Inverell Basalt Groundwater Source and Liverpool Ranges Basalt MDB Groundwater Source.

Note. Buried fractured rock groundwater sources underlie other rock type aquifers. Bores drilled through overlying unconsolidated alluvial sediments or porous rock sediments may still be drawing water from fractured rock groundwater sources. Although it may appear on the Registered Map that these bores are outside the groundwater source boundary, they may be drawing water from fractured rock aquifers and be subject to the provisions of this Plan.

5 Management Zones

(1) For the purposes of this Plan, the Lachlan Fold Belt MDB Groundwater Source is divided into the following management zones:

(a) Lachlan Fold Belt MDB (Mudgee) Management Zone, and

(b) Lachlan Fold Belt MDB (Other) Management Zone.

Note. The Lachlan Fold Belt MDB (Mudgee) Management Zone includes the parishes of Galambine, Wilbertree, Eurundury and Bumberra in the County of Phillip.

(2) The management zones in subclause (1) are shown on the Registered Map.

6 Understanding the rules in this Plan

This Plan contains various rules. Where appropriate, rules specified in this Plan are given effect by mandatory conditions for access licences and approvals contained in Part 11 of this Plan.

Note. The rules in this Plan include environmental water rules, access licence dealing rules, rules for granting and managing access licences, rules for water supply work approvals, rules for the making of available water determinations and water allocation account rules.

7 Interpretation

(1) Words and expressions that are defined in the Dictionary in Schedule 1 to this Plan have the meaning set out in that Schedule.

(2) Unless otherwise defined in this Plan, words and expressions that are defined in the Act or in the regulations to the Act (hereafter ***the regulations***) have the same meaning in this Plan.

(3) Unless otherwise specified in this Plan, a clause that applies to a category of access licence also applies to any subcategories of that category of access licence.

(4) Schedules to this Plan form part of this Plan.

(5) Notes in the text of this Plan do not form part of this Plan.

(6) Appendices to this Plan do not form part of this Plan.

Part 2 Vision, objectives, strategies and performance indicators

Note. This Part is made in accordance with section 35 (1) of the Act.

8 Vision statement

The vision for this Plan is to provide for healthy and enhanced groundwater sources and water dependent ecosystems and for equitable water sharing among users in these groundwater sources.

9 Objectives

The objectives of this Plan are to:

(a) protect, preserve, maintain and enhance the high priority groundwater dependent ecosystems and important river flow dependent ecosystems of these groundwater sources,

(b) protect, preserve, maintain and enhance the Aboriginal, cultural and heritage values of these groundwater sources,

(c) protect basic landholder rights,

(d) manage these groundwater sources to ensure equitable sharing between users,

(e) provide opportunities for enhanced market based trading of access licences and water allocations within environmental and system constraints,

(f) provide water allocation account management rules which allow sufficient flexibility in water use,

(g) contribute to the maintenance of water quality,

(h) provide recognition of the connectivity between surface water and groundwater,

(i) adaptively manage these groundwater sources, and

(j) contribute to the environmental and other public benefit outcomes identified under the Water Access Entitlements and Planning Framework in the *Intergovernmental Agreement on a National Water Initiative (2004)* (hereafter ***the NWI***).

Note. Under the NWI, water that is provided by NSW to meet agreed environmental and other public benefit outcomes as defined within relevant water plans is to:

(i) be given statutory recognition and have at least the same degree of security as water access entitlements for consumptive use and be fully accounted for,

(ii) be defined as the water management arrangements required to meet the outcomes sought, including water provided on a rules basis or held as a water access entitlement, and

(iii) if held as a water access entitlement, may be made available to be traded (where physically possible) on the temporary market, when not required to meet the environmental and other public benefit outcomes sought and provided such trading is not in conflict with these outcomes.

10 Strategies

The strategies of this Plan are to:

(a) establish environmental water rules,

(b) identify water requirements for basic landholder rights,

(c) identify water requirements for access licences,

(d) establish rules for the granting of access licences and approvals,

(e) establish rules that place limits on the availability of water for extraction,

(f) establish rules for making available water determinations,

(g) establish rules for the operation of water accounts,

(h) establish rules which specify the circumstances under which water may be extracted,

(i) establish access licence dealing rules,

(j) establish performance indicators, and

(k) identify triggers for and limits to changes to the rules in this Plan.

11 Performance indicators

The following indicators are to be used to measure the success of the strategies to reach the objectives of this Plan:

(a) change in or maintenance of, the ecological value of key groundwater sources and their dependent ecosystems,

(b) the extent to which basic landholder rights requirements have been met, including native title requirements,

(c) change in local water utility access,

(d) the extent to which local water utility requirements have been met,

(e) change in economic benefits derived from groundwater extraction and use, and

(f) extent of recognition of spiritual, social and customary values of water to Aboriginal people.

Part 3 Bulk access regime

12 Bulk access regime

(1) This Plan establishes a bulk access regime for the extraction of water under access licences in these groundwater sources, having regard to:

(a) the environmental water rules established in Part 4 of this Plan,

(b) the requirements for water for basic landholder rights identified in Division 2 of Part 5 of this Plan,

(c) the requirements for water for extraction under access licences identified in Division 3 of Part 5 of this Plan, and

(d) the access licence dealing rules established in Part 10 of this Plan.

(2) The bulk access regime established in this Plan for these groundwater sources:

(a) recognises and is consistent with the limits to the availability of water set in relation to these groundwater sources contained in Division 1 of Part 6 of this Plan,

(b) establishes rules according to which access licences are to be granted and managed contained in Parts 7 and 8 of this Plan and available water determinations to be made contained in Division 2 of Part 6 of this Plan,

(c) recognises the effect of climatic variability on the availability of water as described in clause 13,

(d) establishes rules with respect to the priorities according to which water allocations are to be adjusted as a consequence of any reduction in the availability of water due to an increase in average annual extraction against the long-term average annual extraction limit, contained in Division 1 of Part 6 of this Plan,

(e) contains provisions with respect to the conditions that must be imposed as mandatory conditions on access licences, contained in Division 2 of Part 11 of this Plan, and

(f) recognises and is consistent with the water management principles contained in section 5 of the Act.

13 Climatic variability

This Plan recognises the effects of climatic variability on groundwater levels in these groundwater sources by having provisions that manage the sharing of water in these groundwater sources within the limits of water availability on a long-term average annual basis and the priorities according to which water allocations are to be adjusted as a consequence of any reduction in the availability of water due to an increase in average annual extraction against the long-term average annual extraction limit, contained in Division 1 of Part 6.

Note. Other statutory tools are available to manage climatic variability within a groundwater source, for example, temporary water restrictions under section 324 of the Act.

Part 4 Planned environmental water provisions

Notes.

1 This Part is made in accordance with sections 8, 8A, and 20 of the Act.

2 Part 12 allows for amendments to be made to Part 4.

14 General

This Part contains environmental water rules for the commitment, identification, establishment and maintenance of planned environmental water in these groundwater sources.

Note. In accordance with the Act, planned environmental water is water that is committed by management plans for fundamental ecosystem health or other specified environmental purposes, either generally or at specified times or in specified circumstances and that cannot to the extent committed be taken or used for any other purpose.

15 Commitment and identification of planned environmental water

(1) Planned environmental water is committed and identified in these groundwater sources as set out in this clause.

(2) Water is committed and identified as planned environmental water in these groundwater sources in the following ways:

(a) by reference to the commitment of the physical presence of water in these groundwater sources,

(b) by reference to the long-term average annual commitment of water as planned environmental water, and

(c) by reference to the water that is not committed after the commitments to basic landholder rights and for sharing and extraction under any other rights have been met.

16 Establishment and maintenance of planned environmental water

(1) Planned environmental water is established and maintained in these groundwater sources as set out in this clause.

(2) Planned environmental water in these groundwater sources is established as follows:

(a) it is the physical presence of water:

(i) in the Adelaide Fold Belt MDB Groundwater Source, which is equal to 40% of the long-term average annual rainfall recharge in those areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

Notes.

1 At the commencement of this Plan the long-term average annual rainfall recharge for the Adelaide Fold Belt MDB Groundwater Source is estimated to be 50,487 ML/year in those areas that are not high environmental value areas.

2 At the commencement of this Plan, there are no high environmental value areas in the Adelaide Fold Belt MDB Groundwater Source. Accordingly, the long-term average annual recharge for the Adelaide Fold Belt MDB Groundwater Source in high environmental value areas is 0 ML/year.

(ii) in the Inverell Basalt Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge from those areas that are not in high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Inverell Basalt Groundwater Source is estimated to be 51,614 ML/year in areas that are not high environmental value areas and 902 ML/year in high environmental value areas.

(iii) in the Kanmantoo Fold Belt MDB Groundwater Source, which is equal to 40% of the long-term average annual rainfall recharge from those areas that are not in high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Kanmantoo Fold Belt MDB Groundwater Source is estimated to be 297,624 ML/year in those areas that are not high environmental value areas and 23,612 ML/year in high environmental value areas.

(iv) in the Lachlan Fold Belt MDB Groundwater Source, which is equal to 75% of the long-term average annual rainfall recharge from those areas that are not in high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Lachlan Fold Belt MDB Groundwater Source is estimated to be 3,285,002 ML/year in those areas that are not high environmental value areas and 189,363 ML/year in high environmental value areas.

(v) in the Liverpool Ranges Basalt MDB Groundwater Source, which is equal to 75% of the long-term average annual rainfall recharge from those areas that are not in high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Liverpool Ranges Basalt MDB Groundwater Source is estimated to be 76,300 ML/year in those areas that are not high environmental value areas and 4,049 ML/year in high environmental value areas.

(vi) in the New England Fold Belt MDB Groundwater Source, which is equal to 75% of the long-term average annual rainfall recharge from those areas that are not in high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

Note. At the commencement of this Plan the long-term average annual rainfall recharge for the New England Fold Belt MDB Groundwater Source is estimated to be 819,134 ML/year in those areas that are not high environmental value areas and 44,604 ML/year in high environmental value areas.

(vii) in the Plan Orange Basalt Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge from those areas that are not in high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this,

Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Orange Basalt Groundwater Source is estimated to be 32,415 ML/year in those areas that are not high environmental value areas and 715 ML/year in high environmental value areas.

(viii) in the Warrumbungle Basalt Groundwater Source, which is equal to 75% of the long-term average annual rainfall recharge from those areas that are not in high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Warrumbungle Basalt Groundwater Source is estimated to be 22,841 ML/year in those areas that are not high environmental value areas and 5,789 ML/year in high environmental value areas.

(ix) Plan in the Yass Catchment Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge from those areas that are not high environmental value areas and 100% of the long-term

average annual rainfall recharge in high environmental value areas at the commencement of this,

Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Yass Catchment Groundwater Source is estimated to be 52,326 ML/year in those areas that are not high environmental value areas and 587 ML/year in high environmental value areas.

(x) in the Young Granite Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge from those areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan, and

Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Young Granite Groundwater Source is estimated to be 19,058 ML/year in those areas that are not high environmental value areas and 5 ML/year in high environmental value areas.

(xi) is within the groundwater storage of these groundwater sources over the long term,

Notes.

1 Groundwater sources generally store large volumes of water, often accumulated over thousands or even tens of thousands of years. The amount of annual recharge is often very small compared to this stored volume. This Plan does not allow access to the storage component of these groundwater sources over the long-term. This means that, over the long-term, the storage component of these groundwater sources will not be depleted as a result of extraction.

2 The recharge estimates for these groundwater sources are based on rainfall infiltration.

3 The portion of recharge reserved for the environment is not the same for every groundwater source, having regard to the different levels of socio-economic reliance and environmental values of each groundwater source.

(b) it is the long-term average annual commitment of water as planned environmental water in:

(i) the Adelaide Fold Belt MDB Groundwater Source, which is equal to 40% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

(ii) the Inverell Basalt Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual

rainfall recharge in high environmental value areas at the commencement of this Plan,

(iii) the Kanmantoo Fold Belt MDB Groundwater Source, which is equal to 40% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

(iv) the Lachlan Fold Belt MDB Groundwater Source, which is equal to 75% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

(v) the Liverpool Ranges Basalt MDB Groundwater Source, which is equal to 75% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

(vi) the New England Fold Belt MDB Groundwater Source, which is equal to 75% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

(vii) the Orange Basalt Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

(viii) the Warrumbungle Basalt Groundwater Source, which is equal to 75% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

(ix) the Yass Catchment Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan,

(x) the Young Granite Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan, and

(xi) these groundwater sources, which is equal to the volume of water within the groundwater storage over the long term, and

(c) it is the water remaining in these groundwater sources after water has been taken pursuant to basic landholder rights and access licences, in accordance with the rules specified in Part 6 and Part 8 of this Plan.

(3) The planned environmental water established under subclause (2) (a) is maintained in these groundwater sources by the rules specified in Part 6 and Part 8 of this Plan.

(4) The planned environmental water established under subclause (2) (b) is maintained in these groundwater sources by the rules specified in Part 6 which limit the water available for extraction under access licences.

(5) The planned environmental water established under subclause (2) (c) is maintained in these groundwater sources by the rules specified in Part 6 and Part 8 of this Plan.

Note. The rules in Part 6 ensure that there will be water remaining in these groundwater sources over the long term by maintaining compliance with the long-term average annual extraction limit. The rules in Part 6 provide for a reduction in available water determinations when the long-term average annual extraction limits have been assessed to have been exceeded.

Part 5 Requirements for water

Division 1 General

17 Application

(1) This Part identifies the requirements for water from these groundwater sources for basic landholder rights (Division 2) and for extraction under access licences (Division 3).

(2) The amounts of water specified in this Part represent the estimated water requirements of persons entitled to basic landholder rights in these groundwater sources and the total volumes or unit shares specified in the share components of all access licences in these groundwater sources. The actual volumes of water available for extraction in these groundwater sources at any time will depend on factors such as climatic variability, access licence priority and the rules in this Plan.

(3) This Plan recognises that basic landholder rights in these groundwater sources and the total share components of all access licences authorised to extract water from these groundwater sources may change during the term of this Plan. This Plan manages such changes by having provisions that manage the sharing of water within the limits of water availability, as provided for in Division 1 of Part 6 of this Plan.

Note. The total share components of access licences in these groundwater sources may change during the term of this Plan as a result of:

(a) the grant, surrender or cancellation of access licences in these groundwater sources,

(b) the variation of local water utility licences under section 66 of the Act, or

(c) changes due to the volumetric conversion of *Water Act 1912* entitlements that are currently non-volumetric.

Division 2 Requirements for water for basic landholder rights

18 Domestic and stock rights

At the commencement of this Plan the water requirements of persons entitled to domestic and stock rights in these groundwater sources are estimated to total 105,639 megalitres per year (hereafter ***ML/year***), distributed as follows:

(a) 2,143 ML/year in the Adelaide Fold Belt MDB Groundwater Source,

(b) 1,073 ML/year in the Inverell Basalt Groundwater Source,

(c) 8,154 ML/year in the Kanmantoo Fold Belt MDB Groundwater Source,

(d) 74,311 ML/year in the Lachlan Fold Belt MDB Groundwater Source,

(e) 1,828 ML/year in the Liverpool Ranges Basalt MDB Groundwater Source,

(f) 14,520 ML/year in the New England Fold Belt MDB Groundwater Source,

(g) 1,158 ML/year in the Orange Basalt Groundwater Source,

(h) 540 ML/year in the Warrumbungle Basalt Groundwater Source,

(i) 1,153 ML/year in the Yass Catchment Groundwater Source, and

(j) 759 ML/year in the Young Granite Groundwater Source.

Notes.

1 Domestic and stock rights are set out in Division 1 of Part 1 of Chapter 3 of the Act and must be exercised in accordance with any mandatory guidelines established under the Act with respect to the taking and use of water for domestic consumption or stock watering.

2 Inherent water quality and land use activities may make the water in some areas unsuitable for human consumption. Water from these groundwater sources should not be consumed without first being tested and, if necessary, appropriately treated. Such testing and treatment is the responsibility of the water user.

19 Native title rights

At the commencement of this Plan there are no native title rights in these groundwater sources. Therefore the water requirements for native title rights total 0 ML/year.

Note. A change in native title rights may occur pursuant to the provisions of the *Native Title Act 1993* (Cth).

Division 3 Requirements for water for extraction under access licences

20 Share components of domestic and stock access licences

It is estimated that at the time of commencement of this Plan the share components of domestic and stock access licences authorised to take water from these groundwater sources will total 0 ML/year.

21 Share components of local water utility access licences

It is estimated that at the time of commencement of this Plan the share components of local water utility access licences authorised to take water from these groundwater sources will total 6,301 ML/year, distributed as follows:

(a) 0 ML/year in the Adelaide Fold Belt MDB Groundwater Source,

(b) 56 ML/year in the Inverell Basalt Groundwater Source,

(c) 0 ML/year in the Kanmantoo Fold Belt MDB Groundwater Source,

(d) 5,101 ML/year in the Lachlan Fold Belt MDB Groundwater Source,

(e) 0 ML/year in the Liverpool Ranges Basalt MDB Groundwater Source,

(f) 667 ML/year in the New England Fold Belt MDB Groundwater Source,

(g) 160 ML/year in the Orange Basalt Groundwater Source,

(h) 0 ML/year in the Warrumbungle Basalt Groundwater Source,

(i) 279 ML/year in the Yass Catchment Groundwater Source, and

(j) 38 ML/year in the Young Granite Groundwater Source.

22 Share components of aquifer access licences

It is estimated that at the time of commencement of this Plan the share components of aquifer access licences authorised to take water from these groundwater sources will total 98,093 unit shares, distributed as follows:

(a) 1,466 unit shares in the Adelaide Fold Belt MDB Groundwater Source,

(b) 3,023 unit shares in the Inverell Basalt Groundwater Source,

(c) 755 unit shares in the Kanmantoo Fold Belt MDB Groundwater Source,

(d) 68,498 unit shares in the Lachlan Fold Belt MDB Groundwater Source,

(e) 334 unit shares in the Liverpool Ranges Basalt MDB Groundwater Source,

(f) 7,005 unit shares in the New England Fold Belt MDB Groundwater Source,

(g) 7,760 unit shares in the Orange Basalt Groundwater Source,

(h) 11 unit shares in the Warrumbungle Basalt Groundwater Source,

(i) 2,925 unit shares in the Yass Catchment Groundwater Source, and

(j) 6,316 unit shares in the Young Granite Groundwater Source.

23 Share components of salnity and water table management access licences

It is estimated that at the time of commencement of this Plan the share components of salinity and water table management access licences authorised to take water from the Lachlan Fold Belt MDB Groundwater Source will total 236 ML/year.

Part 6 Limits to the availability of water

Division 1 Long-term average annual extraction limit

24 General

The availability of water for extraction in these groundwater sources on a long-term basis is to be managed in accordance with this Part.

25 Volume of the long-term average annual extraction limits

(1) This clause establishes long-term average annual extraction limits for these groundwater sources.

(2) Subject to any variation under subclause (3), the long-term average annual extraction limit is:

(a) 30,292 ML/year for the Adelaide Fold Belt MDB Groundwater Source,

(b) 25,807 ML/year for the Inverell Basalt Groundwater Source,

(c) 178,575 ML/year for the Kanmantoo Fold Belt MDB Groundwater Source,

(d) 821,250 ML/year for the Lachlan Fold Belt MDB Groundwater Source,

(e) 19,075 ML/year for the Liverpool Ranges Basalt MDB Groundwater Source,

(f) 204,784 ML/year for the New England Fold Belt MDB Groundwater Source,

(g) 16,208 ML/year for the Orange Basalt Groundwater Source,

(h) 5,710 ML/year for the Warrumbungle Basalt Groundwater Source,

(i) 26,163 ML/year for the Yass Catchment Groundwater Source, and

(j) 9,529 ML/year for the Young Granite Groundwater Source.

(3) Following the surrender and cancellation of an access licence in these groundwater sources under section 77 and 77A of the Act, the Minister may vary the respective long-term average annual extraction limit.

Notes.

1 The long-term average annual extraction limit for each groundwater source is equal to the long-term average annual rainfall recharge minus the amount of recharge reserved as planned environmental water under clause 16 (2).

2 Part 12 of this Plan allows for amendments to be made to clause 25.

3 Under section 8F of the Act, the long-term extraction limit is taken to be varied by the amount of any change to the amount of water committed as licensed environmental water. Water committed as licensed environmental water is not to be accounted for as extraction. The variation in the long-term extraction limit is to be determined in accordance with a methodology approved by the Minister and published in the Gazette.

26 Calculation of current levels of annual extraction

(1) After each water year, the total volume of water extracted during that water year under access licences and pursuant to domestic and stock rights and native title rights must be calculated for each groundwater source specified in clause 4 (1).

(2) For the purpose of calculating the total volume of water extracted during a water year, the following must be taken into account:

(a) all water taken by holders of all categories of access licence in the respective groundwater source, and

(b) all water taken pursuant to domestic and stock rights and native title rights in the groundwater source.

27 Assessment of average annual extraction against the long-term average annual extraction limits

(1) An assessment of average annual extractions against the long term average annual extraction limit is to be conducted for each groundwater source as set out in this clause.

(2) Commencing in the fourth water year in which this Plan has effect, the assessments referred to in subclause (1) must compare the long-term average annual extraction limits established in clause 25 for the respective groundwater source against the annual extraction averaged over the preceding three water years.

28 Compliance with the long-term average annual extraction limits

(1) Pursuant to section 58 (4) of the Act, this Plan amends the relative priorities of the categories of the aquifer access licence and salinity and water table management access licence to the extent necessary to make the reductions to available water determinations as set out in this clause.

(2) Compliance with the long-term average annual extraction limits established for each groundwater source is to be managed in accordance with this clause.

(3) Commencing in the fourth water year in which this Plan has effect, if in the Minister's opinion the assessment under clause 27 demonstrates that annual extractions in the respective groundwater source averaged over the preceding three water years have exceeded the long-term average annual extraction limit for that groundwater source by 5% or more, then the available water determination for aquifer access licences in that groundwater source is to be reduced in the following water year in accordance with subclause (4).

(4) The reduction under subclause (3) is to be of an amount that is, in the Minister's opinion, necessary to return average annual extractions in the respective groundwater source to the long-term average annual extraction limit established in this Part.

Division 2 Available water determinations

29 General

(1) Available water determinations for access licences with a share component that specifies one of these groundwater sources are to be expressed as either:

(a) a percentage of share component for access licences where share components are specified as ML/year, or

(b) megalitres per unit share for access licences where share components are specified as a number of unit shares.

(2) The sum of available water determinations made for any access licence with a share component that specifies one of these groundwater sources must not, in any water year, exceed:

(a) 100% of the access licence share component or such lower amount that results from Division 1 of this Part, for all access licences where share components are specified as ML/year, or

(b) 1 megalitre per unit share of the access licence share component or such lower amount that results from Division 1 of this Part, for all access licences where share components are specified as a number of unit shares.

30 Available water determinations

(1) In making available water determinations under section 59 of the Act, the Minister should consider the rules in this clause.

(2) At the commencement of this Plan and at the commencement of each water year after the first water year in which this Plan has effect, the following available water determinations should be made for access licences with a share component that specifies one of these groundwater sources:

(a) 100% of the access licence share component for domestic and stock access licences,

(b) 100% of the access licence share component for local water utility access licences,

(c) 100% of the access licence share component for salinity and water table management access licences,

(d) 1 ML per unit share of the access licence share component for aquifer access licences,

or such lower amount that results from Division 1 of this Part.

Note. Division 1 of this Part provides for available water determinations for aquifer access licences to be reduced where the long-term average annual extraction limit for a groundwater source has been assessed to have been exceeded.

Part 7 Rules for granting access licences

Notes.

1 This Part is made in accordance with sections 20, 61 and 63 of the Act.

2 Access licences granted in these groundwater sources will be subject to mandatory conditions and discretionary conditions.

31 Specific purpose access licences

(1) Applications for specific purpose access licences, other than those permitted under the regulations, must not be made in these groundwater sources, except for salinity and water table management access licences with a share component that specifies the Lachlan Fold Belt MDB Groundwater Source.

(2) A salinity and water table management access licence may be granted in the Lachlan Fold Belt MDB Groundwater Source.

(3) A specific purpose access licence must not be granted in these groundwater sources unless the Minister is satisfied that the share and extraction component of the access licence is the minimum required to meet the circumstances in which the access licence is proposed to be used.

(4) An access licence of the subcategory "Aboriginal cultural" must not be granted in these groundwater sources unless the share component of the proposed access licence is less than or equal to 10 ML/year.

32 Granting of access licences as a result of controlled allocation

The Minister may grant an access licence where the right to apply for the licence has been acquired in accordance with an order under section 65 of the Act.

Part 8 Rules for managing access licences

Note. Part 12 allows for amendments to be made to Part 8.

33 General

The rules in this Part apply to the taking of water under an access licence with a share component that specifies one of these groundwater sources.

Note. The Act provides for the keeping of water allocation accounts. The rules in this Part impose further restrictions on the volume of water that may be taken under an access licence over a specified period of time. These restrictions are in addition to any other limits for the taking of water contained in this Plan. For further clarification, these rules do not authorise the taking of more water than is credited to the respective water allocation accounts for the access licence at the time water is taken. It is an offence under the Act to take water otherwise than in accordance with the water allocation for the access licence.

34 Individual access licence account management rules

(1) In any water year, water taken under an aquifer access licence with a share component that specifies the Adelaide Fold Belt MDB Groundwater Source, Kanmantoo Fold Belt MDB Groundwater Source, Lachlan Fold Belt MDB Groundwater Source, New England Fold Belt MDB Groundwater Source, Orange Basalt Groundwater Source, Yass Catchment Groundwater Source or the Young Granite Groundwater Source must not exceed a volume equal to:

(a) the sum of water allocations accrued to the water allocation account for the access licence from available water determinations in that water year, plus

(b) the water allocations carried over from the water year prior to that water year under subclause (2), plus

(c) the net amount of any water allocations assigned to or from the water allocation account for the access licence under section 71T of the Act in that water year, plus

(d) any water allocations re-credited to the water allocation account for the access licence in accordance with section 76 of the Act in that water year.

(2) The maximum water allocation that can be carried over in a water allocation account for an aquifer access licence in the Adelaide Fold Belt MDB Groundwater Source, Kanmantoo Fold Belt MDB Groundwater Source, Lachlan Fold Belt MDB Groundwater Source, New England Fold Belt MDB Groundwater Source, Orange

Basalt Groundwater Source, Yass Catchment Groundwater Source and the Young Granite Groundwater Source, from one water year to the next is equal to:

(a) 10% of the access licence share component for access licences with share components expressed as ML/year, or

(b) 0.1 ML per unit share of access licence share component for access licences with share components expressed as a number of unit shares.

(3) In any water year, water taken under an aquifer access licence with a share component that specifies the Inverell Basalt Groundwater Source, Liverpool Ranges Basalt MDB Groundwater Source or the Warrumbungle Basalt Groundwater Source must not exceed a volume equal to:

(a) the sum of water allocations accrued to the water allocation account for the access licence from available water determinations in that water year, plus

(b) the water allocations carried over from the water year prior to that water year under subclause (4), plus

(c) the net amount of any water allocations assigned to or from the water allocation account for the access licence under section 71T of the Act in that water year, plus

(d) any water allocations re-credited to the water allocation account for the access licence in accordance with section 76 of the Act in that water year.

(4) The maximum water allocation that can be carried over in a water allocation account for an aquifer access licence in the Inverell Basalt Groundwater Source, Liverpool Ranges Basalt MDB Groundwater Source and the Warrumbungle Basalt Groundwater Source, from one water year to the next is equal to:

(a) 20% of the access licence share component for access licences with share components expressed as ML/year, or

(b) 0.2 ML per unit share of access licence share component for access licences with share components expressed as a number of unit shares.

(5) In any water year, water taken under a domestic and stock access licence, salinity and water table management access licence and a local water utility access licence with a share component that specifies one of these groundwater sources must not exceed a volume equal to:

(a) the sum of water allocations accrued to the water allocation account for the access licence from available water determinations in that water year, plus

(b) the net amount of any water allocations assigned to or from the water allocation account for the access licence under section 71T of the Act in that water year, plus

(c) any water allocations re-credited to the water allocation account for the access licence in accordance with section 76 of the Act in that water year.

(6) Water allocations remaining in the water allocation account for a domestic and stock access licence, salinity and water table management access licence and a local water utility access licence with a share component that specifies one of these groundwater sources cannot be carried over from one water year to the next.

Part 9 Rules for water supply work approvals

Notes.

1 This Part is made in accordance with sections 5, 21 and 95 of the Act.

2 Part 12 allows for amendments to be made to Part 9.

35 General

The rules in this Part apply to water supply work approvals for a water supply work that may be used to take water from these groundwater sources.

36 Rules for amending water supply work approvals for replacement groundwater works

(1) The Minister may amend a water supply work approval to alter the water supply work to which the approval relates if the Minister is satisfied that the amendment is to authorise a replacement groundwater work.

(2) For the purpose of this Plan, ***replacement groundwater work*** means a water supply work that replaces an existing water supply work constructed and used for the purpose of taking water from an aquifer where:

(a) the existing water supply work is authorised by a water supply work approval under the Act,

(b) the replacement groundwater work is to be constructed to extract water from the same groundwater source as the existing water supply work,

(c) the replacement groundwater work is to be constructed to extract water from:

(i) the same depth as the existing water supply work, or

(ii) a different depth if the Minister is satisfied that doing so will result in no greater impact on a groundwater source or its dependent ecosystems,

(d) the replacement groundwater work is to be located:

(i) within 20 metres of the existing water supply work, or

(ii) more than 20 metres from the existing water supply work if the Minister is satisfied that doing so will result in no greater impact on a groundwater source or its dependent ecosystems,

(e) if the existing water supply work is located within 40 metres of the high bank of a river, the replacement groundwater work is to be located:

(i) within 20 metres of the existing water supply work but no closer to the high bank of the river, or

(ii) more than 20 metres from the existing water supply work, but no closer to the high bank of the river if the Minister is satisfied that doing so will result in no greater impact on a groundwater source or its dependent ecosystems, and

(f) the replacement groundwater work must not have a greater internal diameter or excavation footprint than the existing water supply work, except where the internal diameter of the casing of the existing water supply work is no longer manufactured, in which case the internal diameter of the replacement groundwater work is to be no greater than 110% of the internal diameter of the existing water supply work it replaces. For the purpose of this paragraph, ***internal diameter*** means the diameter of the inside of the casing of the water supply work which is a water bore and ***excavation footprint*** means the authorised dimensions of a water supply work which is an unlined excavation constructed for the purpose of water supply only.

(3) For the purpose of subclause (2) (c) (ii), the Minister may require that the applicant submit a hydrogeological study, assessed as adequate by the Minister, to demonstrate that the construction of the water supply work at a different depth to the existing water supply work will result in no greater impact on a groundwater source or its dependent ecosystems.

(4) For the purpose of subclauses (2) (d) (ii) or (e) (ii), the Minister may require that the applicant submit a hydrogeological study, assessed as adequate by the Minister, to demonstrate that the location of the water supply work at a distance greater than 20 metres from the existing water supply work will result in no greater impact on a groundwater source or its dependent ecosystems.

Note. The Minister may amend an approval on the application of the holder of the approval under section 107 of the Act. The operation of section 107 (3) of the Act may further restrict the replacement of an existing water supply work.

37 Rules to minimise interference between water supply works

(1) A water supply work approval must not be granted or amended to authorise the construction of a water supply work which, in the Minister's opinion, is located within:

(a) 400 metres of a water supply work on another landholding that is authorised to take water from the same groundwater source pursuant to an access licence,

(b) 200 metres of a water supply work on another landholding that is authorised to take water from the same groundwater source pursuant to basic landholder rights,

(c) 200 metres from the boundary of the land, on which the water supply work is located, unless the owner of the land adjoining the boundary has provided consent in writing,

(d) 500 metres of a water supply work authorised to take water from the same groundwater source by a local water utility or a major utility, unless the local water utility or major utility has provided consent in writing, or

(e) 400 metres of a NSW Office of Water observation or monitoring bore, unless the Minister has provided consent in writing.

(2) The distance restrictions specified in subclause (1) do not apply to the grant or amendment of a water supply work approval if the Minister is satisfied that:

(a) the water supply work is solely for basic landholder rights,

(b) the water supply work is a replacement groundwater work,

(c) the water supply work is for the purpose of monitoring, environmental management or remedial works, or

(d) the location of the water supply work at a lesser distance would result in no more than minimal impact on existing extractions within these groundwater sources.

(3) For the purpose of subclause (2) (d), the Minister may request the applicant to undertake a hydrogeological study, submitted by the applicant and assessed as adequate by the Minister, to demonstrate that the location of the water supply work at a lesser distance would result in no more than minimal impact on existing extractions

within these water sources.

(4) If an approval is granted under circumstances where subclause (2) (d) applies, the approval must be subject to a requirement that, when directed by the Minister by notice in writing, the approval holder must carry out all actions required by the Minister and specified in the notice~~,~~ to minimise the impact of the water supply work on existing water levels or extraction, if the Minister is satisfied that the location of the water supply work is causing more than minimal impact on existing water levels or extraction.

38 Rules for water supply works located near contamination sources

(1) A water supply work approval must not be granted or amended to authorise the construction of a water supply work which, in the Minister's opinion is located:

(a) within 250 metres of the plume associated with a contamination source listed in Schedule 2,

(b) between 250 metres and 500 metres of the plume associated with a contamination source listed in Schedule 2, unless the Minister is satisfied that no drawdown of water will occur within 250 metres of that plume, or

(c) at a distance that is more than 500 metres from the plume associated with a contamination source listed in Schedule 2, if a greater distance is determined by the Minister to be necessary to protect the water source, the environment or public health and safety.

(2) The distance restrictions specified in subclause (1) do not apply to the grant or amendment of a water supply work approval if the Minister is satisfied that:

(a) the proposed distance is adequate to protect the groundwater source, its dependent ecosystems and public health and safety, or

(b) the water supply work is for the purpose of monitoring, environmental management or remedial works.

(3) For the purpose of subclause (2) (a), the Minister may request the applicant to undertake a hydrogeological study, submitted by the applicant and assessed as adequate by the Minister, to demonstrate that the location of the water supply work at a lesser distance would result in no greater impact on dependent ecosystems and public health and safety.

39 Rules for water supply works located near sensitive environmental areas

(1) A water supply work approval must not be granted or amended to authorise the construction of a water supply work which, in the Minister's opinion, is located:

(a) within 100 metres of a high priority groundwater dependent ecosystem listed in clause 1 of Schedule 3 in the case of a water supply work used solely to take water pursuant to basic landholder rights,

(b) within 200 metres of a high priority groundwater dependent ecosystem listed in clause 1 of Schedule 3 in the case of a water supply work not used solely to take water pursuant to basic landholder rights,

(c) at a distance that is more than 200 metres from a high priority groundwater dependent ecosystem listed in clause 1 of Schedule 3, excluding water supply works used solely to take water pursuant to basic landholder rights, if the Minister is satisfied that the water supply work is likely to cause more than minimal drawdown at the perimeter of any high priority groundwater dependent ecosystem listed in clause 1 of Schedule 3,

(d) within 500 metres of a high priority karst environment groundwater dependent ecosystem listed in clause 2 of Schedule 3,

(e) within 500 metres from the edge of an escarpment, where the location of the water supply work is to be above the escarpment, or

(f) within 40 metres of the top of the high bank of a river.

(2) The distance restrictions specified in subclause (1) (a) and (b) do not apply to the grant or amendment of a water supply work approval if the Minister is satisfied that no more than minimal drawdown of water will occur at the perimeter of any high priority groundwater dependent ecosystem in clause 1 of Schedule 3.

(3) The distance restrictions specified in subclause (1) (a) and (b) do not apply to the grant or amendment of a water supply work approval where the water supply work being used to take groundwater is constructed and maintained using an impermeable pressure cement seal constructed between the casing and the bore hole from the surface of the land to a minimum depth of 30 metres or a greater depth if required by the Minister.

(4) The distance restrictions specified in subclause (1) do not apply to the grant or amendment of a water supply work approval if the Minister is satisfied that:

(a) the water supply work is for the purpose of monitoring, environmental management or remedial works,

(b) the water supply work replaces an existing water supply work that is part of a bore network for a major utility or a local water utility for the purpose of town water supply,

(c) the water supply work is a replacement groundwater work, or

(d) the location of the water supply work at a lesser distance would result in no greater impact on these groundwater sources and their dependent ecosystems.

(5) The Minister may request the applicant to undertake a hydrogeological study, submitted by the applicant and assessed as adequate by the Minister, to demonstrate that:

(a) for the purpose of subclause (2), no more than minimal drawdown of water will occur at the perimeter of any high priority groundwater dependent ecosystem listed in Schedule 3, or

(b) for the purpose of subclause (4) (d), the location of the water supply work at a lesser distance would result in no greater impact on these groundwater sources and their dependent ecosystems.

40 Rules for water supply works located near groundwater dependent culturally significant sites

(1) A water supply work approval must not be granted or amended to authorise the construction of a water supply work which, in the Minister's opinion, is located within:

(a) 100 metres of a groundwater dependent culturally significant site in the case of a water supply work used solely to take water pursuant to basic landholder rights, or

(b) 200 metres of a groundwater dependent culturally significant site in the case of a water supply work not used solely to take water pursuant to basic landholder rights.

(2) The distance restrictions specified in subclause (1) do not apply to the grant or amendment of a water supply work approval if the Minister is satisfied that:

(a) the water supply work is for the purpose of monitoring, environmental management or remedial works,

(b) the water supply work replaces an existing water supply work that is part of a bore network for a major utility or a local water utility for the purpose of town water supply,

(c) the water supply work is sealed off to the nearest impervious layer above the slotted intervals of the water supply work with an impermeable seal constructed between the casing and the bore hole in accordance with any requirements specified by the Minister,

(d) the water supply work is a replacement groundwater work, or

(e) the location of the water supply work at a lesser distance would result in no more than a minimal impact on these groundwater sources and their groundwater dependent culturally significant sites.

(3) For the purpose of subclause (2) (e), the Minister may request the applicant to undertake a hydrogeological study, submitted by the applicant and assessed as adequate by the Minister, to demonstrate that the location of the water supply work at a lesser distance would result in no more than minimal impact on these groundwater sources and their groundwater dependent culturally significant sites.

Note. Culturally significant sites will be identified as a part of the assessment undertaken by the NSW Office of Water during the processing of an application for the granting or amending of a water supply work approval.

41 Rules for the use of water supply works located within restricted distances

(1) Subject to subclauses (2) and (3), a water supply work that is located within a restricted distance specified in clauses 37 to 40, must not, in any water year, be used to take more water than the volume of water that is equal to the sum of the share components of the access licences nominating that water supply work at the commencement of this Plan.

(2) Subject to subclause (3), a water supply work that becomes located within a restricted distance specified in clauses 37 to 40 as a result of an amendment to this Plan, must not, in any water year, be used to take more water than the volume of water that is

equal to the sum of share components of access licences nominating that water supply work at the date of the amendment.

(3) Subclause (1) and (2) do not apply where a restricted distance does not apply in accordance with clauses 37 to 40.

Note. The water quality from any bore can be affected by land use activities and inherent water quality in the aquifer. Water quality cannot be guaranteed and extracted water may be unsuitable for human consumption and other uses. The quality of water extracted should be tested before being used and appropriately treated. Such testing and treatment is the responsibility of the licence holder.

Part 10 Access licence dealing rules

42 General

The access licence dealing rules established in this Part apply to all access licence dealings in these groundwater sources.

Notes.

1 Access licence dealings in these groundwater sources are subject to the provisions of the Act, the regulations, the access licence dealing principles and the access licence dealing rules established in this Part.

2 The access licence dealing principles prevail over the access licence dealing rules in this Plan to the extent of any inconsistency, as provided under section 71Z (3) of the Act.

43 Conversion of access licence to new category

(1) This clause relates to dealings under section 71O of the Act in these groundwater sources.

(2) Dealings under section 71O of the Act are prohibited.

44 Assignment of rights dealings (within groundwater sources)

(1) This clause relates to dealings under section 71Q of the Act in these groundwater sources.

(2) Dealings under section 71Q of the Act are prohibited if the dealing involves an assignment of rights from an access licence with an extraction component that specifies the Lachlan Fold Belt MDB (Other) Management Zone to an access licence with an extraction component that specifies the Lachlan Fold Belt MDB (Mudgee) Management Zone in the Lachlan Fold Belt MDB Groundwater Source, if it would cause the sum of the share components of all access licences with extraction components that specify the Lachlan Fold Belt MDB (Mudgee) Management Zone to exceed the sum of the share components of all access licences with extraction components that specified the Lachlan Fold Belt MDB (Mudgee) Management Zone at the date of commencement of this Plan.

45 Amendment of share component dealings (change of groundwater source)

(1) This clause relates to dealings under section 71R of the Act in these groundwater sources.

(2) Dealings under section 71R of the Act are prohibited.

46 Amendment of extraction component dealings

(1) This clause relates to dealings under section 71S of the Act in these groundwater sources.

(2) Dealings under section 71S of the Act are prohibited if the dealing involves an access licence with an extraction component that the Lachlan Fold Belt MDB (Other) Management Zone being varied to specify the Lachlan Fold Belt MDB (Mudgee) Management Zone, if it would cause the sum of the share components of all access licences with extraction components that specify the Lachlan Fold Belt MDB (Mudgee) Management Zone to exceed the sum of the share components of all access licences with extraction components that specified the Lachlan Fold Belt MDB (Mudgee) Management Zone at the date of commencement of this Plan.

47 Assignment of water allocations dealings

(1) This clause relates to dealings under section 71T of the Act in these groundwater sources.

(2) Dealings within a groundwater source under section 71T of the Act are prohibited if the dealing involves an assignment of water allocation from an access licence with an extraction component that specifies the Lachlan Fold Belt MDB (Other) Management Zone to an access licence with an extraction component that specifies the Lachlan Fold Belt MDB (Mudgee) Management Zone in the Lachlan Fold Belt MDB Groundwater Source, if it would cause the sum of water allocations credited to the water allocation accounts of all access licences with extraction components that specify the Lachlan Fold Belt MDB (Mudgee) Management Zone from available water determinations or dealings under section 71T of the Act in that water year, to exceed the sum of share components of all access licences with extraction components that specified the Lachlan Fold Belt MDB (Mudgee) Management Zone at the date of commencement of this Plan.

(3) Dealings between groundwater sources under section 71T of the Act are prohibited.

48 Interstate transfer of access licences and assignment of water allocation

(1) This clause relates to dealings under section 71U or 71V of the Act in these groundwater sources.

(2) Dealings involving the interstate transfer of an access licence to or from the following groundwater sources are prohibited:

(a) Kanmantoo Fold Belt MDB Groundwater Source,

(b) Inverell Basalt Groundwater Source,

(c) Liverpool Ranges Basalt MDB Groundwater Source,

(d) Orange Basalt Groundwater Source,

(e) Warrumbungle Basalt Groundwater Source, and

(f) Young Granite Groundwater Source.

(3) Dealings involving the interstate assignment of water allocations to or from the following groundwater sources are prohibited:

(a) Kanmantoo Fold Belt MDB Groundwater Source,

(b) Inverell Basalt Groundwater Source,

(c) Liverpool Ranges Basalt MDB Groundwater Source,

(d) Orange Basalt Groundwater Source,

(e) Warrumbungle Basalt Groundwater Source, and

(f) Young Granite Groundwater Source.

(4) Dealings involving the interstate transfer of an access licence to or from the following groundwater sources may only be permitted where administrative arrangements have been agreed to and implemented by the States:

(a) Adelaide Fold Belt MDB Groundwater Source,

(b) Lachlan Fold Belt MDB Groundwater Source,

(c) New England Fold Belt MDB Groundwater Source, and

(d) Yass Catchment Groundwater Source.

(5) Dealings involving the interstate assignment of water allocations to or from the following groundwater sources may only be permitted where administrative arrangements have been agreed to and implemented by the States:

(a) Adelaide Fold Belt MDB Groundwater Source,

(b) Lachlan Fold Belt MDB Groundwater Source,

(c) New England Fold Belt MDB Groundwater Source, and

(d) Yass Catchment Groundwater Source.

49 Nomination of water supply works dealings

(1) This clause relates to dealings under section 71W of the Act in these groundwater sources.

(2) Dealings under section 71W of the Act are prohibited if the dealing involves an access licence which nominates a water supply work located in the Lachlan Fold Belt MDB (Other) Management Zone being amended to nominate a water supply work located in the Lachlan Fold Belt MDB (Mudgee) Management Zone of the Lachlan Fold Belt MDB Groundwater Source, if it would cause the sum of the share components of all access licences with extraction components that specify the Lachlan Fold Belt MDB (Mudgee) Management Zone to exceed the sum of the share components of all access licences with extraction components that specified the Lachlan Fold Belt MDB (Mudgee) Management Zone at the date of commencement of this Plan.

(3) Dealings under section 71W of the Act that involve the interstate nomination of water supply works by access licences in the following groundwater sources are prohibited:

(a) Kanmantoo Fold Belt MDB Groundwater Source,

(b) Inverell Basalt Groundwater Source,

(c) Liverpool Ranges Basalt MDB Groundwater Source,

(d) Orange Basalt Groundwater Source,

(e) Warrumbungle Basalt Groundwater Source, and

(f) Young Granite Groundwater Source.

(4) Dealings under section 71W of the Act that involve the nomination of water supply works by interstate access licences in the following groundwater sources are prohibited:

(a) Kanmantoo Fold Belt MDB Groundwater Source,

(b) Inverell Basalt Groundwater Source,

(c) Liverpool Ranges Basalt MDB Groundwater Source,

(d) Orange Basalt Groundwater Source,

(e) Warrumbungle Basalt Groundwater Source, and

(f) Young Granite Groundwater Source.

(5) Dealings under section 71W of the Act that involve the interstate nomination of water supply works by access licences in the following groundwater sources may only be permitted where administrative arrangements have been agreed to and implemented by the States:

(a) Adelaide Fold Belt MDB Groundwater Source,

(b) Lachlan Fold Belt MDB Groundwater Source,

(c) New England Fold Belt MDB Groundwater Source, and

(d) Yass Catchment Groundwater Source.

(6) Dealings under section 71W of the Act that involve the nomination of water supply works by interstate access licences in the following groundwater sources may only be permitted where administrative arrangements have been agreed to and implemented by the States:

(a) Adelaide Fold Belt MDB Groundwater Source,

(b) Lachlan Fold Belt MDB Groundwater Source,

(c) New England Fold Belt MDB Groundwater Source, and

(d) Yass Catchment Groundwater Source.

Part 11 Mandatory conditions

Division 1 General

50 General

In this Part:

(a) a requirement to notify the Minister in writing is satisfied by making a notification in writing to one of the addresses listed in Appendix 2 of this Plan or to the email address for the NSW Office of Water Licensing Enquiries Information Centre,

Note. At the commencement of this Plan, the email address for the NSW Office of Water Licensing Enquiries Information Centre is information@water.nsw.gov.au.

(b) a ***metered water supply work with a data logger*** means a water supply work with a meter and a data logger that complies with the *Australian Technical Specification ATS 4747, Meters for non-urban water supply* as may be updated or replaced from time to time, and

Note. The definition of *metered water supply work with a data logger* does not include all water supply works that are metered or that have a data logger. The water supply work must meet the parameters of this definition for the water supply work to be a *metered water supply work with a data logger.*

(c) if the holder of a water supply work approval is the same as the holder of the access licence under which water is proposed to be taken, then it is not necessary to maintain two separate Logbooks and all the required information can be kept in one Logbook.

Division 2 Access licences

Note. This Division is made in accordance with sections 17 (c), 20 and 66 of the Act.

51 General

(1) Access licences in these groundwater sources must have mandatory conditions where required to give effect to the following:

(a) the relevant water allocation account management rules specified in Part 8 of this Plan for the respective category or subcategory of access licence,

(b) water must not be taken under an access licence otherwise than in compliance with the conditions applying to the water supply work approval for the water supply work through which water is to be taken,

(c) the holder of the access licence must notify the Minister, in writing, immediately upon becoming aware of a breach of any condition of the access licence, and

(d) any other condition required to implement the provisions of this Plan.

(2) Access licences in these groundwater sources, excluding access licences that nominate only metered water supply works with a data logger, must have mandatory conditions where required to give effect to the following:

(a) the holder of the access licence must keep a Logbook,

(b) the holder of the access licence, except for the holder of a salinity or water table management access licence, must record the following in the Logbook:

(i) each date and period of time during which water was taken under the access licence,

(ii) the volume of water taken on that date,

(iii) the water supply work approval number of the water supply work used to take the water on that date,

(iv) the purpose or purposes for which the water was taken on that date,

(v) for aquifer access licences in the Adelaide Fold Belt MDB Groundwater Source, Kanmantoo Fold Belt MDB Groundwater Source, Lachlan Fold Belt MDB Groundwater Source, New England Fold Belt MDB Groundwater Source, Orange Basalt Groundwater Source, Yass Catchment Groundwater Source or the Young Granite Groundwater Source, the volume of water taken in any water year, by comparison to the maximum volume of water permitted to be taken in that water year under clause 34 (1),

(vi) for aquifer access licences in the Inverell Basalt Groundwater Source, Liverpool Ranges Basalt MDB Groundwater Source or the Warrumbungle Basalt Groundwater Source, the volume of water taken in

any water year, by comparison to the maximum volume of water permitted to be taken in that water year under clause 34 (3),

(vii) for all domestic and stock access licences and local water utility access licences, the volume of water taken in any water year, by comparison to the maximum volume of water permitted to be taken in that water year under clause 34 (5), and

(viii) any other information required to be recorded in the Logbook under the rules of this Plan,

(c) the holder of a salinity or water table management access licence, must record the following in the Logbook:

(i) the dates and periods of time during which water was taken under the access licence for the previous monthly accounting period,

(ii) the volume of water taken for the previous monthly accounting period, and

(iii) the water supply work approval number for the water supply work used to take water during the previous monthly accounting period,

(iv) the volume of water taken in any water year, by comparison to the maximum volume of water permitted to be taken in that water year under clause 34 (5), and

(iv) any other information required to be recorded in the Logbook under the rules of this Plan,

(d) the holder of the access licence must produce the Logbook to the Minister for inspection, when requested, and

(e) the holder of the access licence must retain the information required to be recorded in the Logbook for five years from the date to which that information relates.

(3) When directed by the Minister by notice in writing, the holder of an access licence that nominates only a metered water supply work with a data logger must keep a Logbook in accordance with any requirements from subclause (2) or subclause (3), whichever is relevant, that are specified in the notice.

(4) All access licences of the subcategory "Aboriginal cultural" must have a mandatory condition that specifies that water must only be taken under the access licence by Aboriginal persons or Aboriginal communities for personal, domestic or communal purposes, including drinking, food preparation, washing, manufacturing traditional artefacts, watering domestic gardens, cultural teaching, hunting, fishing, gathering and for recreational, cultural and ceremonial purposes.

(5) All salinity and water table management access licences must have a mandatory condition that specifies that water must only be taken under the access licence for the sole purpose of reducing or preventing an increase in salinity levels in a water source.

(6) An access licence for a project under Part 4 for State Significant Development or Part 3A or State Significant Infrastructure under Part 5.1 of the *Environmental Planning and Assessment Act 1979* must have mandatory conditions where required to give effect to the rules for the use of water supply works located within restricted distances specified in clause 41.

Division 3 Water supply work approvals

Note. This Division is made in accordance with sections 17 (c) and 100 of the Act.

52 General

(1) Water supply work approvals for water supply works in these groundwater sources must have mandatory conditions where required to give effect to the following:

(a) when directed by the Minister by notice in writing, the approval holder must have metering equipment installed that meets the following requirements:

(i) the metering equipment must accurately measure and record the flow of all water taken through the water supply work,

(ii) the metering equipment must comply with the *Australian Technical Specification ATS 4747, Meters for non-urban water supply* as may be updated or replaced from time to time,

(iii) the metering equipment must be operated and maintained in a proper and efficient manner at all times,

(iv) the metering equipment must be sited and installed at a place in the pipe, channel or conduit between the groundwater source and the first

discharge outlet. There must be no flow of water into or out of the pipe, channel or conduit between the groundwater source and the metering equipment, and

(v) any other requirements as to type, standard or other criteria for the metering equipment specified in the notice,

Note. The Minister may direct a landholder or person to install, replace or to properly maintain metering equipment under section 326 of the Act.

(b) the approval holder must comply with the rules for limiting the taking of water within the distance restrictions as specified in clause 41,

(c) the approval holder must ensure the construction of a new water supply work is constructed so as to be:

(i) screened in the groundwater source nominated by the access licence, and

(ii) sealed off from all other water sources,

(d) the construction of a new water supply work must:

(i) comply with the distance restrictions specified in or specified by the Minister in accordance with clauses 37 to 40,

(ii) comply with the construction standards for that type of bore prescribed in the *Minimum Construction Requirements for Water Bores in Australia*, 2003, ISBN 1 9209 2009 9, as may be updated or replaced from time to time, and

(iii) be constructed appropriately so as to prevent contamination between aquifers,

(e) the approval holder must ensure that if the water supply work is abandoned or replaced, it is decommissioned in compliance with the "minimum requirements for decommissioning bores" prescribed in the *Minimum Construction Requirements for Water Bores in Australia*, 2003, ISBN 1 9209 2009 9, as may be updated or replaced from time to time, unless otherwise directed by the Minister in writing,

(f) within two months of the decommissioning of the water supply work, the approval holder must notify the Minister, in writing, that the water supply work has been decommissioned,

(g) the approval holder must, within two months of completion of the construction of the water supply work, or within two months after the issue of the water supply work approval if the water supply work is existing, submit to the NSW Office of Water the approved form completed with all relevant details including:

(i) the name and licence number of the driller who constructed the water supply work,

(ii) the details of geology and construction as required by the approved form,

(iii) details of the location of the water supply work on a copy of the lot and deposited plan of the land, its geographical reference accurate to ± 5 metres, and the respective distance(s) of the water supply work from the property boundaries, and

(iv) if the Minister has requested any water analysis and/or pumping tests to be carried out, details of the water analysis and/or pumping tests required by the Minister,

(h) if, during the construction of the water supply work, saline or contaminated water is encountered above the production aquifer, the approval holder must:

(i) notify the Minister within 48 hours of becoming aware of the contaminated water,

(ii) take all reasonable steps to minimise contamination and environmental harm,

(iii) ensure that such water is sealed off by inserting casing to a depth sufficient to exclude the saline or contaminated water from the water supply work, and, if specified by the Minister, place an impermeable seal between the casing(s) and the walls of the water supply work from the bottom of the casing to ground level as specified by the Minister,

(iv) if the Minister has specified any other requirements, comply with any requirements specified by the Minister in writing, and

(v) the above requirements do not apply where the water supply work is being constructed for the purpose of taking saline water through a salinity

or water management table access licence and the only contaminated water encountered is saline water.

(i) when directed by the Minister by notice in writing, the approval holder must provide a report in the form specified in the notice detailing the quality of any water obtained using the water supply work,

(j) the water supply work approval will lapse if the construction of the water supply work is not completed within three years of the issue of the water supply work approval, and

(k) any other conditions required to implement the provisions of this Plan.

(2) Water supply work approvals for water supply works, other than water supply works which are nominated by a salinity or water table management access licence, in these groundwater sources must have mandatory conditions where required to give effect to the following, provided that these requirements do not apply to a water supply work that is a metered water supply work with a data logger:

(a) the holder of a water supply work approval must keep a Logbook,

(b) the holder of a water supply work approval must record the following in the Logbook:

(i) each date and period of time during which water was taken using the water supply work,

(ii) the volume of water taken on that date,

(iii) the access licence number of the access licence under which water was taken on that date, or, if water was taken under some other authority (such as basic landholder rights), the authority under which water was taken,

(iv) the purpose or purposes for which the water was taken on that date,

(v) details of any cropping carried out using the water taken through the water supply work including the type of crop, area cropped and dates of planting and harvesting,

(vi) where metering equipment has been installed for use in connection with the water supply work, the meter reading before water is taken,

(vii) where metering equipment has not been installed for use in connection with the water supply work, details of all pumping activities for the water supply work including pump running hours, pump power usage or pump fuel usage, pump start and stop times and pump capacity per unit of time, and

(viii) any other information required to be recorded in the Logbook under the rules of this Plan,

(3) Water supply work approvals for water supply works which are nominated by a salinity or water table management access licence in these groundwater sources must have mandatory conditions where required to give effect to the following, provided that these requirements do not apply to a water supply work that is a metered water supply work with a data logger:

(a) the holder of a water supply work approval must keep a Logbook,

(b) the holder of a water supply work approval must record the following in the Logbook:

(i) the dates and periods of time during which water was taken under the access licence for the previous monthly accounting period,

(ii) the volume of water taken for the previous monthly accounting period,

(iii) the access licence number of the access licence under which water was taken on that date, or, if water was taken under some other authority (such as basic landholder rights), the authority under which water was taken,

(iv) where metering equipment has been installed for use in connection with the water supply work, the meter reading before water is taken,

(v) where metering equipment has not been installed for use in connection with the water supply work, details of all pumping activities for the water supply work including pump running hours, pump power usage or pump fuel usage, pump start and stop times and pump capacity per unit of time, and

(vi) any other information required to be recorded in the Logbook under the rules of this Plan,

(c) the holder of the water supply work approval must produce the Logbook to the Minister for inspection, when requested, and

(d) the holder of a water supply work approval must retain the information required to be recorded in the Logbook for five years from the date to which that information relates.

(4) A water supply work approval for a replacement groundwater work shall have mandatory conditions to give effect to the requirements for a replacement groundwater work specified in or specified by the Minister in accordance with clause 36.

(5) A water supply work approval granted in circumstances where clause 37 (2) (d) applies must have a mandatory condition to give effect to clause 37 (4).

Note. Part 12 of this Plan allows for amendments to be made to clause 52.

Part 12 Amendment of this Plan

53 General

(1) Amendments specified throughout this Plan, and in this Part, are amendments authorised by this Plan.

(2) Amendments authorised by this Plan are taken to include any consequential amendments required to be made to this Plan to give effect to that particular amendment.

Note. For example, if Part 1 is amended to add a new management zone, this may require amendment to other parts of this Plan to include rules for that management zone.

(3) An amendment authorised by this Plan which results in a variation of the bulk access regime, is an amendment authorised by this Plan for the purposes of sections 87 (2) (c) and 87AA of the Act.

54 Part 1

Part 1 may be amended to do any of the following:

(a) apply this Plan to new or additional groundwater sources or water management areas (including part thereof) or modify (including to amend the boundaries) or remove an existing groundwater source or water management area (including part thereof) included in this Plan,

(b) add, remove or modify a management zone, including the groundwater sources to which a management zone applies and the boundaries of such a zone, and

(c) amend the Registered Map.

55 Part 4

Part 4 may be amended to vary the amount of recharge reserved as planned environmental water as a result of recharge studies undertaken or assessed as adequate by the Minister.

56 Part 6

Part 6 may be amended to do any of the following:

(a) modify the long-term average annual extraction limits as a result of recharge studies undertaken or assessed as adequate by the Minister,

(b) modify the long-term average annual extraction limit for the Orange Basalt Groundwater Source as specified in clause 25 (2) (g) based on new socio-economic information, or

(c) establish available water determination rules for major utility access licences.

57 Part 8

Part 8 may be amended to:

(a) establish individual access licence account management rules for major utility access licences, or

(b) provide access rules for access licences in these groundwater sources.

58 Part 9

Part 9 may be amended to do any of the following:

(a) amend the definition of a replacement groundwater work in clause 36,

(b) add, remove or modify a restricted distance specified in,

(i) clause 37 after year 5 of this Plan, or

(ii) clause 39 based on the outcomes of further studies of groundwater ecosystem dependency that have been assessed as adequate by the Minister, or

(c) amend clause 41 to impose further restrictions on the rate and timing of extraction of water to mitigate impacts.

59 Part 11

(1) Part 11 may be amended to do any of the following:

(a) amend the rules in relation to record keeping including amendments in relation to requirements for Logbooks, or

(b) amend clause 52 to specify different standards for decommissioning water supply works or construction requirements for water supply works.

(2) If this Plan is amended to provide access rules for access licences in these groundwater sources pursuant to clause 57 (b), Part 11 may be amended to:

(a) provide that an access licence for a project under Part 4 for State significant development or Part 3A or State significant infrastructure under Part 5.1 of the *Environmental Planning and Assessment Act 1979* must have mandatory conditions where required to give effect to the relevant access rules for taking water specified in this Plan,

(b) provide that the water supply work must not be used to take water under an access licence unless in compliance with the relevant access rules for access licences specified in this Plan, or

(c) provide that the water supply work must not be used to take water unless, before water is taken, the holder of the water supply work approval confirms that the relevant access rules do not prohibit the taking of water. Where the holder is required to keep a Logbook, the holder must record that confirmation and the means of confirmation (such as visual inspection or internet search) in the Logbook.

60 Schedules

(1) Schedule 1 may be amended to add, modify and/or remove a definition.

(2) Schedule 2 may be amended to add or remove a contamination source.

(3) Schedule 3 may be amended to add or remove a:

(a) high priority groundwater dependent ecosystem, or

(b) high priority karst environment groundwater dependent ecosystem.

61 Other

(1) This Plan may be amended to provide for a groundwater storage extraction limit for these groundwater sources.

(2) This Plan may be amended to provide rules for the following:

(a) managed aquifer recharge, or

Note. Managed aquifer recharge schemes involve taking water such as recycled water or urban stormwater, treating it and then storing it in underground aquifers under controlled conditions. This water can then be extracted at a later time.

(b) the interception of water before it reaches a stream or aquifer by plantations or other means.

(3) This Plan may be amended to allow for the granting of aquifer interference approvals and the management of aquifer interference activities.

(4) This Plan may be amended following the granting of a native title claim pursuant to the provisions of the *Native Title Act 1993* (Cth) to give effect to an entitlement granted under that claim.

(5) Consequential amendments may be made to this Plan as a result of an amendment to the Act or regulations.

(6) This Plan may be amended to provide rules for the protection of water dependent Aboriginal cultural assets, including:

(a) the identification of water dependent Aboriginal cultural assets in a Schedule to this Plan,

(b) restrictions on the granting and amendment of water supply works to protect water dependent Aboriginal cultural assets, and/or

(c) amendments to the dealing rules to protect water dependent Aboriginal cultural assets.

(7) This Plan may be amended to allow for the granting of salinity and water table management access licences in these groundwater sources.

Schedule 1 Dictionary

Aboriginal person has the same meaning as under section 4 of the *Aboriginal Land Rights Act 1983.*

alluvial sediments means unconsolidated fluvio-lacustrine sediments.

buried means a groundwater system that is overlain or partly overlain by another groundwater system.

drawdown means a lowering of the level to which water will rise in cased bores. Natural drawdown may occur due to seasonal climatic changes. Groundwater pumping may also result in seasonal and long-term drawdown.

escarpment refers to steep to precipitous landform pattern forming a linearly extensive, straight or sinuous inclined surface, which separates terrains at different altitudes, that above the escarpment commonly being a plateau. Relief within the landform pattern may be high (hilly) or low (planar). The upper margin is often marked by an included cliff or scarp.

fractured rock means sedimentary, igneous and metamorphic rocks with fractures, joints, bedding planes and cavities in the rock mass that are capable of transmitting water.

GAB *means Great Artesian Basin*.

geological formation means a fundamental lithostratigraphic unit used in the local classification of strata and classified by the distinctive physical and chemical features of the rocks that distinguish it from other formations.

groundwater dependent ecosystems includes ecosystems which have their species composition and natural ecological processes wholly or partially determined by groundwater.

High environmental value areas *are national parks, nature reserves, historic sites, Aboriginal areas, state conservation areas and karst conservation areas.*

high priority groundwater dependent ecosystems are groundwater dependent ecosystems which are considered high priority for management actions.

karst means an area of land, including subterranean land, that has developed in soluble rock through the processes of solution, abrasion or collapse, together with its associated bedrock, soil, water, gases and biodiversity.

Logbook, in relation to an access licence or water supply work approval, means a written record, kept in hard copy or electronic form, which accurately records all information required to be kept in relation to the access licence or water supply work approval under the rules of this Plan.

management zone is an area within a groundwater source in which rules particular to that management zone will apply, for example, rules for granting water supply work approvals or restrictions on dealings.

MDB *means Murray-Darling Basin.*

outcropped means a groundwater system that occurs at the earths surface.

porous rock means consolidated sedimentary rock containing voids, pores or other openings (such as joints, cleats and/or fractures) which are interconnected in the rock mass and are capable of transmitting water.

Registered Map for these groundwater sources has the same meaning as in clause 4 (2) of this Plan.

recharge means the addition of water, usually by natural infiltration, to an aquifer.

replacement groundwater work has the same meaning as in clause 36 (2) of this Plan.

slotted intervals means that part of the water bore where slots in the casing occur which are designed to allow water to enter the bore.

Water Act 1912 entitlement has the same meaning as an entitlement has in clause 2 of Schedule 10 to the Act.

water year means a year commencing 1 July.

Schedule 2 Contamination sources in these groundwater sources

Contamination sources in these groundwater sources comprise the following:

(a) on site sewage disposal systems or septic tanks,

(b) any sites which have been declared to be significantly contaminated land under the *Contaminated Land Management Act 1997*,

(c) any sites that are or have been the subject of an activity listed in Table 1 of the contaminated land planning guidelines as published under the *Environmental Planning and Assessment Act 1979* from time to time, and

(d) any sites listed in an agency database relating to contamination sources.

Schedule 3 High priority groundwater dependent ecosystems

Note. High priority groundwater dependent ecosystems (hereafter ***GDEs***) are currently under investigation and some of these may be identified during the term of this Plan. The full list of potential GDEs will be identified on the NSW Office of Water GDE Register and as a precautionary approach, will be considered by staff in the assessment of any application for a water supply work approval within the area of this Plan. If verified as high priority GDEs, the Schedule will be amended to include further GDEs.

1 High priority groundwater dependent ecosystems

High priority groundwater dependent ecosystems in these groundwater sources are as specified in Table A below.

Note. The approximate location of high priority GDEs listed in Column 1 of Table A is provided as Eastings and Northings in Columns 3 and 4 of Table A. The approximate location of high priority GDEs listed in Column 1 of Table A are shown on the maps in Appendix 3.

Table A – High priority groundwater dependent ecosystems

Column 1 High priority groundwater dependent ecosystem	Column 2 GDE Type	Column 3 Easting (MGA 94)	Column 4 Northing (MGA 94)	Column 5 Zone	Column 6 Groundwater Source
Ados Spring	Spring	677703.83	6532133.65	55	Warrumbungle Basalt Groundwater Source
Baileys Springs	Spring	751090.66	6418748.43	55	Lachlan Fold Belt MDB Groundwater Source
Battyle Browns Springs	Spring	683284.58	6317607.72	55	Orange Basalt Groundwater Source
Bedlam Spring	Spring	700448.51	6037998.50	55	Lachlan Fold Belt MDB Groundwater Source
Belmont Spring	Spring	621819.09	6246486.86	55	Lachlan Fold Belt MDB Groundwater Source
Belougerrie Spring	Spring	690492.35	6537453.90	55	Warrumbungle Basalt Groundwater Source
Big Springs	Spring	537976.35	6091943.69	55	Lachlan Fold Belt MDB Groundwater Source
Black Hill Spring	Spring	698461.17	6262761.10	55	Lachlan Fold Belt MDB Groundwater Source

Column 1 High priority groundwater dependent ecosystem	Column 2 GDE Type	Column 3 Easting (MGA 94)	Column 4 Northing (MGA 94)	Column 5 Zone	Column 6 Groundwater Source
Black Spring	Spring	308623.02	6598429.16	56	New England Fold Belt MDB Groundwater Source
Black Spring	Spring	284938.26	6507400.97	56	New England Fold Belt MDB Groundwater Source
Black Springs	Spring	661644.95	6232025.91	55	Lachlan Fold Belt MDB Groundwater Source
Black Springs	Spring	690991.34	6199116.44	55	Lachlan Fold Belt MDB Groundwater Source
Black Springs	Spring	748845.71	6210705.09	55	Lachlan Fold Belt MDB Groundwater Source
Blue Springs	Spring	745060.86	6429068.47	55	Lachlan Fold Belt MDB Groundwater Source
Bocannecals Springs	Spring	693730.36	6220326.85	55	Lachlan Fold Belt MDB Groundwater Source
Bogong Swamp	Wetland	621946.46	5996898.84	55	Lachlan Fold Belt MDB Groundwater Source
Booroonbunyah Spring	Spring	687054.45	6522729.49	55	Warrumbungle Basalt Groundwater Source
Brundah Springs	Spring	620325.09	6250202.75	55	Lachlan Fold Belt MDB Groundwater Source
Budgerydickeys Springs	Spring	658863.47	6343916.72	55	Lachlan Fold Belt MDB Groundwater Source
Burbie Spring	Spring	685699.13	6535691.52	55	Warrumbungle Basalt Groundwater Source
Burras Spring	Spring	748066.05	6423446.94	55	Lachlan Fold Belt MDB Groundwater Source

Column 1 High priority groundwater dependent ecosystem	Column 2 GDE Type	Column 3 Easting (MGA 94)	Column 4 Northing (MGA 94)	Column 5 Zone	Column 6 Groundwater Source
Burras Springs	Spring	746473.62	6422561.26	55	Lachlan Fold Belt MDB Groundwater Source
Burrows Spring	Spring	748066.05	6423446.94	55	Lachlan Fold Belt MDB Groundwater Source
Cartwrights Spring	Spring	544650.91	6219442.90	55	Lachlan Fold Belt MDB Groundwater Source
Cherry Tree Springs	Spring	721855.35	6174387.68	55	Lachlan Fold Belt MDB Groundwater Source
Chinamans Spring	Spring	429135.16	6259940.69	55	Lachlan Fold Belt MDB Groundwater Source
Chinamans Swamp	Wetland	219066.39	6481781.58	56	Liverpool Ranges Basalt MDB Groundwater Source
Conapaira Spring	Spring	429135.16	6259940.69	55	Lachlan Fold Belt MDB Groundwater Source
Coopers Swamp	Wetland	723229.82	6020800.97	55	Lachlan Fold Belt MDB Groundwater Source
Currys Springs	Spring	774654.31	6252545.79	55	Lachlan Fold Belt MDB Groundwater Source
Dawsons Spring	Spring	687088.64	5977247.09	55	Lachlan Fold Belt MDB Groundwater Source
Dawsons Springs	Spring	227558.50	6646605.86	56	New England Fold Belt MDB Groundwater Source
Deadbird	Spring	318262.70	6690991.74	56	New England Fold Belt MDB Groundwater Source
Deadbird Spring	Spring	318262.70	6690991.74	56	New England Fold Belt MDB Groundwater Source

Column 1 High priority groundwater dependent ecosystem	Column 2 GDE Type	Column 3 Easting (MGA 94)	Column 4 Northing (MGA 94)	Column 5 Zone	Column 6 Groundwater Source
Dilladerry Spring	Spring	634659.47	6396028.09	55	Lachlan Fold Belt MDB Groundwater Source
Dwyers Springs	Spring	655444.62	6229356.81	55	Lachlan Fold Belt MDB Groundwater Source
Emu Swamp	Wetland	639354.60	6349758.04	55	Lachlan Fold Belt MDB Groundwater Source
Euglah Spring	Spring	226001.00	6644717.71	56	New England Fold Belt MDB Groundwater Source
Finchs Springs	Spring	674921.41	6371373.05	55	Lachlan Fold Belt MDB Groundwater Source
Gibraltar Springs	Spring	375264.72	6776747.17	56	New England Fold Belt MDB Groundwater Source
Gunntanna Spring	Spring	674562.69	6534034.57	55	Warrumbungle Basalt Groundwater Source
Gunnyannah Spring	Spring	674562.69	6534034.57	55	Warrumbungle Basalt Groundwater Source
Hill Dyke Spring	Spring	694462.69	6039981.83	55	Lachlan Fold Belt MDB Groundwater Source
Hyandra Hill	Spring	634932.74	6416353.45	55	Lachlan Fold Belt MDB Groundwater Source
Icely Spring	Spring	672802.88	6253091.15	55	Lachlan Fold Belt MDB Groundwater Source
Indi Springs	Spring	606587.43	5927110.44	55	Lachlan Fold Belt MDB Groundwater Source
Jacko Springs	Spring	623407.93	6250163.21	55	Lachlan Fold Belt MDB Groundwater Source

Column 1 High priority groundwater dependent ecosystem	Column 2 GDE Type	Column 3 Easting (MGA 94)	Column 4 Northing (MGA 94)	Column 5 Zone	Column 6 Groundwater Source
Jacobs Well	Spring	660299.17	6336499.29	55	Lachlan Fold Belt MDB Groundwater Source
Jerrys Spring	Spring	701565.03	6535398.74	55	Warrumbungle Basalt Groundwater Source
Jokers Spring	Spring	227650.75	6642909.85	56	New England Fold Belt MDB Groundwater Source
Kellys Creek Springs	Spring	627957.46	6244557.60	55	Lachlan Fold Belt MDB Groundwater Source
Lamberts Springs	Spring	625841.19	6318520.56	55	Lachlan Fold Belt MDB Groundwater Source
Leachs Springs	Spring	723295.83	6170653.45	55	Lachlan Fold Belt MDB Groundwater Source
Maman or Wattle Spring	Spring	683950.29	6526481.13	55	Warrumbungle Basalt Groundwater Source
Meglo Swamp	Wetland	711094.89	6225501.72	55	Lachlan Fold Belt MDB Groundwater Source
Mogongong Spring	Spring	620325.09	6250202.75	55	Lachlan Fold Belt MDB Groundwater Source
Mogongong Springs	Spring	621819.09	6246486.86	55	Lachlan Fold Belt MDB Groundwater Source
Monkeybung Spring	Spring	676148.92	6534008.05	55	Warrumbungle Basalt Groundwater Source
Mont Waters Spring	Spring	610910.29	5987800.65	55	Lachlan Fold Belt MDB Groundwater Source
Mulga Springs	Spring	562396.59	6477109.44	54	Adelaide Fold Belt MDB Groundwater Source

Column 1 High priority groundwater dependent ecosystem	Column 2 GDE Type	Column 3 Easting (MGA 94)	Column 4 Northing (MGA 94)	Column 5 Zone	Column 6 Groundwater Source
Munkerbung Spring	Spring	676148.92	6534008.05	55	Warrumbungle Basalt Groundwater Source
Murphys Swamp	Wetland	626122.96	6076349.43	55	Lachlan Fold Belt MDB Groundwater Source
Naman Spring	Spring	683950.29	6526481.13	55	Warrumbungle Basalt Groundwater Source
New Spring	Spring	684080.16	6533871.82	55	Warrumbungle Basalt Groundwater Source
Norfolk Island Swamp	Wetland	219015.98	6483629.99	56	Liverpool Ranges Basalt MDB Groundwater Source
O'Hares Creek	Wetland	304198.85	6209411.96	56	Lachlan Fold Belt MDB
Old Mortray Springs	Spring	597336.42	6263403.60	55	Lachlan Fold Belt MDB Groundwater Source
Peppers Swamp	Wetland	727529.14	6009588.67	55	Lachlan Fold Belt MDB Groundwater Source
Pine Spring	Spring	700048.87	6378293.02	55	Lachlan Fold Belt MDB Groundwater Source
Porters Camp Spring	Spring	271151.47	6558873.11	56	New England Fold Belt MDB Groundwater Source
Pulpulla Spring	Spring	331668.90	6554464.80	55	Lachlan Fold Belt MDB Groundwater Source
Rankin Springs	Spring	479931.72	6315618.28	55	Lachlan Fold Belt MDB Groundwater Source
Rankins Spring	Spring	429135.16	6259940.69	55	Lachlan Fold Belt MDB Groundwater Source

Column 1 High priority groundwater dependent ecosystem	Column 2 GDE Type	Column 3 Easting (MGA 94)	Column 4 Northing (MGA 94)	Column 5 Zone	Column 6 Groundwater Source
Rotten Swamp	Wetland	767100.40	6213903.84	55	Lachlan Fold Belt MDB Groundwater Source
Salters Springs	Spring	684403.72	6552348.24	55	Warrumbungle Basalt Groundwater Source
Sauls Spring	Spring	580343.02	6261713.64	55	Lachlan Fold Belt MDB Groundwater Source
Siding Spring	Spring	695287.30	6539214.16	55	Warrumbungle Basalt Groundwater Source
Sidling Spring	Spring	695287.30	6539214.16	55	Warrumbungle Basalt Groundwater Source
Snake Spring	Spring	682493.89	6533899.55	55	Warrumbungle Basalt Groundwater Source
Stains Springs	Spring	723340.43	6172502.19	55	Lachlan Fold Belt MDB Groundwater Source
Sullivans Springs	Spring	669255.52	6227270.26	55	Lachlan Fold Belt MDB Groundwater Source
Swatchfield Springs	Spring	743227.19	6231202.12	55	Lachlan Fold Belt MDB Groundwater Source
Teatree Springs	Spring	714207.13	6174567.66	55	Lachlan Fold Belt MDB Groundwater Source
The Black Springs	Spring	735998.09	6188838.06	55	Lachlan Fold Belt MDB Groundwater Source
The Springs	Spring	587179.01	6167391.23	55	Lachlan Fold Belt MDB Groundwater Source
The Springs	Spring	759417.80	6203942.67	55	Lachlan Fold Belt MDB Groundwater Source

Column 1 High priority groundwater dependent ecosystem	Column 2 GDE Type	Column 3 Easting (MGA 94)	Column 4 Northing (MGA 94)	Column 5 Zone	Column 6 Groundwater Source
The Springs	Spring	733943.71	6292476.60	55	Lachlan Fold Belt MDB Groundwater Source
Three Sugarloaf Swamp	Wetland	374832.27	6761966.07	56	New England Fold Belt Groundwater Source MDB
Thurrima Springs	Spring	732887.51	6187066.47	55	Lachlan Fold Belt MDB Groundwater Source
Towan Dirt Holes	Spring	654309.57	6351383.14	55	Lachlan Fold Belt MDB Groundwater Source
Tunnel Spring	Spring	679321.39	6533954.28	55	Warrumbungle Basalt Groundwater Source
Turkey Springs	Spring	539418.32	6075301.51	55	Lachlan Fold Belt MDB Groundwater Source
Turners Springs	Spring	718074.72	6176327.16	55	Lachlan Fold Belt MDB Groundwater Source
Warm Spring	Spring	634246.03	6044797.25	55	Lachlan Fold Belt MDB Groundwater Source
Wattle Spring	Spring	684242.14	6543110.08	55	Warrumbungle Basalt Groundwater Source
Webbs Springs	Spring	601009.29	6174644.35	55	Lachlan Fold Belt MDB Groundwater Source
Wyndhams Springs	Spring	333918.25	6720798.25	56	New England Fold Belt MDB Groundwater Source
Yewrangara Springs	Spring	686942.33	6226936.23	55	Lachlan Fold Belt MDB Groundwater Source

2 High priority karst environment groundwater dependent ecosystems

High priority karst environment groundwater dependent ecosystems in these groundwater sources are as specified in Table B below.

Note. The approximate location of high priority karst environment GDEs listed in Column 1 of Table B are shown on the maps in Appendix 3.

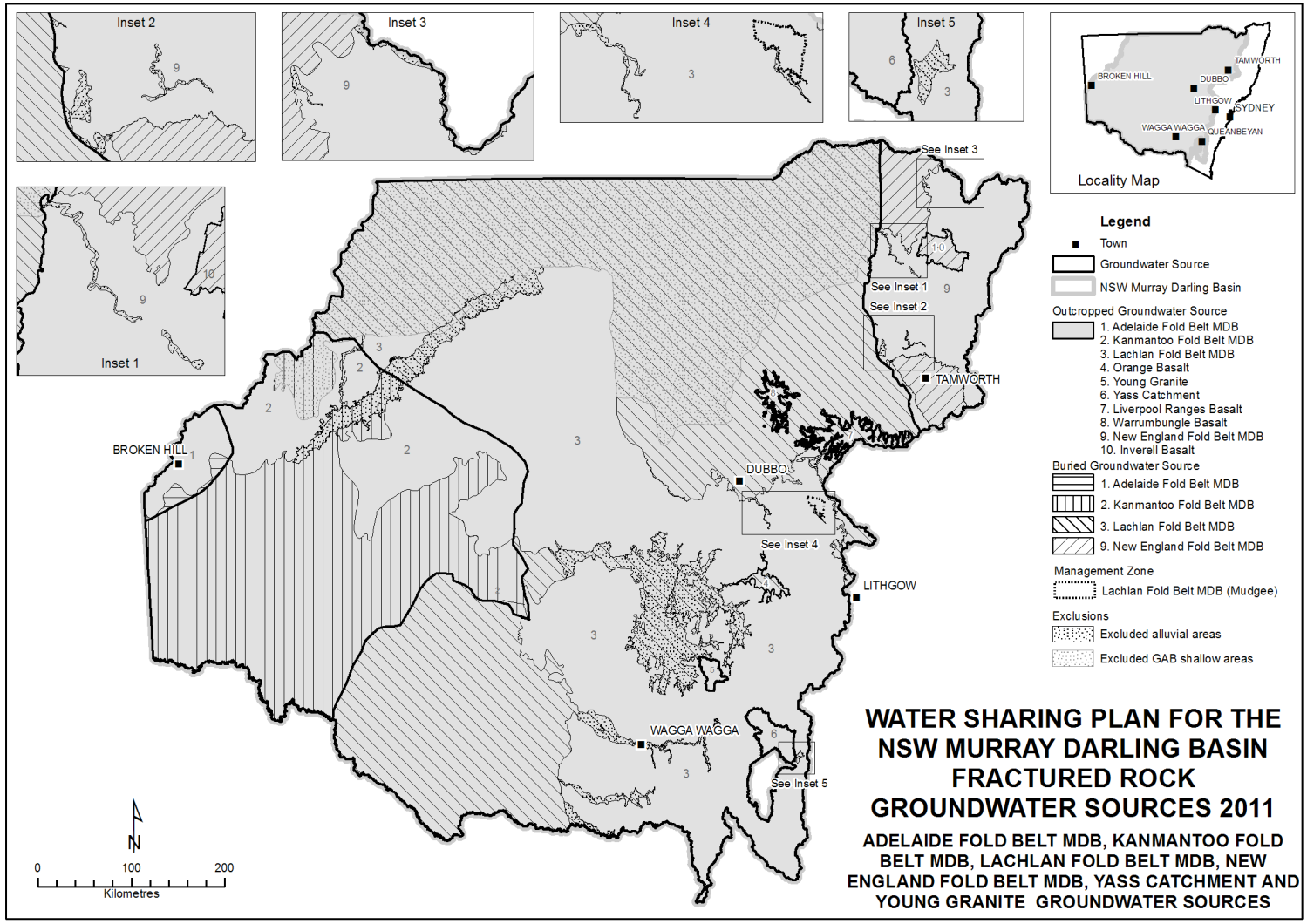
Table B – High priority karst environment groundwater dependent ecosystems

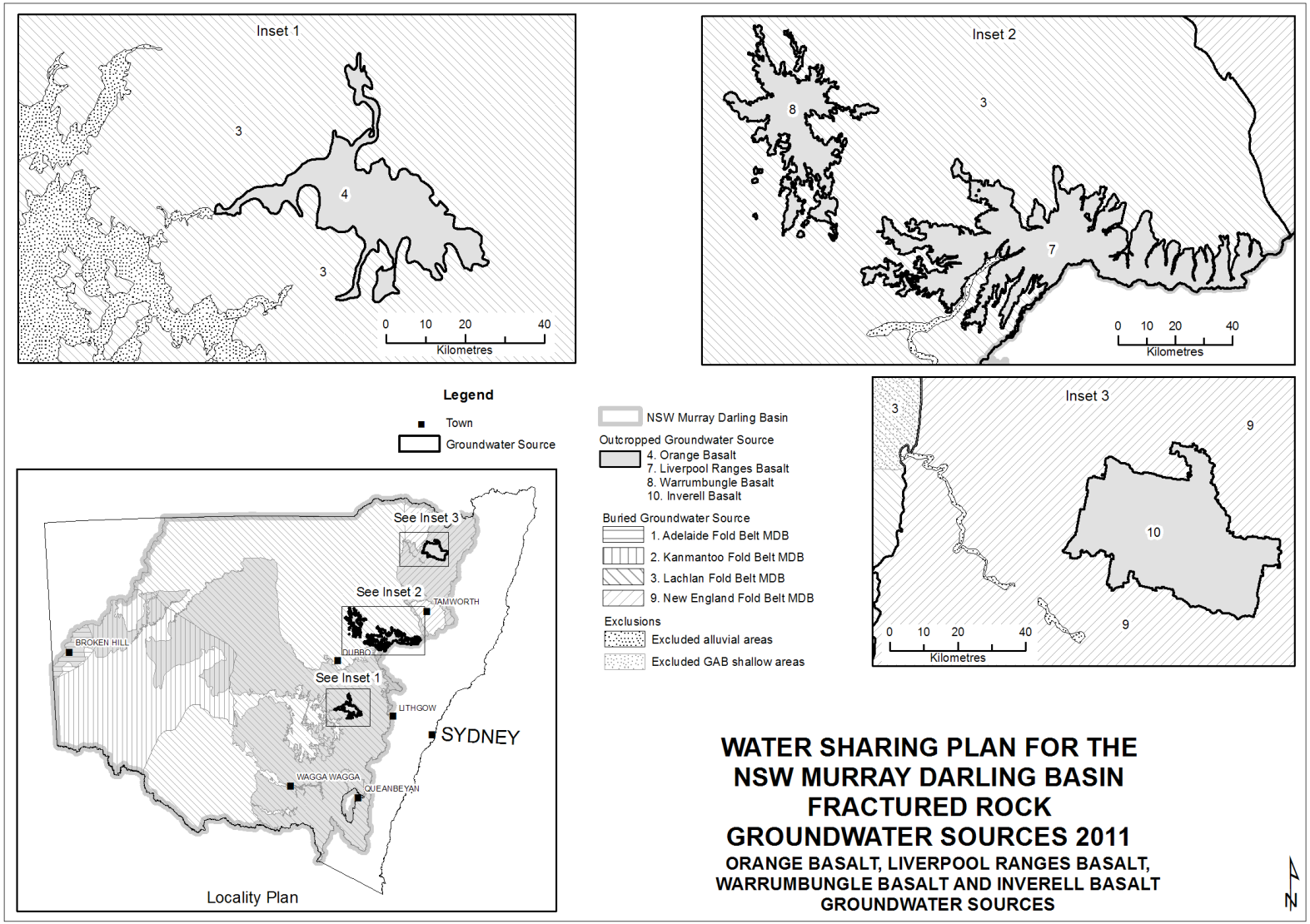
Column 1 High priority karst environment groundwater dependent ecosystem	Column 2 GDE type	Column 3 Groundwater Source	Column 4 Approximate location
Abercrombie	Karst	Lachlan Fold Belt MDB	2.5 km east of Abercrombie
Apple Tree Flat	Karst	Lachlan Fold Belt MDB	23 km south-east of Mudgee
Ashford	Karst	New England Fold Belt MDB	16.5 km north-west of Ashford
Bakers Swamp	Karst	Lachlan Fold Belt MDB	22 km south of Wellington
Boduldura	Karst	Lachlan Fold Belt MDB	30 km north-west of Molong
Borenore	Karst	Orange Basalt	42 km north-east of Canowindra
Bowan Park	Karst	Orange Basalt	7 km west of Bowan Park
Browns Creek	Karst	Lachlan Fold Belt MDB	2 km north-east of Browns Creek
Burran Burran	Karst	Lachlan Fold Belt MDB	7.5 km north-west of Wellington
Canomodine	Karst	Lachlan Fold Belt MDB	16 km north-east of Canowindra
Canowindra	Karst	Lachlan Fold Belt MDB	12 km north-east of Canowindra
Cave Flat	Karst	Lachlan Fold Belt MDB	4 km south of Burrinjuck
Cliefden/Walli	Karst	Lachlan Fold Belt MDB	30 km north-east of Cowra
Cooinbil	Karst	Lachlan Fold Belt MDB	16 km east of Yarrangobilly
Cooleman Plain	Karst	Lachlan Fold Belt MDB	7 km north-wast of Cooleman
Cooyal	Karst	Lachlan Fold Belt MDB	16 km south of Ulan
Copperhania	Karst	Lachlan Fold Belt MDB	4.5 km north-west of Abercrombie
Cowombat Flat	Karst	Lachlan Fold Belt MDB	58 km south-west of Jindabyne
Cudgegong	Karst	Lachlan Fold Belt MDB	11 km north-west of Kandos
Cudgegong West	Karst	Lachlan Fold Belt MDB	16 km north-west of Kandos
Cumnock	Karst	Lachlan Fold Belt MDB	23 km north-west of Molong
Dripstone	Karst	Lachlan Fold Belt MDB	12 km south of Wellington

Column 1 High priority karst environment groundwater dependent ecosystem	Column 2 GDE type	Column 3 Groundwater Source	Column 4 Approximate location
Duckmaloli	Karst	Lachlan Fold Belt MDB	18 km east of Oberon
Geurie	Karst	Lachlan Fold Belt MDB	Geurie
Goodradigbee (Upper)	Karst	Lachlan Fold Belt MDB	45 km esast of Tumut
Indi	Karst	Lachlan Fold Belt MDB	60 km south-west of Jindabyne
Jeremiah Creek	Karst	Lachlan Fold Belt MDB	10 km south-west of Burrinjuck
Jounama Creek	Karst	Lachlan Fold Belt MDB	39 km north-east of Tumbarumba
Kandos	Karst	Lachlan Fold Belt MDB	6 km north-west of Kandos
Kybean	Karst	Lachlan Fold Belt MDB	25 km south-east of Cooma
Lake Windamere	Karst	Lachlan Fold Belt MDB	22 km North-west of Kandos
Limekilns	Karst	Lachlan Fold Belt MDB	22 km north-east of Kelso
London Bridge	Karst	Lachlan Fold Belt MDB	18.5 km north-west of Captains Flat
MacPhersons Swamp	Karst	Lachlan Fold Belt MDB	44 km east of Gundagai
Michelago	Karst	Lachlan Fold Belt MDB	40 km south-west of Captains Flat
Molong	Karst	Lachlan Fold Belt MDB	3.5 km south of Molong
Mudgee	Karst	Lachlan Fold Belt MDB	2 km north of Mudgee
Numeralla	Karst	Lachlan Fold Belt MDB	19 km south-east of Cooma
Portland	Karst	Lachlan Fold Belt MDB	Portland
Queens Pinch	Karst	Lachlan Fold Belt MDB	17.5 km south of Mudgee
Ravine	Karst	Lachlan Fold Belt MDB	15.5 km north of Cabramurra
Regans Creek	Karst	Lachlan Fold Belt MDB	19 km north-east of Canowindra
Rock Flat Creek	Karst	Lachlan Fold Belt MDB	8.5 km north-west of Cooma
Rockley	Karst	Lachlan Fold Belt MDB	26 km west of Oberon
Rosebrook	Karst	Lachlan Fold Belt MDB	10 km north-east of Cooma
Rosebrook north	Karst	Lachlan Fold Belt MDB	14 km north-east of Cooma
Stuart Town Finches Caves	Karst	Lachlan Fold Belt MDB	27 north-east of Molong
Taemas	Karst	Lachlan Fold Belt MDB	12 km east of Burrinjuck
Talmo	Karst	Lachlan Fold Belt MDB	6 km north-west of Burrinjuck
Tuena	Karst	Lachlan Fold Belt MDB	1.5 km north-west of Tuena

Column 1 High priority karst environment groundwater dependent ecosystem	Column 2 GDE type	Column 3 Groundwater Source	Column 4 Approximate location
Tuena East	Karst	Lachlan Fold Belt MDB	4 km north of Tuena
Warroo/Taemas	Karst	Lachlan Fold Belt MDB	17 km south-west of Yass
Wee Jasper	Karst	Lachlan Fold Belt MDB	2 km south-west of Wee Jasper
Wellington	Karst	Lachlan Fold Belt MDB	7.5 km south of Wellington
Wellington/Molong	Karst	Lachlan Fold Belt MDB	26 km north of Molong
White Rocks	Karst	Lachlan Fold Belt MDB	4.5 km south-east of Queanbeyan
Yarrangobilly	Karst	Lachlan Fold Belt MDB	38 km south-east of Batlow

Appendix 1 Overview of the Registered Map




Inset 1
3
4
3
0 10 20 40
Kilometres
Inset 2
8
3
7
0 10 20 40
Kilometres
Inset 3
3
9
10
9
0 10 20 40
Kilometres
Legend
Town
Groundwater Source
NSW Murray Darling Basin
Outcropped Groundwater Source
4. Orange Basalt
7. Liverpool Ranges Basalt
8. Warrumbungle Basalt
10. Inverell Basalt
Buried Groundwater Source
1. Adelaide Fold Belt MDB
2. Kanmantoo Fold Belt MDB
3. Lachlan Fold Belt MDB
9. New England Fold Belt MDB
Exclusions
Excluded alluvial areas
Excluded GAB shallow areas
See Inset 3
See Inset 2
See Inset 1
TAMWORTH
BROKEN HILL
DUBBO
LITHGOW
SYDNEY
WAGGA WAGGA
QUEANBEYAN
Locality Plan
WATER SHARING PLAN FOR THE
NSW MURRAY DARLING BASIN
FRACTURED ROCK
GROUNDWATER SOURCES 2011
ORANGE BASALT, LIVERPOOL RANGES BASALT,
WARRUMBUNGLE BASALT AND INVERELL BASALT
GROUNDWATER SOURCES
N

Appendix 2 Inspection of Registered Map

Copies of the Registered Map may be inspected at the following offices:

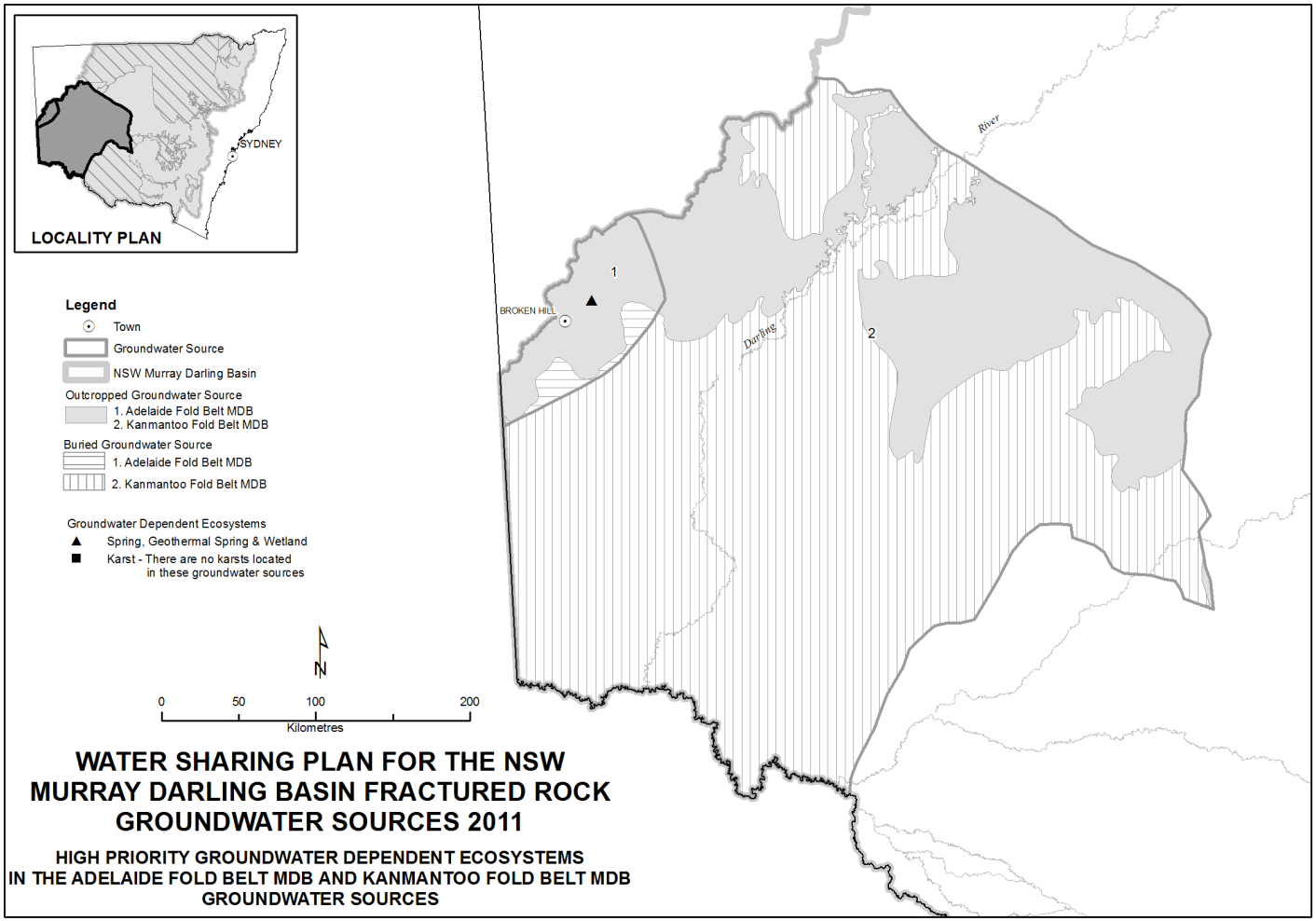
NSW Office of Water
10 Valentine Ave
PARRAMATTA NSW 2150

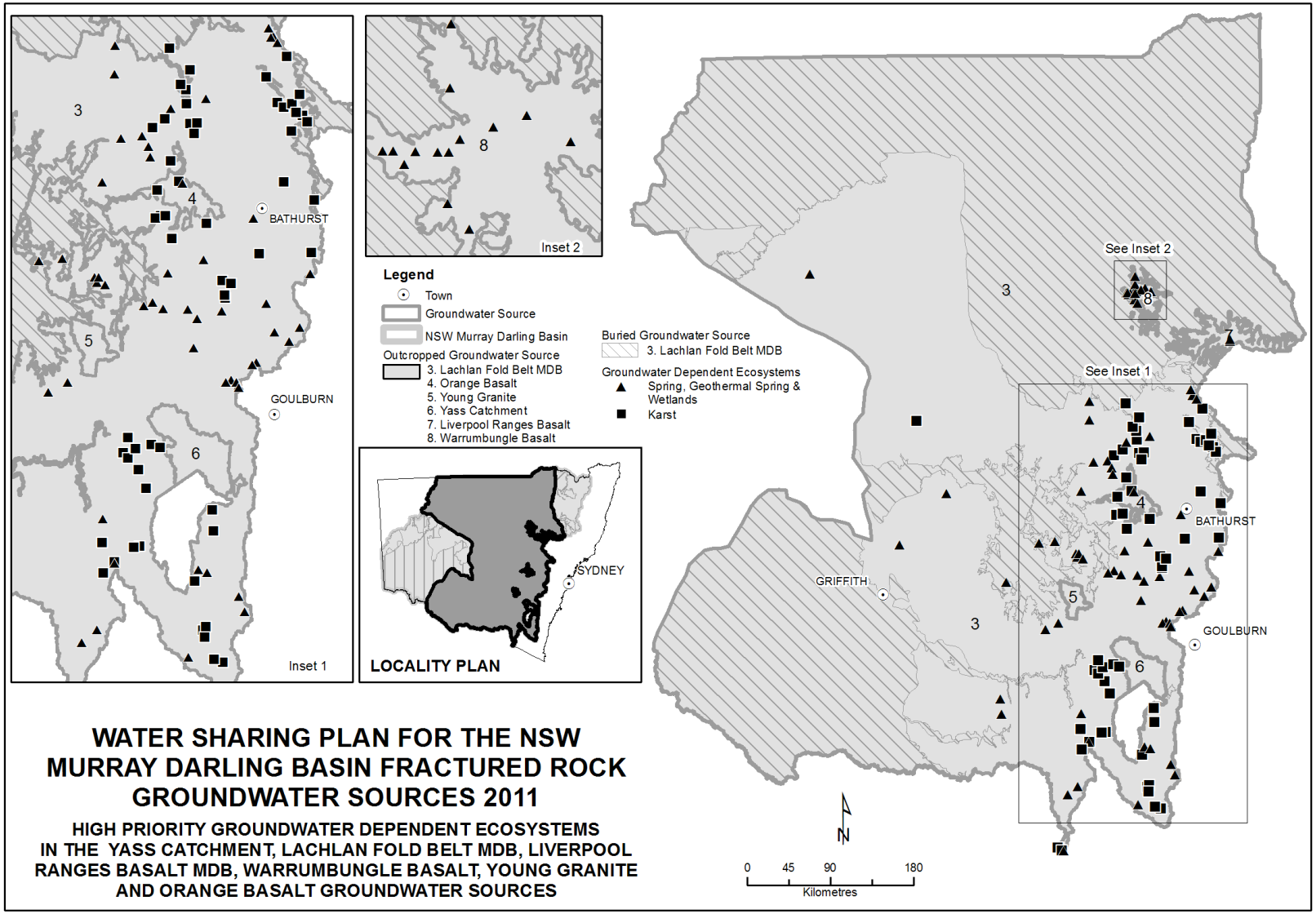
NSW Office of Water
155-157 Marius
TAMWORTH NSW 2340

NSW Office of Water
11 Farrer Place
QUEANBEYAN NSW 2620

Appendix 3 Groundwater Dependent Ecosystems in the NSW Murray Darling Basin Fractured Rock Groundwater Sources

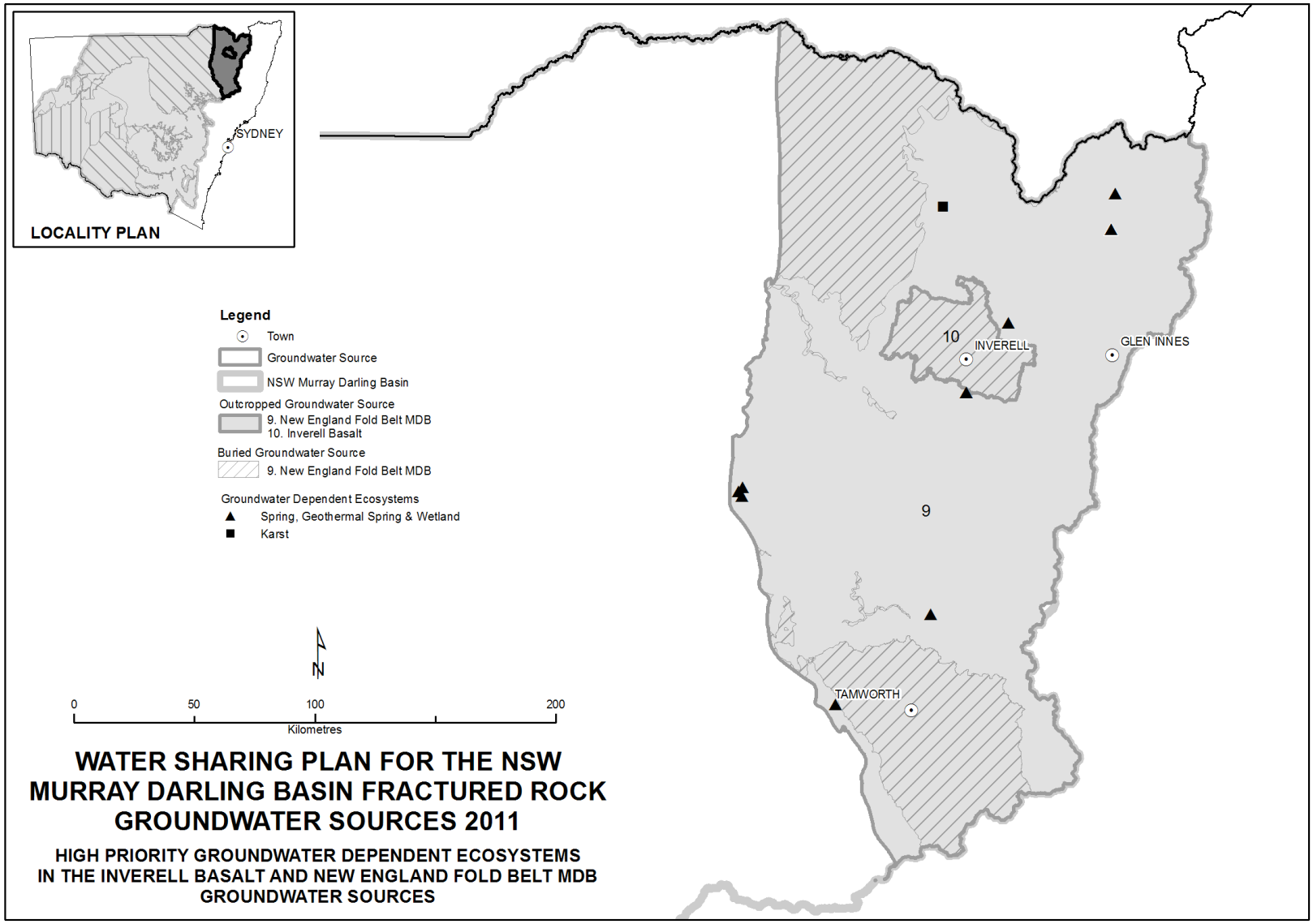
Note. The maps in this Appendix show the approximate location of the high priority GDEs listed in Column 1 of Table A of Schedule 3 and the high priority karst environment GDEs listed in Column 1 of Table B of Schedule 3.





WATER SHARING PLAN FOR THE NSW MURRAY DARLING BASIN FRACTURED ROCK GROUNDWATER SOURCES 2011

HIGH PRIORITY GROUNDWATER DEPENDENT ECOSYSTEMS IN THE YASS CATCHMENT, LACHLAN FOLD BELT MDB, LIVERPOOL RANGES BASALT MDB, WARRUMBUNGLE BASALT, YOUNG GRANITE AND ORANGE BASALT GROUNDWATER SOURCES


SYDNEY
LOCALITY PLAN
Legend
Town
Groundwater Source
NSW Murray Darling Basin
Outcropped Groundwater Source
9. New England Fold Belt MDB
10. Inverell Basalt
Buried Groundwater Source
9. New England Fold Belt MDB
Groundwater Dependent Ecosystems
Spring, Geothermal Spring & Wetland
Karst
N
0
50
100
200
Kilometres
10
INVERELL
GLEN INNES
9
TAMWORTH
WATER SHARING PLAN FOR THE NSW MURRAY DARLING BASIN FRACTURED ROCK GROUNDWATER SOURCES 2011
HIGH PRIORITY GROUNDWATER DEPENDENT ECOSYSTEMS IN THE INVERELL BASALT AND NEW ENGLAND FOLD BELT MDB GROUNDWATER SOURCES