



Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011

under the

Water Management Act 2000

I, the Minister for Water, in pursuance of section 50 of the *Water Management Act 2000*, do, by this Order, make the following Minister's Plan for the Greater Metropolitan Region Groundwater Sources.

Dated this 25th day of February, 2011.

PHILLIP COSTA

Minister for Water

Explanatory note

Section 50 (1) of the *Water Management Act 2000* provides that the Minister may, by order published on the NSW legislation website, make a Minister's plan:

- (a) for any part of the State that is not within a water management area, or
- (b) for any water management area or water source, or part of a water management area or water source, for which a management plan is not in force, or
- (c) for any water management area or water source, or part of a water management area or water source, for which a management plan is in force, but only so as to deal with matters not dealt with by the management plan.

The purpose of this Order is to make the *Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011*.

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Water Sharing Plan for the Greater Metropolitan Region 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 Greater Metropolitan Region 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 1 July 2011.

Notes.

- 1 In accordance with section 43 of the Act, this Plan will have effect for 10 years from 1 July 2011.
- 2 The Minister may extend this Plan for a further period of 10 years after the plan is due to expire, in accordance with section 43A of the Act.

4 Application of this Plan

- (1) This Plan applies to the following groundwater sources (hereafter **these groundwater sources**) within the Southern Water Management Area, the Hawkesbury-Nepean Water Management Area, the Southern Sydney Water Management Area, and the Sydney Harbour Water Management Area:
 - (a) Botany Sands Groundwater Source;
 - (b) Coxs River Fractured Rock Groundwater Source;

Note. The Coxs River Fractured Rock Water Source includes all water contained within the Coxs River Silurian, Upper Devonian, Lower Carboniferous and Post Triassic aquifers.

- (c) Goulburn Fractured Rock Groundwater Source;
- (d) Hawkesbury Alluvium Groundwater Source;
- (e) Maroota Tertiary Sands Groundwater Source;
- (f) Metropolitan Coastal Sands Groundwater Source;
- (g) Sydney Basin Blue Mountains Groundwater Source;
- (h) Sydney Basin Central Groundwater Source;
- (i) Sydney Basin Coxs River Groundwater Source;
- (j) Sydney Basin Nepean Groundwater Source;
- (k) Sydney Basin North Groundwater Source;
- (l) Sydney Basin Richmond Groundwater Source; and
- (m) Sydney Basin South Groundwater Source.

Note. The Southern Water Management Area, Hawkesbury-Nepean Water Management Area, Southern Sydney Water Management Area and Sydney Harbour Water Management Area were constituted by Ministerial order made under section 11 of the Act published in the NSW Government Gazette Number 180 on 23 November 2001 page 9389.

- (2) These groundwater sources are shown on the registered map called The Greater Metropolitan Region 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 4.

- (3) These groundwater sources, excluding the Hawkesbury Alluvium Groundwater Source, include all water contained within all aquifers below the surface of the ground shown on the Registered Map.
- (4) The Hawkesbury Alluvium Groundwater Source includes all water contained in the alluvial sediments below the surface of the ground shown on the Registered Map.

Note. The Hawkesbury Alluvium Groundwater Source overlies the following groundwater sources: Sydney Basin Blue Mountains Groundwater Source, Sydney Basin Central Groundwater Source, Sydney Basin North Groundwater Source, Sydney Basin Nepean Groundwater Source and Sydney Basin Richmond Groundwater Source.

5 Management Zones

(1) For the purposes of this Plan, the following groundwater sources are divided into the following management zones:

(a) Botany Sands Groundwater Source:

(i) Botany Management Zone 1; and

Note. Botany Management Zone 1 applies to the same area that was embargoed by Order made under section 113A of the *Water Act 1912* dated 22nd August 2003 and published in the NSW Government Gazette number 128 at page 8099 on 22 August 2003.

(ii) Botany Management Zone 2;

Note. Botany Management Zone 2 applies to the same area that was embargoed by Order made under section 113A of the *Water Act 1912* dated 23rd May 2007 and published in the NSW Government Gazette number 76 at page 3698 on 8 June 2007.

(b) Sydney Basin Nepean Groundwater Source:

(i) Nepean Management Zone 1; and

Note. Nepean Management Zone 1 applies to the same area within the Sydney Basin Nepean Groundwater Source that was embargoed by Orders made under section 113A of the *Water Act 1912* dated 13th May 2004, 16th December 2005 and 23rd May 2007 and published in the NSW Government Gazette numbers 87, 157 and 76 at pages 3099, 11031 and 3699 on 21 May 2004, 16 December 2005 and 8 June 2007, respectively..

(ii) Nepean Management Zone 2.

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

Note. An overview of the management zones in subclause (1) is shown in Appendix 1.

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 of 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 of this Plan have the meanings set out in that Schedule.

- (2) Unless otherwise defined in this Plan, words and expressions that are defined in the Act or in the *Water Management (General) Regulation 2004* (hereafter ***the Regulation***) 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

- (1) The vision of this Plan is to provide for healthy and enhanced water sources and water dependent ecosystems and equitable water sharing among users in these groundwater sources.
- (2) The sharing of the waters in these groundwater sources contributes to:
 - (a) Aboriginal people pursuing their economic, social and cultural development, and maintaining and strengthening their spiritual and customary relationship to water; and
 - (b) the involvement of Aboriginal people in the conservation, protection and management of 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 and maintain the integrity of aquifers in these groundwater sources;
- (c) protect, preserve, maintain and enhance the Aboriginal, cultural and heritage values of these groundwater sources;
- (d) contribute to the sustainable and integrated management of the water cycle across these groundwater sources;
- (e) protect basic landholder rights;
- (f) manage these groundwater sources to ensure equitable sharing between users;
- (g) provide opportunities for market based trading of access licences and water allocations within sustainability and system constraints;
- (h) provide security and certainty for the life of the plan to stakeholders that utilise groundwater resources;

- (i) provide water allocation account management rules which allow sufficient flexibility to encourage responsible use of available water;
- (j) contribute to the maintenance of water quality;
- (k) provide recognition of the connectivity between surface water and groundwater;
- (l) adaptively manage these groundwater sources;
- (m) 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)* (the *NWI*); and

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:

- (a) 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;
 - (b) 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
 - (c) 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.
- (n) where necessary, allow for the supplementation of the water supply for the people of Sydney, the Illawarra, the Shoalhaven, the Southern Highlands, and the Blue Mountains, which comprise approximately 70% of the NSW population.

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 and requirements to satisfy urban water needs;
- (d) establish rules for 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 groundwater extraction relative to the long-term average annual extraction limit;
- (b) extent of groundwater level fluctuations;
- (c) change in the ecological condition of representative groundwater dependent ecosystems, where groundwater extraction is recognised as the primary risk to their condition;
- (d) the extent to which basic landholder rights requirements have been met;
- (e) the change in local water utility access;
- (f) the extent to which local water utility requirements have been met;
- (g) the extent to which native title rights requirements have been met;
- (h) the change in the economic benefits derived from groundwater extraction and use; and
- (i) the 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 Division 1 of 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 reductions in the availability of water due to an increase in average annual extraction above 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 1 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 reductions in the availability of water due to an increase in average annual extraction above the long-term average annual extraction limit, contained in Division 1 of Part 6 of this Plan.

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 Environmental water provisions

Note. This Part is made in accordance with sections 8, 8A, 8B, 8C, 8D, 8E and 20 of the Act.

Division 1 Planned environmental water

14 General

This Division 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 the groundwater source;
 - (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 that is within the groundwater storage of these groundwater sources over the long-term; and

Note. 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 the groundwater resources over the long-term. This means that, over the long-term, the storage component of the groundwater resources will not be depleted as a result of extraction.

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

(i) the Botany Sands Groundwater Source that is equal to 50% of the long-term average annual recharge from non-high environmental value areas and 95% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;

Note. At the commencement of this Plan, the average annual recharge for the Botany Sands Groundwater Source is estimated to be 30,424 megalitres per year (ML/year).

(ii) the Coxs River Fractured Rock Groundwater Source that is equal to 75% of the long-term average annual recharge from non-high environmental value areas and 100% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;

Note. At the commencement of this Plan, the average annual recharge for the Coxs River Fractured Rock Groundwater Source is estimated to be 66,297 ML/year.

(iii) the Goulburn Fractured Rock Groundwater Source that is equal to 75% of the long-term average annual recharge from non-high environmental value areas and 100% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;

Note. At the commencement of this Plan, the average annual recharge for the Goulburn Fractured Rock Groundwater Source is estimated to be 259,784 ML/year.

(iv) the Hawkesbury Alluvium Groundwater Source that is equal to 75% of the long-term average annual recharge from non-high environmental value areas and 100% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;

Note. At the commencement of this Plan, the average annual recharge for the Hawkesbury Alluvium Groundwater Source is estimated to be 5,043 ML/year.

(v) the Maroota Tertiary Sands Groundwater Source that is equal to 40% of the long-term average annual recharge from non-high environmental value areas and 95% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;

Notes.

1. At the commencement of this Plan, the average annual recharge for the Maroota Tertiary Sands Groundwater Source is estimated to be 1,075 ML/year.
 2. At the commencement of this Plan, no high environmental value areas have been identified in the Maroota Tertiary Sands Groundwater Source.
- (vi) the Metropolitan Coastal Sands Groundwater Source that is equal to 50% of the long-term average annual recharge from non-high environmental value areas and 95% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;
- Note.** At the commencement of this Plan, the average annual recharge for the Metropolitan Coastal Sands Groundwater Source is estimated to be 60,802 ML/year.
- (vii) the Sydney Basin Blue Mountains Groundwater Source that is equal to 75% of the long-term average annual recharge from non-high environmental value areas and 95% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;
- Note.** At the commencement of this Plan, the average annual recharge for the Sydney Basin Blue Mountains Groundwater Source is estimated to be 78,474 ML/year.
- (viii) the Sydney Basin Central Groundwater Source that is equal to 75% of the long-term average annual recharge from non-high environmental value areas and 100% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;
- Note.** At the commencement of this Plan, the average annual recharge for the Sydney Basin Central Groundwater Source is estimated to be 229,223 ML/year.
- (ix) the Sydney Basin Coxs River Groundwater Source that is equal to 40% of the long-term average annual recharge from non-high environmental value areas and 100% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;
- Note.** At the commencement of this Plan, the average annual recharge for the Sydney Basin Coxs River Groundwater Source is estimated to be 31,312 ML/year.
- (x) the Sydney Basin Nepean Groundwater Source that is equal to 40% of the long-term average annual recharge from non-high environmental value areas and 100% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;
- Note.** At the commencement of this Plan, the average annual recharge for the Sydney Basin Nepean Groundwater Source is estimated to be 244,483 ML/year.
- (xi) the Sydney Basin North Groundwater Source that is equal to 75% of the long-term average annual recharge from non-high environmental value areas and
-

100% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan;

Note. At the commencement of this Plan, the average annual recharge for the Sydney Basin North Groundwater Source is estimated to be 269,187 ML/year.

- (xii) the Sydney Basin Richmond Groundwater Source that is equal to 40% of the long-term average annual recharge from non-high environmental value areas and 100% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan; and

Note. At the commencement of this Plan, the average annual recharge for the Sydney Basin Richmond Groundwater Source is estimated to be 127,878 ML/year.

- (xiii) the Sydney Basin South Groundwater Source that is equal to 50% of the long-term average annual recharge from non-high environmental value areas and 100% of the long-term average annual recharge from high environmental value areas at the commencement of this Plan; and

Note. At the commencement of this Plan, the average annual recharge for the Sydney Basin South Groundwater Source is estimated to be 225,326 ML/year.

Notes.

- 1 Recharge is defined in the Dictionary section of this Plan. The recharge estimates for these groundwater sources are based on rainfall infiltration.
 - 2 The portion of recharge reserved for the environment is not the same for every groundwater source, because of the different levels of socio-economic reliance and environmental values for each groundwater source.
 - 3 For the purposes of this Plan, "high environmental value" areas are national parks, nature reserves, historic sites, Aboriginal areas, State conservation areas and karst conservation areas.
 - 4 Part 12 allows for amendments to be made to clause 16 (2) (b).
- (c) it is the water remaining after water has been taken pursuant to basic landholder rights and access licences in these groundwater sources, 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 by the rules specified in Part 6 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 of this Plan.
 - (5) The planned environmental water established under subclause (2) (c) is maintained in these groundwater sources by the rules specified in Part 6 and Division 2 of Part 8 of this Plan.

Note. The rules in Part 6 of this Plan 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 the reduction in available water determinations if, in the Minister's opinion, assessment of average annual extractions against the long-term average annual extraction limit under clause 28 demonstrates that annual extractions in one of these groundwater sources has exceeded the long-term average annual extraction limit

Division 2 Licensed environmental water

17 Adaptive environmental water provisions

- (1) A holder of an access licence in these groundwater sources may request that the Minister impose an adaptive environmental water condition in respect of the whole or part of the access licence, in accordance with section 8B of the Act.
- (2) An access licence may be granted in these groundwater sources in accordance with section 8C of the Act.
- (3) An access licence surrendered by its holder may be kept by the Minister, or transferred, or changed to a different category or subcategory, in accordance with section 8D of the Act.

Note. Adaptive environmental water is a category of licensed environmental water under section 8 (1) (b) (i) of the Act.

Part 5 Requirements for water

Division 1 General

18 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 hydrogeology, 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 granting, 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

19 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 19,652 megalitres per year (hereafter *ML/year*), distributed as follows:

- (a) 1,849 ML/year in the Botany Sands Groundwater Source;

Note. The Botany Sands Groundwater Source is affected by inherent water quality issues and, in some areas, water extracted from the Botany Sands Groundwater Source is unsuitable for

domestic consumption or stock watering. The taking of water from the Botany Sands Groundwater Source was restricted by Order made under section 323 of the *Water Management Act 2000* dated 24th August 2006 and published in the NSW Government Gazette number 111 at page 7774 on 1 September 2006.

- (b) 179 ML/year in the Coxs River Fractured Rock Groundwater Source;
- (c) 3,114 ML/year in the Goulburn Fractured Rock Groundwater Source;
- (d) 305 ML/year in the Hawkesbury Alluvium Groundwater Source;
- (e) 17 ML/year in the Maroota Tertiary Sands Groundwater Source;
- (f) 298 ML/year in the Metropolitan Coastal Sands Groundwater Source;
- (g) 421 ML/year in the Sydney Basin Blue Mountains Groundwater Source;
- (h) 2,601 ML/year in the Sydney Basin Central Groundwater Source;
- (i) 454 ML/year in the Sydney Basin Coxs River Groundwater Source;
- (j) 5,971 ML/year in the Sydney Basin Nepean Groundwater Source;
- (k) 722 ML/year in the Sydney Basin North Groundwater Source;
- (l) 1,623 ML/year in the Sydney Basin Richmond Groundwater Source; and
- (m) 2,098 ML/year in the Sydney Basin South Groundwater Source.

Notes.

- 1 Domestic and stock rights are set out in 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 existing 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.

20 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

21 Share components of domestic and stock access licences

At the commencement of this Plan, there are no domestic and stock access licences authorised to take water in these groundwater sources. Therefore the water requirements for domestic and stock access licences total 0 ML/year.

22 Share components of local water utility access licences

It is estimated that at the time of commencement this Plan, the share components of local water utility access licences authorised to take water from these groundwater sources will total 140 ML/year, distributed as follows:

- (a) 0 ML/year in the Botany Sands Groundwater Source;
- (b) 0 ML/year in the Coxs River Fractured Rock Groundwater Source;
- (c) 100 ML/year in the Goulburn Fractured Rock Groundwater Source;
- (d) 0 ML/year in the Hawkesbury Alluvium Groundwater Source;
- (e) 0 ML/year in the Maroota Tertiary Sands Groundwater Source;
- (f) 0 ML/year in the Metropolitan Coastal Sands Groundwater Source;
- (g) 0 ML/year in the Sydney Basin Blue Mountains Groundwater Source;
- (h) 0 ML/year in the Sydney Basin Central Groundwater Source;
- (i) 0 ML/year in the Sydney Basin Coxs River Groundwater Source;
- (j) 11 ML/year in the Sydney Basin Nepean Groundwater Source;
- (k) 0 ML/year in the Sydney Basin North Groundwater Source;
- (l) 29 ML/year in the Sydney Basin Richmond Groundwater Source; and
- (m) 0 ML/year in the Sydney Basin South Groundwater Source.

23 Share components of major utility access licences

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

Note. Sydney Catchment Authority has undertaken detailed investigations relating to groundwater accessibility within the sustainable yields of these groundwater sources for the purpose of augmenting Sydney's water supply during severe drought. As part of this investigation, Sydney Catchment Authority has lodged an application for major water utility licences within the Sydney Basin Blue Mountains Groundwater Source, Sydney Basin Central Groundwater Source and Sydney Basin Nepean Groundwater Source. Part 12 allows for amendments to be made to clause 23.

24 Share components of aquifer access licences

It is estimated that at the time of commencement this Plan, the share components of aquifer access licences authorised to take water from these groundwater sources will total 62,204 unit shares, distributed as follows:

- (a) 11,156 unit shares in the Botany Sands Groundwater Source;
- (b) 114 unit shares in the Coxs River Fractured Rock Groundwater Source;
- (c) 3,051 unit shares in the Goulburn Fractured Rock Groundwater Source;
- (d) 1,019 unit shares in the Hawkesbury Alluvium Groundwater Source;
- (e) 189 unit shares in the Maroota Tertiary Sands Groundwater Source;
- (f) 1,409 unit shares in the Metropolitan Coastal Sands Groundwater Source;
- (g) 138 unit shares in the Sydney Basin Blue Mountains Groundwater Source;
- (h) 2,592 unit shares in the Sydney Basin Central Groundwater Source;
- (i) 6,926 unit shares in the Sydney Basin Cocks River Groundwater Source;
- (j) 16,283 unit shares in the Sydney Basin Nepean Groundwater Source;
- (k) 557 unit shares in the Sydney Basin North Groundwater Source;
- (l) 15,894 unit shares in the Sydney Basin Richmond Groundwater Source; and
- (m) 2,880 unit shares in the Sydney Basin South Groundwater Source.

Part 6 Limits to the availability of water

Division 1 Long-term average annual extraction limit

25 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.

26 Volume of the long-term average annual extraction limits

The long-term average annual extraction limit for each groundwater source specified in clause 4 (1) is set out below:

- (a) 14,684 ML/year in the Botany Sands Groundwater Source;
- (b) 6,806 ML/year in the Coxs River Fractured Rock Groundwater Source;
- (c) 53,074 ML/year in the Goulburn Fractured Rock Groundwater Source;
- (d) 2,456 ML/year in the Hawkesbury Alluvium Groundwater Source;
- (e) 645 ML/year in the Maroota Tertiary Sands Groundwater Source;
- (f) 27,206 ML/year in the Metropolitan Coastal Sands Groundwater Source;
- (g) 7,039 ML/year in the Sydney Basin Blue Mountains Groundwater Source;
- (h) 45,915 ML/year in the Sydney Basin Central Groundwater Source;
- (i) 17,108 ML/year in the Sydney Basin Coxs River Groundwater Source;
- (j) 99,568 ML/year in the Sydney Basin Nepean Groundwater Source;
- (k) 19,682 ML/year in the Sydney Basin North Groundwater Source;
- (l) 21,103 ML/year in the Sydney Basin Richmond Groundwater Source; and
- (m) 69,892 ML/year in the Sydney Basin South Groundwater Source.

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

27 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 basic landholder rights shall be calculated for each groundwater source specified in clause 4 (1).
- (2) For the purposes of calculating the total volume of water extracted during a water year, the following shall be taken into account:
 - (a) all water taken by holders of all categories of access licences in the groundwater source, except for those access licences to which section 8B, 8C and 8D of the Act relates; and
 - (b) all water extractions pursuant to basic landholder rights.

28 Assessment of average annual extraction against the long-term average annual extraction limit

- (1) An assessment of average annual extractions against the long-term average annual extraction limit is to be conducted for each groundwater source specified in clause 4 (1) as set out in this clause.
- (2) Commencing in the sixth water year in which this Plan has effect, the assessment referred to in subclause (1) must compare the long-term average annual extraction limit established in clause 26 against the annual extraction averaged over the preceding five water years in the respective groundwater source.

29 Compliance with the long-term average annual extraction limits

- (1) Compliance with the long-term average annual extraction limit established for each groundwater source specified in clause 4 (1) is to be managed in accordance with this clause.
- (2) Commencing in the sixth water year in which this Plan has effect, if, in the Minister's opinion, the assessment under clause 28 demonstrates that annual extractions in the respective groundwater source averaged over the preceding five water years has exceeded the long-term average annual extraction limit for that groundwater source by 5% or more, then the available water determinations for aquifer access licences in that groundwater source are to be reduced in the following water year in accordance with subclause (3).
- (3) The reduction in available water determinations for access licences referred to in subclause (2) 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

30 General

- (1) Available water determinations made for an access licence with a share component that specifies one of these groundwater sources is to be expressed as either:
 - (a) a percentage of the share component, for access licences which have share components specified as ML/year; or
 - (b) megalitres per unit share, for access licences which have share components specified as a number of unit shares.
- (2) The sum of available water determinations made for an 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 megalitres per year; or
 - (b) 1 megalitre per unit share of 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.

31 Available water determinations made at the commencement of each water year

- (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 subsequent water year, the following available water determinations should be made for an access licence with a share component that specifies one of these groundwater sources:
 - (a) 100% of access licence share component for domestic and stock access licences;
 - (b) 100% of access licence share component for local water utility access licences;
 - (c) 100% of access licence share component for major utility access licences; and

(d) 1 megalitre per unit share of 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 if, in the Minister's opinion, assessment of average annual extractions against the long-term average annual extraction limit under clause 28 demonstrates that annual extractions in one of these groundwater sources has exceeded the long-term average annual extraction limit.

Part 7 Rules for granting access licences

Note. This Part is made in accordance with sections 20, 61 and 63 of the Act. Access licences granted in these groundwater sources will be subject to mandatory conditions and discretionary conditions.

32 Specific purpose access licences

(1) Applications for specific purpose access licences, other than those permitted under the Regulation, may not be made in these groundwater sources, except for:

- (a) a major utility (subcategory “urban water”) access licence; and
- (b) a licence of an environmental subcategory.

Notes.

- 1. Clause 19 of the Regulation permits the making of applications for some types of specific purpose access licences, for example, any category of specific purpose access licence (subcategory “Aboriginal cultural”) for Aboriginal cultural purposes; or a licence of a class prescribed for the purposes of section 8 (1) (b) of the Act.
 - 2. The right to apply for an access licence may also be acquired in accordance with an order made under section 65 of the Act.
- (2) 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.
- (3) 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.

Part 8 Rules for managing access licences

Division 1 Water allocation account management rules

33 General

The rules in this Division 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. This Division imposes further limitations on the volume of water that may be taken under access licences to which this clause applies. It does not authorise the taking of more water than is credited to the respective water allocation accounts for those access licences.

34 Individual access licence account management rules

Note. For clarification, these rules do not authorise the taking of more water than is credited to the respective water allocation account for the access licence at the time the water is taken. It is an offence under the Act to take more water than is credited to the water allocation account for an access licence.

- (1) Subject to subclause (2), the maximum volume that may be taken under an aquifer access licence in these groundwater sources at any time may not exceed a volume equal to:
 - (a) 110% of the access licence share component at the commencement of the water year where the share component is expressed in ML per year;
 - (b) 1.1 ML per share at the commencement of the water year where the share component is expressed as a number of unit shares;
 - (c) plus any water allocations assigned from another licence under section 71T of the Act in that year; and
 - (d) minus any water allocations assigned to another licence under section 71T of the Act in that year.
- (2) The maximum volume that may be taken under an aquifer access licence in the Botany Sands Groundwater Source, Hawkesbury Alluvium Groundwater Source and Maroota Tertiary Sands Groundwater Source at any time may not exceed a volume equal to:
 - (a) 100% of the access licence share component at the commencement of the water year where the share component is expressed in ML per year;
 - (b) 1 ML per share at the commencement of the water year where the share component is expressed as a number of unit shares;

- (c) plus any water allocations assigned from another licence under section 71T of the Act in that year; and
 - (d) minus any water allocations assigned to another licence under section 71T of the Act in that year.
- (3) Subject to subclauses (4) and (5), the maximum water allocation that can be carried over in the water allocation account for an aquifer access licence in these groundwater sources from one water year to the next is equal to 0.1 ML per unit share of access licence share component.
- (4) Water allocation remaining in a water allocation account of an aquifer access licence in the following groundwater sources cannot be carried over from one water year to the next:
 - (a) the Botany Sands Groundwater Source;
 - (b) the Hawkesbury Alluvium Groundwater Source; and
 - (c) the Maroota Tertiary Sands Groundwater Source.
- (5) Water allocations may not be carried over in the water allocation account of an aquifer access licence unless metering equipment has been installed and maintained for use in connection with each water supply work nominated by the aquifer access licence.

Note. In accordance with the Regulations, water allocations that arise during one water year may only be carried over to the following water year as provided in this Plan.

Division 2 Daily access rules

35 General

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

36 Access rules for the taking of water

- (1) The rules in this clause apply to the taking of water under an access licence from these groundwater sources, excluding an aquifer access licence that nominates an aquifer interference approval and an access licence for a project under Part 3A of the *Environmental Planning and Assessment Act 1979*.
- (2) The taking of water under an access licence from the Hawkesbury Alluvial Groundwater Source is subject to the following rules:

- (a) from year seven of this Plan, the taking of water under an aquifer access licence which nominates a water supply work that is located at or less than 40 metres from the top of the high bank of a river is subject to the same access rules as those applying to the taking of water under an unregulated river access licence from the Upper Hawkesbury (Grose River to South Creek) Management Zone contained in clause 57 of the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011*;
 - (b) from year seven of this Plan, the taking of water under an aquifer access licence which nominates a water supply work that is located more than 40 metres from the top of the high bank of a river is subject to the same access rules as those applying to the taking of water under an unregulated river access licence from the Upper Hawkesbury (Grose River to South Creek) Management Zone contained in clause 57 of the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011*, except that:
 - (i) those access rules shall commence to apply to the taking of water under an access licence from the Hawkesbury Alluvial Groundwater Source 30 days after those access rules commence to apply to the taking of water under an unregulated river access licence from the Upper Hawkesbury (Grose River to South Creek) Management Zone; and
 - (ii) those access rules shall cease to apply to the taking of water under an access licence from the Hawkesbury Alluvial Groundwater Source at the same time as those access rules cease to apply to the taking of water under an unregulated river access licence from the Upper Hawkesbury (Grose River to South Creek) Management Zone; and
 - (c) the taking of water under a major utility or local water utility access licence which nominates a new water supply work that is located at or less than 40 metres from the top of the high bank of a river is subject to the same access rules as those applying to the taking of water under an unregulated river access licence from the Upper Hawkesbury (Grose River to South Creek) Management Zone contained in clause 57 of the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011*.
- (3) The taking of water under an access licence from these groundwater sources, excluding the Hawkesbury Alluvial Groundwater Source, is subject to the following rules:

- (a) from year seven of this Plan, the taking of water under an aquifer access licence which nominates a water supply work that is located at or less than 40 metres from the top of the high bank of a river is subject to the same access rules as those applying to the taking of water from that river under an unregulated river access licence as contained in clause 57 of the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011*.
 - (b) the taking of water under a major utility or local water utility access licence which nominates a new water supply work that is located at or less than 40 metres from the top of the high bank of a river is subject to the same access rules as those applying to the taking of water under an unregulated river access licence from the Upper Hawkesbury (Grose River to South Creek) Management Zone contained in clause 57 of the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011*.
- (4) Subclauses (2) and (3) do not apply:
- (a) if the water supply work being used to take water from these groundwater sources is drilled into the underlying parent material, and the slotted intervals of the work commence deeper than 30 metres;
 - (b) if the Minister is satisfied that a hydrogeological study, submitted by the applicant and assessed as adequate by the Minister, demonstrates that the water supply work being used to take water from these groundwater sources will have no more than minimal impact on base flows in a river;
 - (c) to the taking of water under a local water utility or a major utility access licence to which clause 2 of Schedule 2 applies until such time as the Minister is satisfied that major augmentation of the access licence holder's water supply system has occurred and the access licence is removed from clause 2 of Schedule 2; or
 - (d) to the taking of water under an access licence to which clause 1 of Schedule 2 applies for any of the purposes listed below, provided that water taken does not exceed 20 kilolitres per day per access licence, or such lower amount specified on the access licence in accordance with subclause (6):
 - (a) fruit washing;
 - (b) cleaning of dairy plant and equipment for the purpose of hygiene;
 - (c) poultry watering and misting; or
-

- (d) cleaning of enclosures used for intensive animal production for the purposes of hygiene.

Note. Part 12 provides for amendments to be made to clause 2 of Schedule 2. If clause 2 of Schedule 2 is amended so that it no longer applies to an access licence, the exception above will no longer apply and the rules in subclause (2) and (3) will apply to the taking of water under the access licence.

- (5) For the purpose of subclauses (2) and (3):
 - (a) an access rule contained in the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011* for the taking of water under an unregulated river access licence which requires a visible flow at the pump site is, in this Plan, taken to mean a visible flow in the river immediately adjacent to the water supply work being used to take water from these groundwater sources; and
 - (b) a reference to a water supply work is limited to a water supply work of a type that may be used to take water from these groundwater sources.
- (6) The Minister may amend an access licence to reduce the maximum daily volume limit imposed by the rule under subclause (4) (d) if the Minister is satisfied that the reduced volume is satisfactory to meet the purpose referred to in subclause (4) (d).

Part 9 Rules for water supply work approvals

Note. This Part is made in accordance with sections 5, 21 and 95 of the Act. Part 12 allows for amendments to be made to Part 9.

37 General

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

38 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 purposes of this Plan, a *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 water 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 water source or its dependent ecosystems;
 - (d) the replacement groundwater work is to be located within:
 - (i) 20 metres of the existing water supply work; or
 - (ii) a distance greater than 20 metres of the existing water supply work if the Minister is satisfied that doing so will result in no greater impact on a water 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 water source or its dependent ecosystems;
 - (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; and
 - (g) for the purposes of paragraph (f), *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 purposes of subclause (2) (c) (ii), the Minister may require the applicant to submit a hydrogeological study, assessed as adequate by the Minister, to demonstrate that the construction of the work at a different depth to the existing water supply work will result in no greater impact on a water source or its dependent ecosystems.
- (4) For the purposes of subclause (2) (d) (ii) or (2) (e) (ii), the Minister may require the applicant to submit a hydrological/hydrogeological or similar study, assessed as adequate by the Minister, to demonstrate that the location of the work at a distance greater than 20 metres from the existing water supply work will result in no greater impact on a water source or its dependent ecosystems.

Notes.

- 1 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.
- 2 Part 12 allows for amendments to be made to clause 38

39 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 the distances specified (the *distance restrictions*) respectively in Columns 2 to 6 of Table A to this clause for each groundwater source specified in Column 1.
- (2) The distance restrictions established in this clause 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 only for the purpose of monitoring, environmental management or remedial works;
 - (d) the location of the water supply work would result in no more than minimal impact on existing extractions within these groundwater sources;
 - (e) in respect of a distance restriction specified in column 5 of Table A only, the relevant local water utility or major water utility has provided consent in writing for the water supply work to be located within the relevant distance specified in column 5 of Table A; or
 - (f) a hydrogeological study, submitted by the applicant and assessed as adequate by the Minister, demonstrates that the location of the work at a lesser distance will have no more than minimal impact on existing authorised extraction from the groundwater source.
- (3) An approval granted or amended under subclause (2) (f) must be subject to a requirement that, at any time 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.

Table A – Distance restrictions to minimise interference between water supply works

Column 1 Groundwater Source	Column 2 Distance restriction from an approved water supply work nominated by another access licence (metres)	Column 3 Distance restriction from an approved water supply work for basic landholder rights (metres)	Column 4 Distance restriction from the property boundary (metres)	Column 5 Distance restriction from an approved water supply work nominated by a local water utility or major utility access licence (metres)	Column 6 Distance restriction from a NSW Office of Water observation bore (metres)
Botany Sands Groundwater Source	200	50	50	300	200
Coxs River Fractured Rock Groundwater Source	400 for works extracting greater than 20 ML/year, or 200 for works extracting less than 20 ML/year	200	100	500	400
Goulburn Fractured Rock Groundwater Source	400	200	100	500	400
Hawkesbury Alluvium Groundwater Source	200	200	100	500	100
Maroota Tertiary Sands Groundwater Source	100	50	50	500	20
Metropolitan Coastal Sands Groundwater Source	200	50	50	300	200
Sydney Basin Blue Mountains Groundwater Source	400	100	50	1,000	200
Sydney Basin Central Groundwater Source	400	100	50	1,000	200
Sydney Basin Coxs River Groundwater Source	400	100	50	1,000	200
Sydney Basin Nepean Groundwater Source	400	100	50	1,000	200

Column 1 Groundwater Source	Column 2 Distance restriction from an approved water supply work nominated by another access licence (metres)	Column 3 Distance restriction from an approved water supply work for basic landholder rights (metres)	Column 4 Distance restriction from the property boundary (metres)	Column 5 Distance restriction from an approved water supply work nominated by a local water utility or major utility access licence (metres)	Column 6 Distance restriction from a NSW Office of Water observation bore (metres)
Sydney Basin North Groundwater Source	400	100	50	1,000	200
Sydney Basin Richmond Groundwater Source	400	100	50	1,000	200
Sydney Basin South Groundwater Source	400	100	50	1,000	200

40 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 3;
 - (b) between 250 metres and 500 metres of the plume associated with a contamination source listed in Schedule 3, unless the Minister is satisfied that no drawdown of water will occur within 250 metres of the plume associated with the contamination source; or
 - (c) at a distance specified by the Minister that is more than 500 metres from the plume associated with a contamination source listed in Schedule 3, if a greater distance is determined by the Minister to be necessary to protect a water source, the environment or public health or safety.
- (2) The distance restrictions specified in subclause (1) in relation to the grant or amendment of a water supply work approval do not apply if the Minister is satisfied that:
 - (a) the distance of the water supply work is adequate to protect the water 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) Water supply work approvals granted or amended to authorise the construction of new water supply works in the following groundwater sources must require that the water supply work be constructed to seal off the shale aquifer in the method specified by the Minister so as to minimise the impact on water quality from saline interception in the shale aquifers overlying the following groundwater sources:
- (a) Sydney Basin Blue Mountains Groundwater Source;
 - (b) Sydney Basin Central Groundwater Source;
 - (c) Sydney Basin Cocks River Groundwater Source;
 - (d) Sydney Basin Nepean Groundwater Source;
 - (e) Sydney Basin North Groundwater Source;
 - (f) Sydney Basin Richmond Groundwater Source; or
 - (g) Sydney Basin South Groundwater Source.

41 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 4 in the case of a water supply work solely for basic landholder rights;
 - (b) within 200 metres of a high priority groundwater dependent ecosystem listed in clause 1 of Schedule 4 in the case of a water supply work not solely for basic landholder rights;
 - (c) at a distance specified by the Minister that is more than 200 metres from a high priority groundwater dependent ecosystem listed in clause 1 of Schedule 4, excluding a water supply work solely for basic landholder rights, if the Minister is satisfied that the water supply work is likely to cause drawdown at the perimeter of that groundwater dependent ecosystem;
 - (d) within 500 metres of a high priority karst environment groundwater dependent ecosystem listed in clause 2 of Schedule 4;
 - (e) at a distance specified by the Minister that is more than 500 metres from a high priority karst environment groundwater dependent ecosystem listed in clause 2 of Schedule 4,

- excluding a water supply work solely for basic landholder rights, if the Minister is satisfied that the water supply work is likely to cause drawdown at the perimeter of that high priority karst environment groundwater dependent ecosystem;
- (f) within 40 metres of the top of the high bank of a lagoon or any third order or higher order stream;
 - (g) within 40 metres of a first or second order stream, unless:
 - (i) the water supply work is drilled into the underlying parent material and the slotted intervals of the work commence deeper than 30 metres; or
 - (ii) the Minister is satisfied that a hydrogeological study, submitted by the applicant and assessed as adequate by the Minister, demonstrates that the water supply work will have no more than minimal impact on base flows in the river; or
 - (h) within 100 metres from the top of an escarpment.
- (2) The distance restrictions specified in subclauses (1) (a) and (1) (b) in relation to the grant or amendment of a water supply work approval do not apply if the Minister is satisfied that no more than minimal drawdown of water will occur at the perimeter of any groundwater dependent ecosystem listed in clause 1 of Schedule 4 of this Plan as a result of the grant or amendment of the water supply work approval.
- (3) A water supply work approval granted or amended pursuant to subclause (2) must be subject to a requirement that, at any time when directed by the Minister by notice in writing, the approval holder must undertake all actions required by the Minister and specified in the notice, if the Minister is satisfied that the water supply work is causing drawdown of water at the perimeter of any groundwater dependent ecosystem listed in clause 1 of Schedule 4 of this Plan.
- (4) The distance restrictions specified in subclauses (1) (a) and (1) (b) do not apply if the relevant high priority groundwater dependent ecosystem is a high priority endangered ecological vegetation community listed in Table E of clause 1 of Schedule 4 and it is located in one of the groundwater sources listed below, provided that the water supply work approval requires the water supply work to be constructed and maintained using an impermeable pressure cement seal from the surface of the land to a minimum depth of 30 metres:
- (a) Coxs River Fractured Rock Groundwater Source;
 - (b) Goulburn Fractured Rock Groundwater Source;
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- (c) Sydney Basin Blue Mountains Groundwater Source;
 - (d) Sydney Basin Central Groundwater Source;
 - (e) Sydney Basin Cocks River Groundwater Source;
 - (f) Sydney Basin Nepean Groundwater Source;
 - (g) Sydney Basin North Groundwater Source;
 - (h) Sydney Basin Richmond Groundwater Source; and
 - (i) Sydney Basin South Groundwater Source.
- (5) The distance restrictions specified in subclause (1) in relation to the grant or amendment of a water supply work approval do not apply if the Minister is satisfied that:
- (a) the water supply work is only 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 local water utility for the purposes 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 groundwater dependent ecosystems.
- (6) 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 purposes of subclause (2), no drawdown of water will occur at the perimeter of any groundwater dependent ecosystem listed in clause 1 of Schedule 4; or
 - (b) for the purposes of subclause (5) (d), the location of the water supply work at a lesser distance would result in no greater impact on these groundwater sources and any groundwater dependent ecosystems listed in Schedule 4.

Note. Part 12 allows for amendments to be made to clause 41.

42 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 solely for basic landholder rights; or
 - (b) 200 metres of a groundwater dependent culturally significant site in the case of a water supply work not solely for basic landholder rights.

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 amendment of a water supply work approval.

- (2) The distance restrictions specified in subclause (1) do not apply to the granting or amendment of a water supply work approval if the Minister is satisfied that:
 - (a) the water supply work is only 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 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 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 water sources and their groundwater dependent culturally significant sites.

43 Rules for water supply works located near a groundwater dependent culturally significant site which is also a high priority groundwater dependent ecosystem

- (1) This clause applies to the grant or amendment of a water supply work approval to authorise the construction of a water supply work which, in the Minister's opinion, is located near a groundwater dependent culturally significant site which is also a high priority groundwater dependent ecosystem listed in clause 1 or 2 of Schedule 4.

- (2) In the case of a groundwater dependent culturally significant site which is also a high priority groundwater dependent ecosystem listed in clause 1 of Schedule 4, the more restrictive of the distance restrictions specified in clauses 41 (1) (a) and 42 (1) (a) apply in relation to the grant or amendment of a water supply work approval for a water supply work solely for basic landholder rights.
- (3) In the case of a groundwater dependent culturally significant site which is also a high priority groundwater dependent ecosystem listed in clause 1 of Schedule 4, the more restrictive of the distance restrictions specified in clause 41 (1) (b) and 42 (1) (b) apply in relation to the grant or amendment of a water supply work approval for a water supply work not solely for basic landholder rights.
- (4) In the case of a groundwater dependent culturally significant site which is also a high priority karst environment groundwater dependent ecosystem listed in clause 2 of Schedule 4, the more restrictive of the distance restrictions referred to in clauses 41 (1)(c) and 42 (1)(b) apply in relation to a water supply work not solely for basic landholder rights.

44 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 distance restriction specified in clauses 39 - 42 must not, in any water year, take more water than the volume of water that is equal to the sum of the share components of any 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 39 - 42 as a result of amendment to this Plan must not, in any water year, take more water than the volume of water that is equal to the sum of the share components of any access licences nominating that water supply work at the date of the amendment.
- (3) Subclauses (1) and (2) do not apply where a restricted distance does not apply in accordance with clause 39 (2), 40 (2), 41 (4) or (5), or 42 (2).

Notes.

- 1 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 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.
- 2 Part 12 allows for amendments to be made to clause 44.

Part 10 Access licence dealing rules

45 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.

46 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 in these groundwater sources.

47 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:
 - (a) in the Minister's opinion, the dealing would adversely affect the water levels in an aquifer, the quality of water in an aquifer, the ability to prevent land subsidence or compaction in an aquifer, groundwater-dependent ecosystems, or the pressure or pressure recovery of an aquifer to the extent that a temporary water restriction order may need to be made under the Act;
 - (b) the dealing involves an assignment of rights from an access licence with an extraction component that specifies Management Zone 2 in the Botany Sands Groundwater Source to an access licence with an extraction component that specifies Management Zone 1 in the Botany Sands Groundwater Source; or
 - (c) the dealing involves an assignment of rights from an access licence with an extraction component that specifies Nepean Management Zone 2 in the Sydney Basin Nepean Groundwater Source to an access licence with an extraction component that specifies Nepean Management Zone 1 in the Sydney Basin Nepean Groundwater Source and the dealing would cause the total share components of access licences in the Nepean

Management Zone 1 to exceed the total share components of access licences in that management zone at the commencement of this Plan.

Note. Part 12 allows for amendments to be made to clause 47.

48 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 in these groundwater sources.

49 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:
 - (a) in the Minister's opinion, the dealing would adversely affect the water levels in an aquifer, the quality of water in an aquifer, the ability to prevent land subsidence or compaction in an aquifer, groundwater-dependent ecosystems, or the pressure or pressure recovery of an aquifer to the extent that a temporary water restriction order may need to be made under the Act;
 - (b) the dealing involves an access licence with an extraction component that specifies Management Zone 2 in the Botany Sands Groundwater Source being varied to specify Management Zone 1 in the Botany Sands Groundwater Source; or
 - (c) the dealing involves an access licence with an extraction component that specifies Nepean Management Zone 2 in the Sydney Basin Nepean Groundwater Source being varied to specify Nepean Management Zone 1 in the Sydney Basin Nepean Groundwater Source and the dealing would cause the total share components of access licences in the Nepean Management Zone 1 to exceed the total share components of access licences in that management zone at the commencement of this Plan.

Note. Part 12 allows for amendments to be made to clause 49.

50 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 water source under section 71T of the Act are prohibited if:

- (a) in the Minister's opinion, the dealing would adversely affect the water levels in an aquifer, the quality of water in an aquifer, the ability to prevent land subsidence or compaction in an aquifer, groundwater-dependent ecosystems, or the pressure or pressure recovery of an aquifer to the extent that a temporary water restriction order may need to be made under the Act;
 - (b) the dealing involves an assignment of water allocation from an access licence with an extraction component that specifies Management Zone 2 in the Botany Sands Groundwater Source, to an access licence with an extraction component that specifies Management Zone 1 in the Botany Sands Groundwater Source; or
 - (c) the dealing involves an assignment of water allocation from an access licence with an extraction component that specifies the Nepean Management Zone 2 in the Sydney Basin Nepean Groundwater Source, to an access licence with an extraction component that specifies the Nepean Management Zone 1 in the Sydney Basin Nepean 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 Nepean Management Zone 1 from available water determinations or dealings under section 71T of the Act in that water year, to exceed the sum of the share components of all access licences with extraction components that specified the Nepean Management Zone 1 at the date of commencement of this Plan.
- (3) Dealings between water sources under section 71T of the Act are prohibited in these groundwater sources.

Note. Part 12 allows for amendments to be made to clause 50.

51 Interstate access licence transfer 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 under section 71U or 71V of the Act are prohibited in these groundwater sources.

52 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:
 - (a) in the Minister's opinion, the dealing would adversely affect the water levels in an aquifer, the quality of water in an aquifer, the ability to prevent land subsidence or
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compaction in an aquifer, groundwater-dependent ecosystems, or the pressure or pressure recovery of an aquifer to the extent that a temporary water restriction order may need to be made under the Act;

- (b) the dealing involves an access licence which currently nominates a water supply work in Management Zone 2 of the Botany Sands Groundwater Source being amended to nominate a water supply work located in Management Zone 1 of the Botany Sands Groundwater Source; or
- (c) the dealing involves an access licence which currently nominates a water supply work in the Nepean Management Zone 2 of the Sydney Basin Nepean Groundwater Source being amended to nominate a water supply work in the Nepean Management Zone 1 of the Sydney Basin Nepean Groundwater Source, if it would cause the sum of share components of all access licences in the Nepean Management Zone 1 to exceed the sum of share components of all access licences in the Nepean Management Zone 1 at the date of commencement of this Plan.

Part 11 Mandatory conditions

Division 1 Access licences

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

53 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 Division 1 of Part 8 of this Plan for the respective category or subcategory of access licence;
 - (b) that 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) that the holder of an access licence must keep a Logbook or other method of recording usage data approved by the Minister;
 - (d) for the purpose of paragraph (c), if the holder of an access licence keeps a Logbook, that the holder of an access licence must record the following in the Logbook:
 - (i) each date on 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 water on that date;
 - (iv) the purpose or purposes for which the water was taken on that date;
 - (v) any other information required to be recorded in the Logbook under the rules of this Plan;
 - (e) for the purpose of paragraph (c), if the holder of an access licence keeps a Logbook, that the holder of an access licence must produce the Logbook to the Minister for inspection, when requested;
 - (f) that the holder of an access licence must retain the information required to be recorded in the Logbook for 5 years from the date to which that information relates;
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- (g) that the holder of an access licence must notify the Minister, in writing, immediately upon becoming aware of a breach of any condition of the licence; and
 - (h) any other conditions required to implement the provisions of this Plan.
- (2) 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 communities for personal, domestic or communal purposes, including drinking, food preparation, washing, manufacturing traditional artefacts, watering domestic gardens, cultural teaching, hunting, fishing, and gathering, and for recreational, cultural and ceremonial purposes.
- (3) An access licence for a project under Part 3A of the *Environmental Planning and Assessment Act 1979* must have mandatory conditions where required to give effect to the relevant access rules for the taking of water specified in Division 2 of Part 8 of this Plan.
- (4) For the purpose of this Division, a requirement to notify the Minister in writing is satisfied by making a notification in writing to the addresses listed in Appendix 4 or to the email address for the NSW Office of Water Licensing Enquiries Information Centre.

Notes.

- 1. At the commencement of this Plan, the email address for the Water Licensing Enquiries Information Center is information@water.nsw.gov.au.
- 2. Part 12 of this Plan allows for amendments to be made to clause 54.

Division 2 Water supply work approvals

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

54 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) 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 the taking of water as specified in Part 9 of this Plan;
 - (b) that 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 Standard 4747 as may be updated or replaced from time to time;
- (iii) 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
- (iv) any other requirements as to type, standard or other criteria for the metering equipment specified by the Minister by notice in writing;

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

- (c) if the approval holder does not have metering equipment installed that meets the requirements of subclause (b), that the holder of a water supply work approval must keep a Logbook or other method of recording usage data approved by the Minister;
- (d) for the purpose of paragraph (c), if the holder of an access licence keeps a Logbook, that the holder of a water supply work approval must record the following in the Logbook:
 - (i) each date on 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 the water was taken under some other authority (such as basic landholder rights entitlement), 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 by reference to the date on which 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;
- (e) that the holder of the water supply work approval must produce the Logbook to the Minister for inspection, when requested;
- (f) that the holder of a water supply work approval must retain the information required to be recorded in the Logbook for 5 years from the date to which that information relates;
- (g) 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 daily access rules specified in Division 2 of Part 8 do not prohibit the taking of water and records that confirmation, and the means of confirmation (such as visual inspection or internet search), in the Logbook;
- (h) the rules for the use of water supply works located within restricted distances as specified in clause 44;
- (i) 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 39 - 42;

Note. If the work has been exempted by the Minister from one or more distance restrictions specified in Part 9, then the approval holder must be able to demonstrate the basis for that exemption, for example, if the exemption refers to a hydrogeological study which demonstrates that the location of the work will have no more than minimal impact to the satisfaction of the Minister, then evidence must be able to be provided to that effect.
 - (ii) comply with the construction standards prescribed for the relevant type of bore in the *Minimum Construction Requirements for Water Bores in Australia*, 2003, ISBN 1 9209 2009 9, as may be amended from time to time, or any standards which supersede those standards; and
 - (iii) prevent contamination between aquifers through appropriate construction;
- (j) the approval holder must ensure that if the water supply work is abandoned or replaced that 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 amended or replaced from time to time, unless otherwise directed by the Minister in writing;

- (k) within two months of the decommissioning of the water supply work, the approval holder must notify the Minister, in writing, that the work has been decommissioned;
- (l) 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 approval if the 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 bore;
 - (ii) details of geology and construction on the approved form;
 - (iii) details of the location of the work on a copy of the lot and deposited plan of land, its geographical reference accurate to ± 5 metres, and the respective distance(s) of the 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;
- (m) 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 in writing 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 work, and, if specified by the Minister, placing an impermeable seal between the casing(s) and the walls of the work from the bottom of the casing to ground level in accordance with any requirements specified by the Minister; and
 - (iv) if the Minister has specified any other requirements, comply with any requirements specified by the Minister;

- (n) 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;
 - (o) that the water supply work approval will lapse if construction of the water supply work is not completed within three years of the issue of the water supply work approval that authorises the construction of the work; and
 - (p) any other conditions required to implement the provisions of this Plan.
- (2) A water supply work approval granted under clause 39 (2) (f) must have a mandatory condition to give effect to clause 39 (3).
- (3) A water supply work approval for a replacement groundwater work must 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 38.
- (4) For the purpose of this Division, a requirement to notify the Minister in writing is satisfied by making a notification in writing to the addresses listed in Appendix 4 or the email address for the NSW Office of Water Licensing Enquiries Information Centre.

Notes.

1. At the commencement of this Plan, the email address for the Water Licensing Enquiries Information Center is information@water.nsw.gov.au.
2. Part 12 of this Plan allows for amendments to be made to clause 54.

Part 12 Amendment of this Plan

55 General

- (1) Amendments specified throughout this Plan, and in this Part, are amendments authorised by this Plan.
- (2) 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.

56 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 to modify (including to amend the boundaries thereof included in this Plan) or remove an existing groundwater source or water management area (including part thereof);
- (b) add, remove or modify a management zone, including the water sources to which a management zone applies and the boundaries of such a zone; and
- (c) amend the Registered Map.

57 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 by the NSW Office of Water or assessed as adequate by the Minister.

Note. 'Recharge studies' may include a review of the period of rainfall data used in recharge calculations.

58 Part 6

Part 6 may be amended to modify the long-term average annual extraction limits as a result of recharge studies undertaken by the NSW Office of Water.

59 Part 7

Part 7 may be amended to provide rules for the granting of access licences where the right to apply has been acquired under section 65 of the Act.

60 Part 8

Part 8 may be amended to amend clause 34 to establish water allocation account rules for the water allocation accounts of major utility access licences, if a major utility access licence is granted under Part 7.

61 Part 9

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

- (a) amend the definition of a replacement groundwater work in clause 38;
- (b) add, remove or modify a restricted distance specified in:
 - (i) clause 39 after year 5 of this Plan; or
 - (ii) clause 41 based on the outcomes of further studies of groundwater ecosystem dependency that have been assessed as adequate by the Minister; and
- (c) amend clause 44 to impose restrictions on the rate and timing of extraction of water from water supply works in these water sources to mitigate impacts of extraction.

62 Part 11

Clause 54 may be amended to specify different standards for decommissioning water supply works or construction requirements for water supply works.

63 Schedules

- (1) Schedule 1 may be amended to add, modify and/or remove a definition.
- (2) Schedule 2 may be amended to do any of the following:
 - (a) add a new access licence to clause 1 of Schedule 2, provided that a written request has been made to the Minister, and the Minister is satisfied that extraction under the licence is for a purpose listed in clause 36 (4) and that the purpose was specified on, or referred to in the conditions of, the former *Water Act 1912* entitlement that was replaced by the access licence;
 - (b) add a local water utility access licence to clause 2 of Schedule 2 provided the Minister is satisfied that the water supply system used to extract, store and deliver water has not undergone major augmentation after the commencement of this Plan;

- (c) remove an access licence or entitlement from Schedule 2 if:
 - (i) an access licence dealing results in the water under the licence being taken from a different location; or
 - (ii) an alternate water supply is obtained; or
 - (iii) the licence is surrendered or cancelled or its purpose ceases to exist; or
 - (d) remove a local water utility access licence or entitlement from clause 2 of Schedule 2 if the Minister is satisfied that the water supply system used to extract, store and deliver water has undergone major augmentation after the commencement of this Plan.
- (3) Schedule 2 may be deleted if the Minister is satisfied that it is no longer required.
 - (4) Schedule 3 may be amended to add or remove a contamination source.
 - (5) Schedule 4 may be amended to add or remove a:
 - (a) high priority groundwater dependent ecosystem;
 - (b) high priority endangered ecological vegetation community; and
 - (c) high priority karst environment groundwater dependent ecosystem.

64 Other

- (1) This Plan may be amended to provide for managed aquifer recharge.

Note. Managed Aquifer Recharge schemes involve taking poor quality 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.
- (2) This Plan may be amended to establish system operation rules if a major utility (subcategory “urban water”) access licence is issued to Sydney Catchment Authority in these groundwater sources.
- (3) This Plan may be amended to allow for the granting of aquifer interference approvals and the management of aquifer interference activities.
- (4) Consequential amendments may be made to this Plan as a result of an amendment to the Act or Regulation.

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.

cave means natural cavities that have developed in rock through the processes of solution, abrasion or collapse, together with its associated bedrock, soil, water, gases and biodiversity.

contamination source is where a groundwater source (or part thereof) has a substance present within it at a concentration above that at which the substance is normally present, and at a level that presents a risk of harm to human health, the environment or at a level which reduces the beneficial use of the groundwater source.

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 means 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.

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

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

karst means a type of cave formed by the greater solubility of certain rocks in natural waters than is common, often in limestone and other carbonates.

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 in this Plan.

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

monitoring bore means a bore constructed for the purpose of measuring water levels and/or taking samples for water quality analysis.

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

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

replacement groundwater work has the same meaning as in clause 38 (2).

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.

stream order means the stream order defined by the Strahler stream ordering method.

Note. The Strahler stream ordering method is described in the Order made under section 5 of the *Water Act 1912* published in the NSW Government Gazette No 37 on 24 March 2006 page 1500, or as may be amended or updated from time to time by further order.

visible flow means the continuous downstream movement of water that is perceptible to the eye.

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 Access licences exempt from access rules

1 General

This clause applies to each access licence which replaces a *Water Act 1912* entitlement listed in Table B below.

Table B – *Water Act 1912* entitlements that will be replaced by access licences on commencement of this Plan

<i>Water Act 1912</i> entitlements that will be replaced by access licences on commencement of this Plan			
Coxs River Fractured Rock Groundwater Source			
10BL158202	10BL158309	10BL157896	
Goulburn Fractured Rock Groundwater Source			
10BL159255	10BL022157	10BL145130	10BL161571
10BL028867	10BL112647	10BL110679	10BL158686
10BL158851	10BL160271	10BL158094	10BL602886
10BL165336	10BL138984	10BL141350	10BL162935
10BL159937	10BL602579	10BL165771	10BL160223
10BL005395	10BL019090	10BL109434	
Hawkesbury Alluvium Groundwater Source			
10BL006958	10BL156724	10BL165826	10BL158962
10BL006443			
Metropolitan Coastal Sands Groundwater Source			
10BL158800	10BL022307		
Sydney Basin Central Groundwater Source			
10BL007801	10BL011016	10BL006244	10BL008216
10BL023120	10BL125579	10BL156756	10BL005730
10BL007658	10BL132553	10BL151406	10BL141852
10BL152556	10BL601335	10BL134541	10BL155289
10BL126198	10BL156720	10BL162792	10BL160974
10BL159779	10BL006444	10BL007915	10BL024430
10BL133195	10BL157895	10BL145262	10BL161488
10BL007027	10BL007713	10BL121786	10BL157821
10BL130066	10BL133175		
Sydney Basin Cox River Groundwater Source			
10BL159911			

Water Act 1912 entitlements that will be replaced by access licences on commencement of this Plan

Sydney Basin Nepean Groundwater Source

10BL133477	10BL159144	10BL156255	10BL131151
10BL163859	10BL601000	10BL602808	10BL158700
10BL130517	10BL140653	10BL136028	10BL156326
10BL160122	10BL164835	10BL602170	10BL004829
10BL602381	10BL007443	10BL005801	10BL013021
10BL029468	10BL028790	10BL101591	10BL105947
10BL107520	10BL126563	10BL125091	10BL138026
10BL136306	10BL135102	10BL137133	10BL137289
10BL156272	10BL151755	10BL158500	10BL142887
10BL143169	10BL143170	10BL152432	10BL153010
10BL161365	10BL143175	10BL159269	10BL161810
10BL159331	10BL158592	10BL158593	10BL157906
10BL157913	10BL600072	10BL600236	10BL143539
10BL151067	10BL139654	10BL139175	10BL152407
10BL143272	10BL021843	10BL158695	10BL156149
10BL158484	10BL013077	10BL007993	10BL008503
10BL021199	10BL022082	10BL157996	10BL140632
10BL132804	10BL132803	10BL160627	10BL132930
10BL159239	10BL159965	10BL159216	10BL131271
10BL160900	10BL159929	10BL005768	10BL006201
10BL013978	10BL107043	10BL118334	10BL123160
10BL140702	10BL153152	10BL157389	10BL151088
10BL007938			

Sydney Basin North Groundwater Source

10BL158638	80BL241009	10BL158177	10BL133197
20BL158909			

Sydney Basin Richmond Groundwater Source

10BL123798	10BL127644	10BL141853	10BL156816
10BL158516	10BL157085	10BL156697	10BL156402
10BL161960	10BL137809	10BL156904	10BL157597
10BL156820	10BL158186	10BL024689	10BL156353
10BL157476	10BL130065	10BL133014	

Sydney Basin South Groundwater Source

10BL014324	10BL134409	10BL132556	10BL158244
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Water Act 1912 entitlements that will be replaced by access licences on commencement of this Plan			
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10BL005331	10BL011734	10BL020421	10BL102032
10BL004565	10BL015207	10BL016728	10BL028688
10BL006785	10BL015208	10BL603163	10BL100102
10BL603068	10BL603053	10BL022804	10BL110033
10BL603618	10BL601492	10BL018349	10BL022870
10BL145390	10BL159408	10BL023306	10BL020438
10BL007596	10BL158959	10BL023728	10BL023229
10BL008980	10BL008474	10BL023231	10BL024718
10BL157659	10BL022543	10BL153724	

2 Local water utility or major water utility access licences

This clause applies to each access licence which replaces a *Water Act 1912* entitlement listed in Table C below.

Table C – Water Act 1912 entitlements that will be replaced by access licences on commencement of this Plan

Water Act 1912 entitlements that will be replaced by local water utility access licences or major utility access licences on commencement of this Plan	
Goulburn Fractured Rock Groundwater Source	
10BL602201	10BL602202
Sydney Basin Nepean Groundwater Source	
10BL156289	10BL160036
Sydney Basin Richmond Groundwater Source	
10BL156083	10BL165872

Schedule 3 Contamination sources in these groundwater sources

Contamination sources in these groundwater sources include:

- (a) on site sewage disposal systems or septic tanks;
- (b) any sites where contamination has been assessed as presenting a significant risk of harm under *Contaminated Land Management Act 1997*;
- (c) any sites with an historical use listed in Table 1 of “*Managing Land Contamination. Planning Guidelines SEPP 55 – Remediation of Land*”; and
- (d) any relevant sites listed in an agency database relating to contamination sources.

Schedule 4 High priority groundwater dependent ecosystems

Note. High priority groundwater dependent ecosystems (*GDEs*), including high priority cave environment GDEs and high priority karst environment 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's GDE Register and, as a precautionary approach, will be considered in the assessment of any application for a water supply works approval within the Plan area. 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 D and Table E below.

Notes.

- 1 The approximate location of GDEs listed in Column 1 of Table D is provided as (i) Northings and Eastings in Columns 2 and 3 of Table D, and/or (ii) a location description in Column 4 of Table D.
- 2 Where a GDE listed in Column 1 of Table D is comprised of numerous individual sites, Northings and Eastings have not been provided in Columns 2 and 3 of Table D.
- 3 The approximate location of GDEs listed in Column 1 of Table D are shown on the maps in Appendix 2.

Table D – High priority groundwater dependent ecosystems

Column 1 High priority groundwater dependent ecosystem	Column 2 Northing (GDA 94)	Column 3 Easting (GDA 94)	Column 4 Location	Column 5 Note. Conservation Status at the commencement of this Plan	Column 6 Area (ha)
Black Springs	732238	6161184	Northwest of Goulburn on the Wollondilly River		
Botany Wetlands Note. Botany Wetlands include Lachlan Swamps, Mill Pond, Mill Stream and Engine Pond.	335174	6243804	Estuarine wetland located on the northern shore of Botany Bay, from Gardeners Road Mascot to the Bay. Elevation: 0 - 12 m ASL.	Part of the Sydney Freshwater Wetlands of the Sydney Basin Bioregion, which is an endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i> .	64.0
Boyd Plateau Bogs Note. Boyd Plateau Bogs include Little Dingo Swamp, Wheengee Whungee Swamps, Little Morong Bog and Roly Whalans Swamp.	225872	6241458	Located in shallow headwater valleys on the Boyd Plateau.	Part of the Montane peatlands and swamps of the Sydney Basin Bioregion, which is an endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i> .	

Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011

Column 1 High priority groundwater dependent ecosystem	Column 2 Northing (GDA 94)	Column 3 Easting (GDA 94)	Column 4 Location	Column 5 Note. Conservation Status at the commencement of this Plan	Column 6 Area (ha)
Budderoo National Park and Barren Grounds Nature Reserve heath swamps	286199	6161444	Located approximately 15 km south-west of Robertson.	Part of Budderoo National Park and Barren Grounds Nature Reserve.	1150.0
Coomonderry Swamp	292781	6145133	Large semi-permanent freshwater swamp located north-east of Nowra.	Listed on the Register of the National Estate.	428.896
Coonemia Creek	290114	6128425	Coastal lagoon wetlands, feeder stream for Wollumboola Lake, located 3 km north of Jervis Bay.	SEPP14 wetlands; part of the Sydney Freshwater Wetlands of the Sydney Basin Bioregion, which is an endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i> .	1.258
Cormorant Beach	262659	6068358	Wetland located south of Bawley Point township between Murrumurang Road and Cormorant Beach. Elevation: 0 m ASL. Includes dunal freshwater wetland.	SEPP14 wetland	12.0
Currys Springs	219277	6252369	Located on Great Dividing Range near head of Hollanders River.		0.1
Ferny Spring	227413	6241503	Perennial spring on the head of Little Morong Creek about 1.2 km west by north of Queen Pin Hill.		0.1
Forty Year Spring	339986	6284743	Located 1 km west of Walker Point and about 1.5 km south by east of Junction Hill.		0.1

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Column 1 High priority groundwater dependent ecosystem	Column 2 Northing (GDA 94)	Column 3 Easting (GDA 94)	Column 4 Location	Column 5 Note. Conservation Status at the commencement of this Plan	Column 6 Area (ha)
Kiaramba Spring	221194	6243173	Located on Kiaramba Creek about 1.2 km from where it rises on the northern slopes of Mount Feld.		0.1
Lake Bathurst Note. Lake Bathurst includes The Morass.	197570	6116569	Large, shallow permanent freshwater lake located in the southern tablelands at the southernmost extremity of the Nepean-Hawkesbury catchment approximately 1 km east of the Mulwaree River.		490.764
Lanes Yards Spring	221194	6243173	Located near Hollanders River about 3.2 km northeast of Grave Hill.		0.1
Long Swamp	309888	6280497	Located approximately 20 km west of Moss Vale and approximately 7 km west of Tennyson Park in the catchment which flows into the Wollondilly River and Warragamba Dam.		
Longneck Lagoon	305173	6284101	Freshwater lagoon with channels and pools about 2 -3 metres deep with gently sloping margins. Located on the Hawkesbury River floodplain, approximately 8 km north-east of Windsor.	Part of the Freshwater Wetlands on Coastal Floodplains of the Sydney Basin Bioregion, which is an endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i> .	2.930
Macquarie Rivulet Estuary	289098	6172794	Macquarie Rivulet Estuary is located next to Lake Illawarra. Macquarie Rivulet rises near Robertson, drains the eastern edge of the Southern Highlands plateau and part of the Illawarra escarpment, and flows into Lake Illawarra.		1.077
Minnamurra River Estuary Note. Minnamurra River Estuary includes the Minnamurra River and its adjacent wetland areas.	293892	6163654	Estuarine wetlands located between the towns of Shellharbour to the north and Kiama to the south.	SEPP14 wetlands	52.729

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Column 1 High priority groundwater dependent ecosystem	Column 2 Northing (GDA 94)	Column 3 Easting (GDA 94)	Column 4 Location	Column 5 Note. Conservation Status at the commencement of this Plan	Column 6 Area (ha)
O'Hares Creek Note. O'Hares Creek includes the catchment of O'Hares, Stokes and Four Mile Creeks, downstream to the junction of O'Hares and Stokes Creeks.	305027	6211055	Floodplain wetland located between Appin and Bulli on the Woronora Plateau. Elevation: 100- 450 m ASL.		9000.0
Pitt Town Lagoon	300588	6281233	Wetlands located on the Hawkesbury River floodplain immediately adjacent to the southern edge of Pitt Town, 4 km north-east of Windsor.		41.0
Salt Pan Creek	319132	6241847	Estuarine wetland which flows to Georges River, located in the suburbs of Riverwood and Peakhurst.		1.077
Temperate Highland Peat Swamps on Sandstone Note. Temperate Highland Peat Swamps on Sandstone includes Blue Mountains Sedge Swamps, Butler's Swamp, Newnes Plateau Swamps, Paddy's River Swamps and Wingecarribee Swamp.			Numerous small wetlands located in the Blue Mountains and Newnes Plateau regions. Note. A current list of Temperate Highland Peat Swamps on Sandstone is provided on the Department of Environment, Climate Change and Water's website.	Part of the Montane peatlands and swamps of the Sydney Basin Bioregion, which is an endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i> , listed as an endangered ecological community under section 181 of the <i>Environmental Protection and Biodiversity Conservation Act 1999 (Cth)</i> .	
Thirlmere Lakes Note. Thirlmere Lakes include Gandangarra, Werri-Berri, Couridjah, Baraba and Nerrigorang Lakes.	272861	6211256	Freshwater lakes located on the edge of the Southern tablelands approximately 10 km south west of Picton.		
Towra Point Estuarine Wetlands	329245	6236488	Located approximately 16 km south of Sydney centre. Towra Point adjoins Kurnell Peninsula forming the southern and eastern boundaries of Botany Bay.	Ramsar estuarine wetlands	638.309

Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011

Column 1 High priority groundwater dependent ecosystem	Column 2 Northing (GDA 94)	Column 3 Easting (GDA 94)	Column 4 Location	Column 5 Note. Conservation Status at the commencement of this Plan	Column 6 Area (ha)
Wollumboola Lake	296160	6130411	Large brackish coastal lake which is intermittently connected to the ocean, located 3 km north of Jervis Bay between Shoalhaven River, Jervis Bay and Beecroft Peninsula.		531.744

Table E – High priority endangered ecological vegetation communities

Column 1 High priority endangered ecological vegetation community	Column 2 Conservation Status at the commencement of this Plan
Bangalay Sand Forest	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Castlereagh Swamp Woodland Community	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Cooks River/ Castlereagh Ironbark Forest in the Sydney Basin Bioregion	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Cumberland Plain Woodland	Critically endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Duffys Forest Ecological Community in the Sydney Basin Bioregion	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Kurnell Dune Forest in the Sutherland Shire and City of Rockdale	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Littoral Rainforest in the Sydney Basin Bioregion	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Pittwater Spotted Gum Forest	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
River-Flat Eucalypt Forest on Coastal Floodplains	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Shale Gravel Transition Forest in the Sydney Basin Bioregion	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Swamp Oak Floodplain Forest	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Swamp Sclerophyll Forest on Coastal Floodplains	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>
Sydney Freshwater Wetlands in the Sydney Basin Bioregion Note. The following high priority groundwater dependent ecosystems as specified in Table D are located within the Sydney Freshwater Wetlands in the Sydney Basin Bioregion: Botany Wetlands, Coonemia Creek.	Endangered ecological community listed in the <i>Threatened Species Conservation Act 1995</i>

Note. All high priority endangered ecological vegetation communities in Table E are Endangered Ecological Communities listed in Schedule 1 or Critically Endangered Ecological Communities listed in Schedule 1A of the *Threatened Species Conservation Act 1995* at the commencement of this Plan.

2 High priority karst environment groundwater dependent ecosystems

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

Table F – High priority karst environment groundwater dependent ecosystems

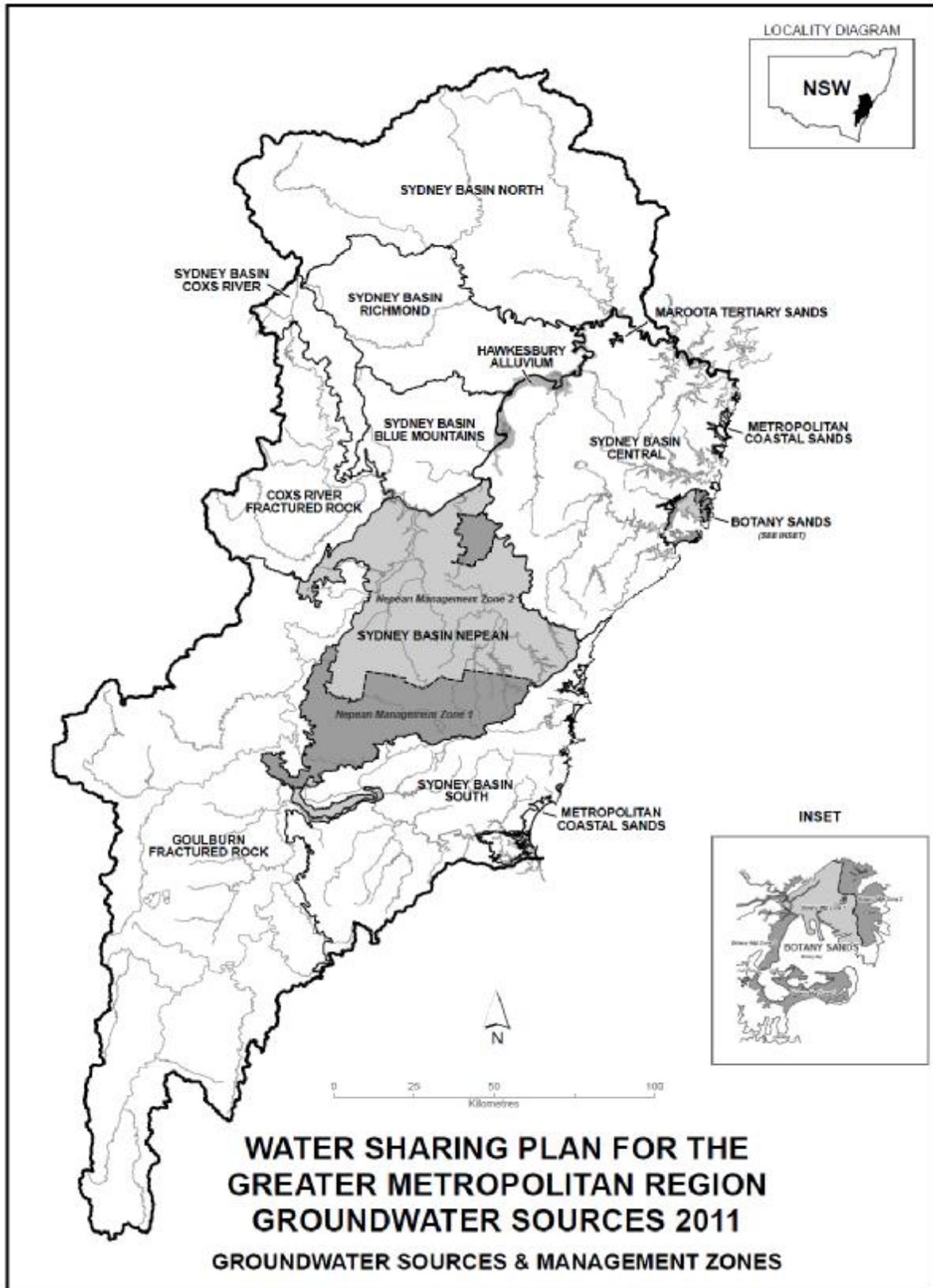
Column 1 High priority groundwater dependent ecosystem (karst)	Column 2 Location
Bendethera	50 km south-west of Bateman's Bay
Billys Creek Caves	50 km south-east of Oberon
Bungonia	35 km east of Goulbourn.
Canyonleigh	30 km east of Taralga.
Capertee Valley	14 km south-east of Capertee
Church Creek Caves	50 km south-east of Oberon
Cleatmore (Cheitmore)	45 km west south-west of Bateman's Bay
Colong Caves	50 km south-east of Oberon
Ettrema & Jones Creek	40 km south-west of Nowra
Hollanders River	25 km south-east of Oberon
Jaunter Caves	North-west and west of Tuglow
Jenolan Caves	23 km south-east of Oberon
Jerrara	Bungonia
Limeburners Flat	10 km east of Colong Caves
Little Wombeyan Creek	14 km north of Wombeyan Caves
Mt Fairy	7 km east north-east of Bungendore

Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011

Column 1 High priority groundwater dependent ecosystem (karst)	Column 2 Location
Murruin Creek	4.5 km west of Colong Caves
Portland	Portland
Tuglow Caves	30 km south-east of Oberon
Wombeyan Caves	16 km north-east of Taralga
Wyanbene	45 km west south-west of Bateman's Bay

Appendix 1 Overview of the Registered Map

Overview of the Registered Map

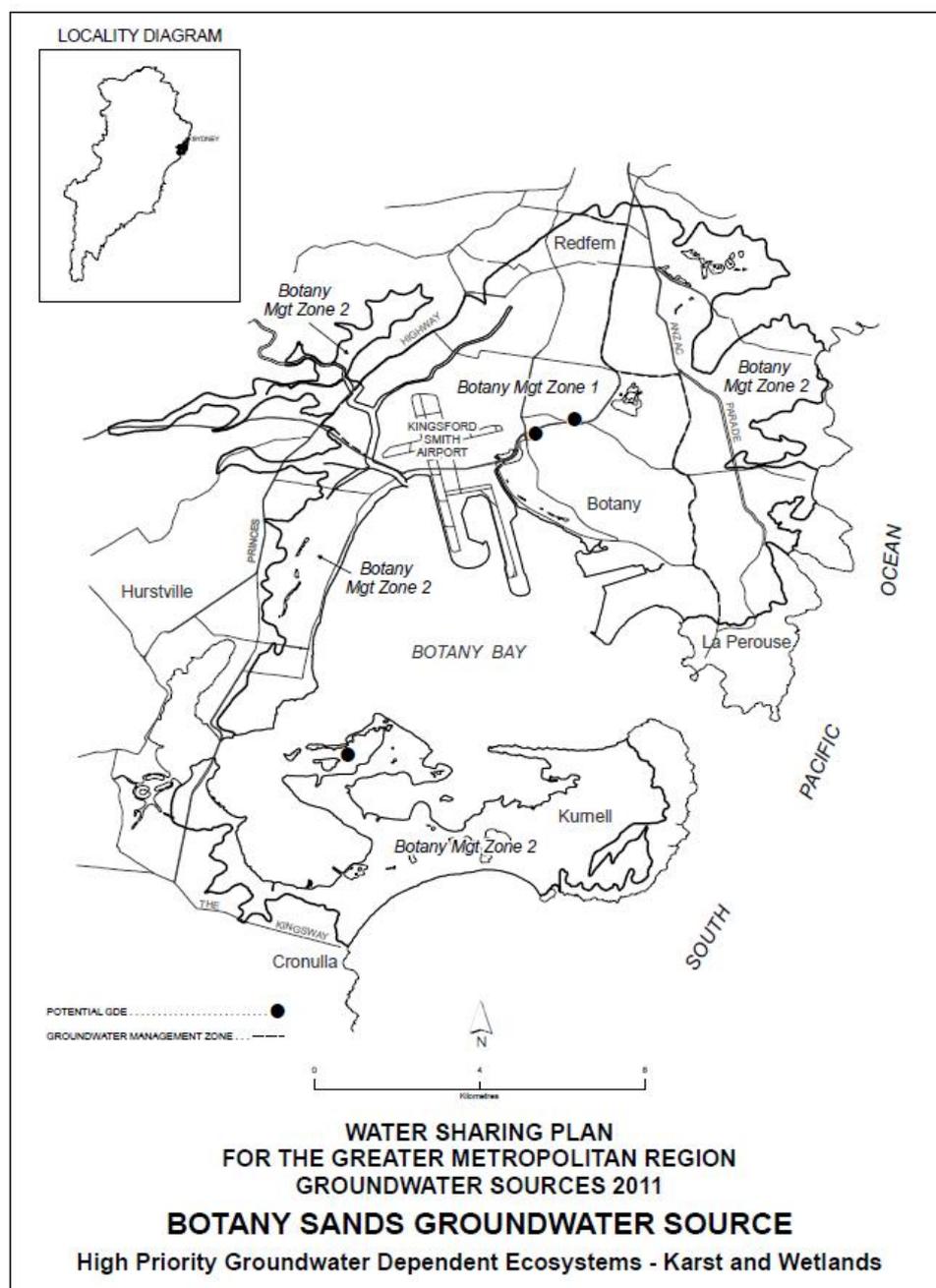


Appendix 2 Groundwater Dependent Ecosystems in the Greater Metropolitan Region

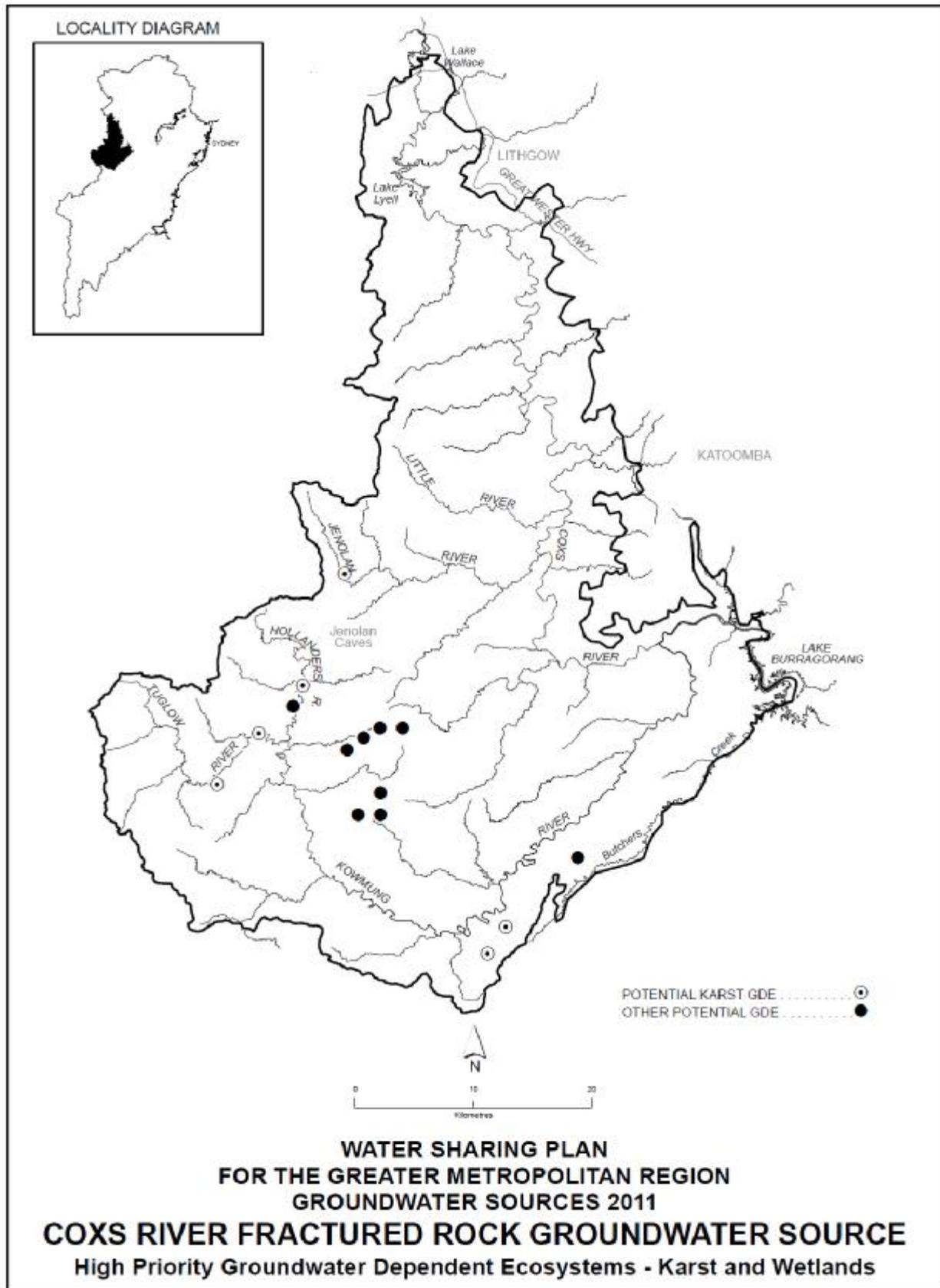
Notes.

1. The maps in this Appendix show the approximate location of the high priority GDEs listed in Column 1 of Table D.
2. The NSW Office of Water is undertaking a further review of the proposed high priority GDEs which may result in some amendment to the ecosystems identified.

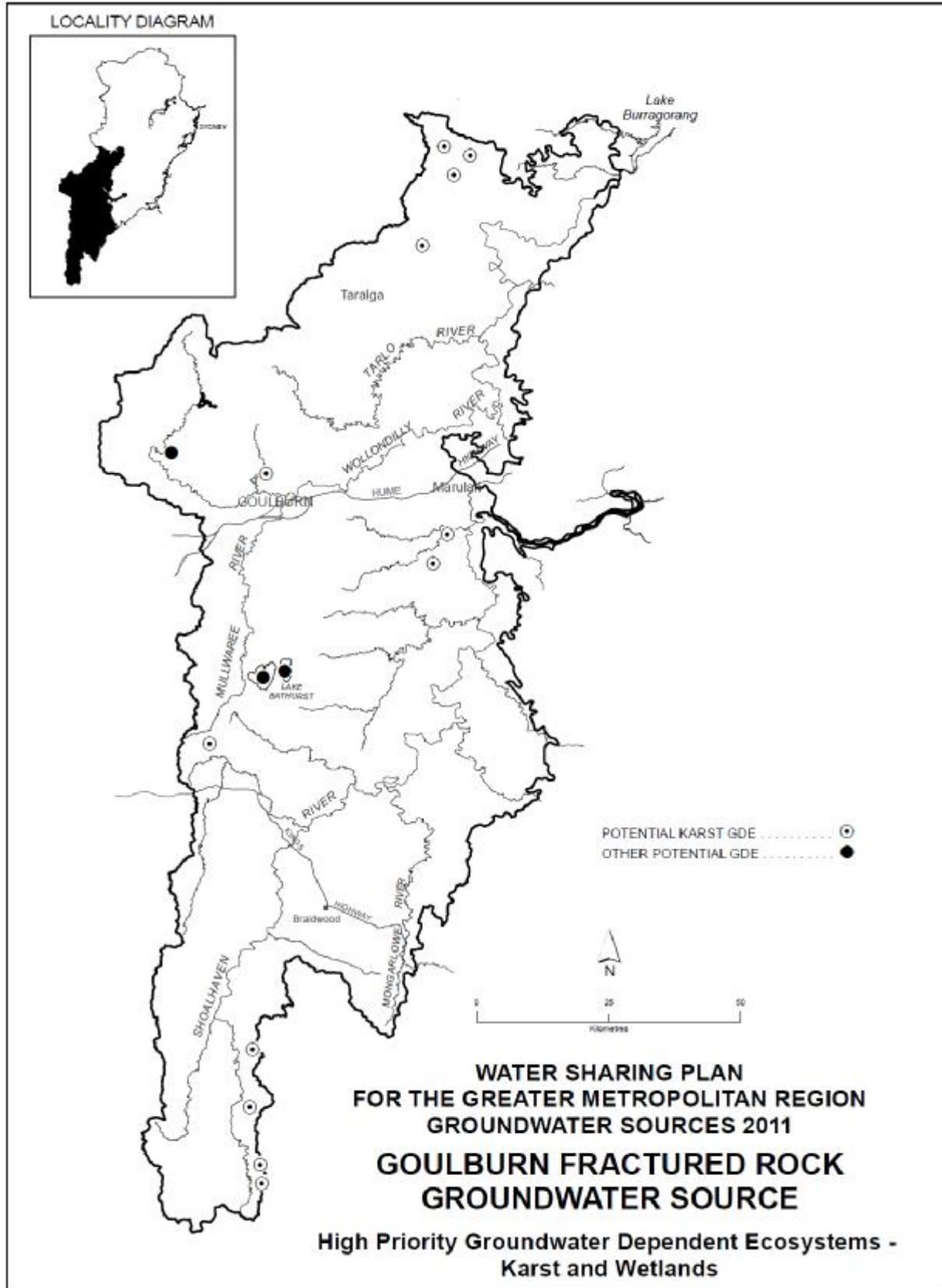
High priority groundwater dependent ecosystems in the Botany Sands Groundwater Source



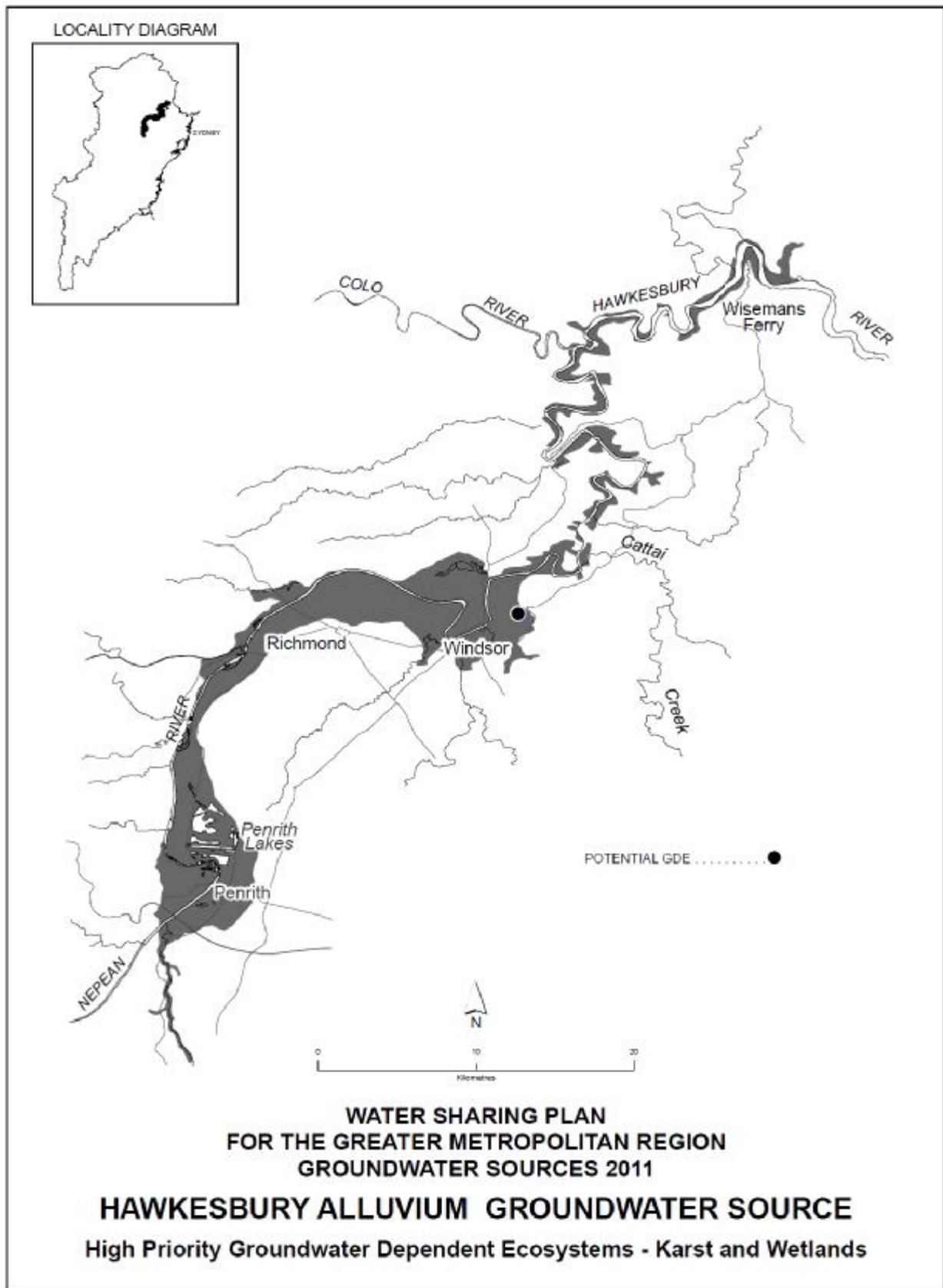
High priority groundwater dependent ecosystems in the Coxs River Fractured Rock Groundwater Source



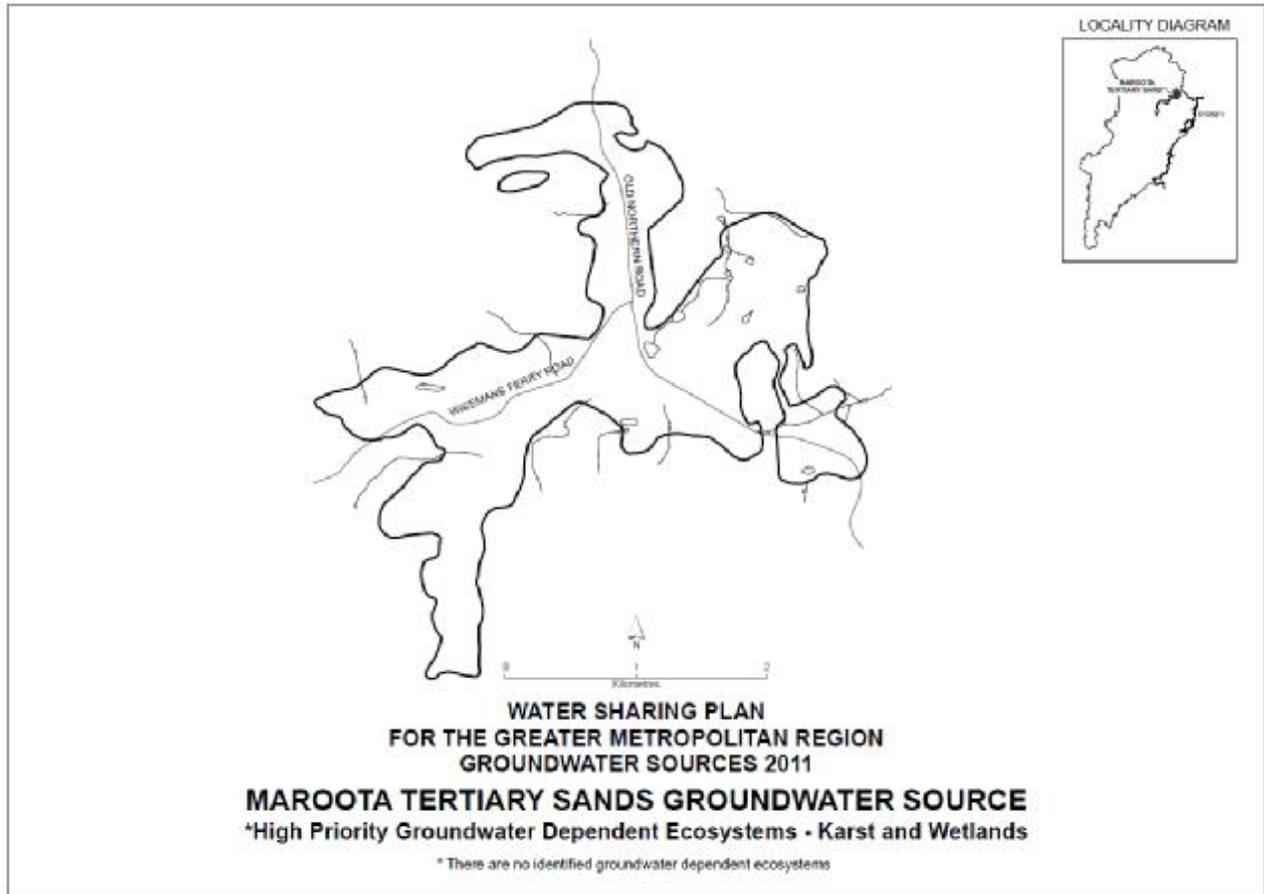
High priority groundwater dependent ecosystems in the Goulburn Fractured Rock Groundwater Source



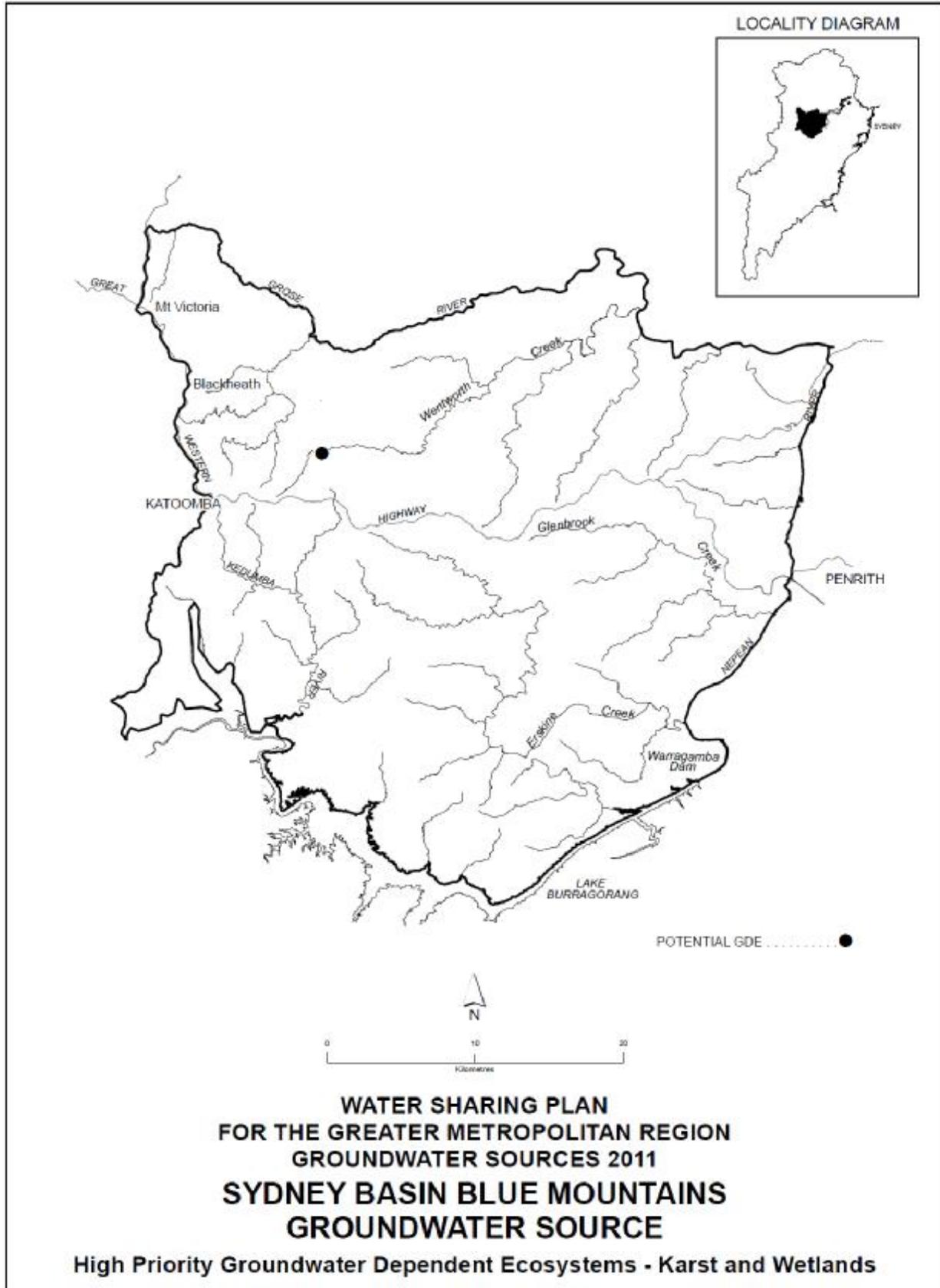
**High priority groundwater dependent ecosystems in the Hawkesbury Alluvium
Groundwater Source**



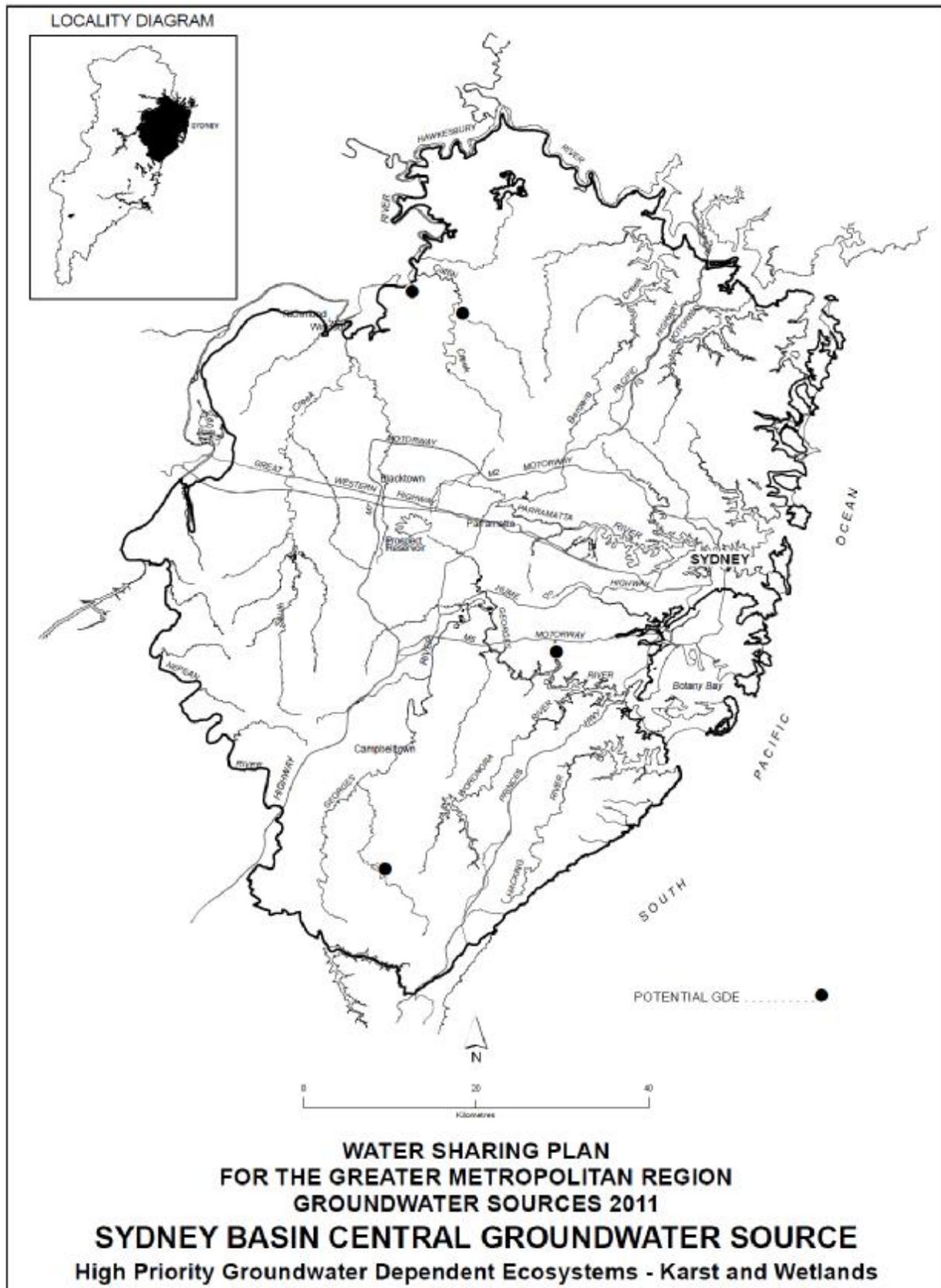
**High priority groundwater dependent ecosystems in the Maroota Tertiary Sands
Groundwater Source**



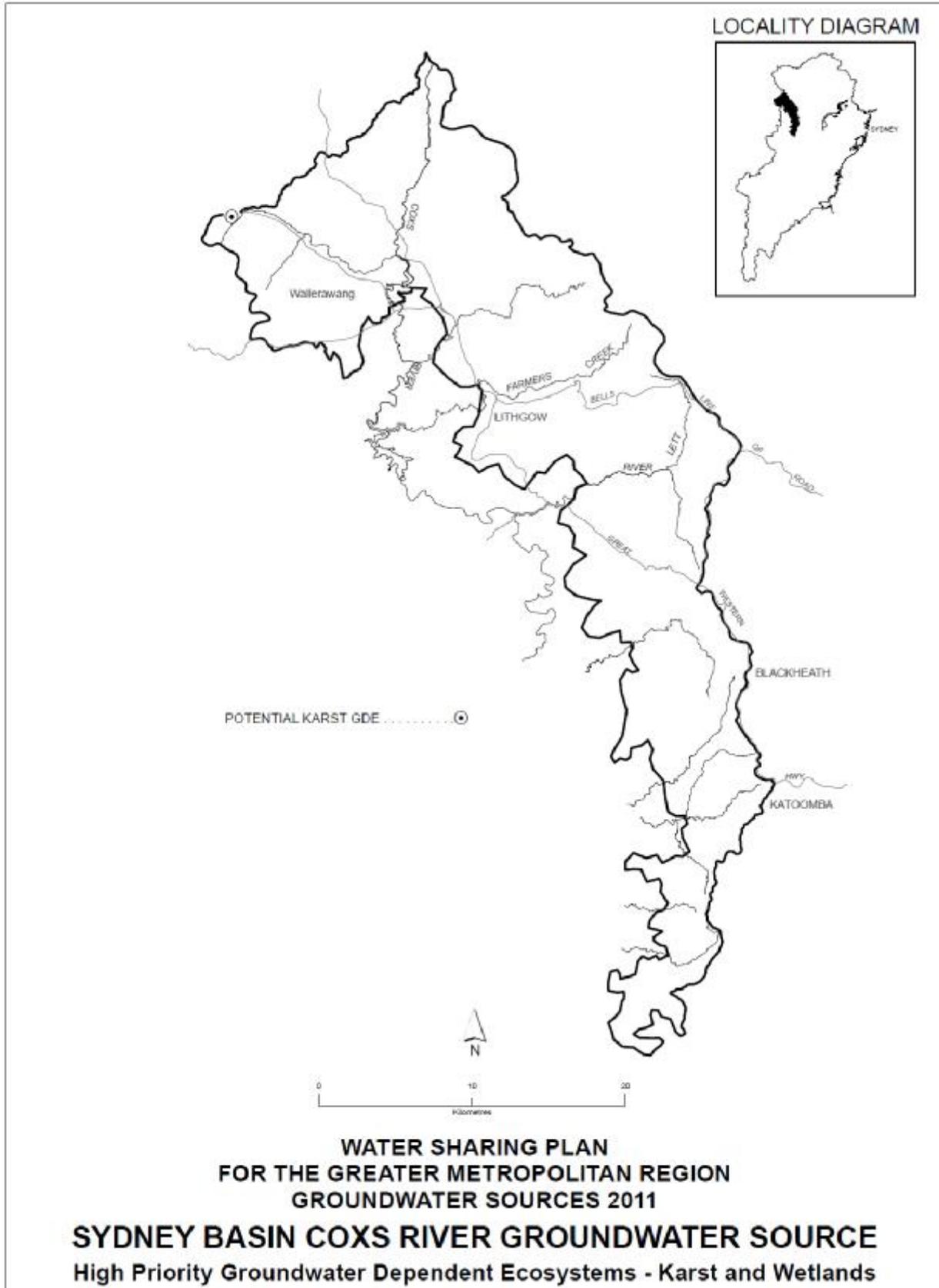
**High priority groundwater dependent ecosystems in the Sydney Basin Blue Mountains
Groundwater Source**



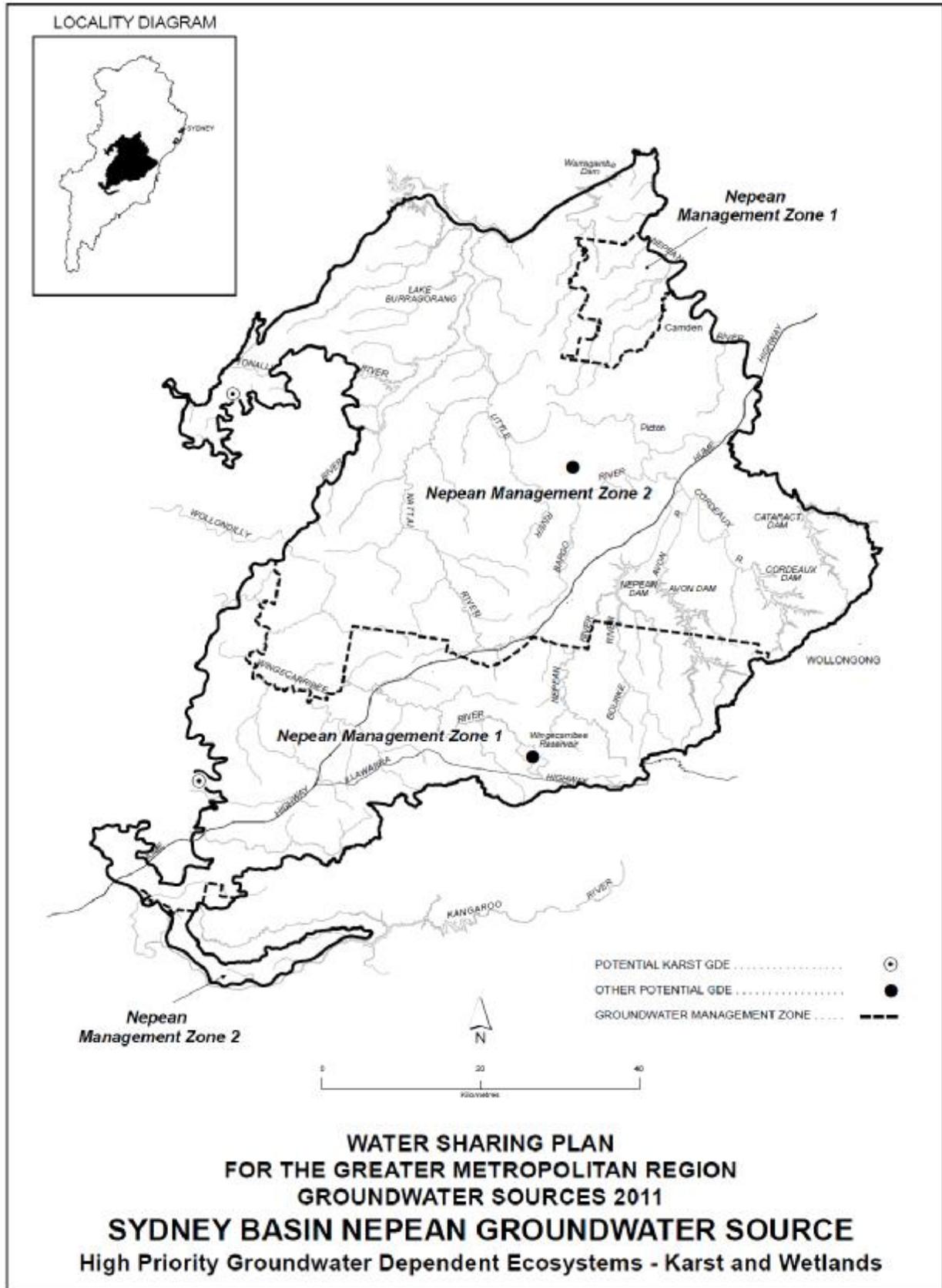
High priority groundwater dependent ecosystems in the Sydney Basin Central Groundwater Source



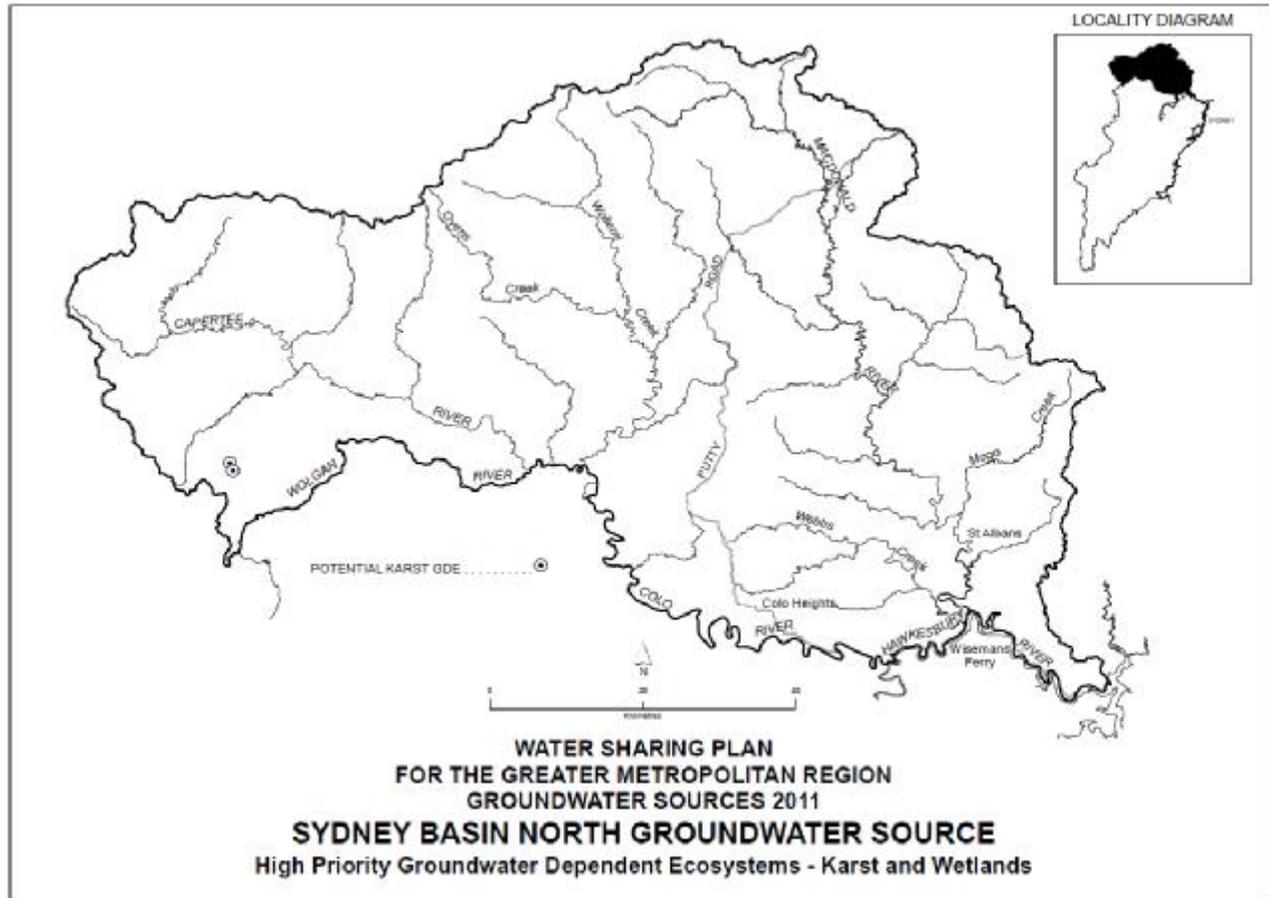
**High priority groundwater dependent ecosystems in the Sydney Basin Coxs River
Groundwater Source**



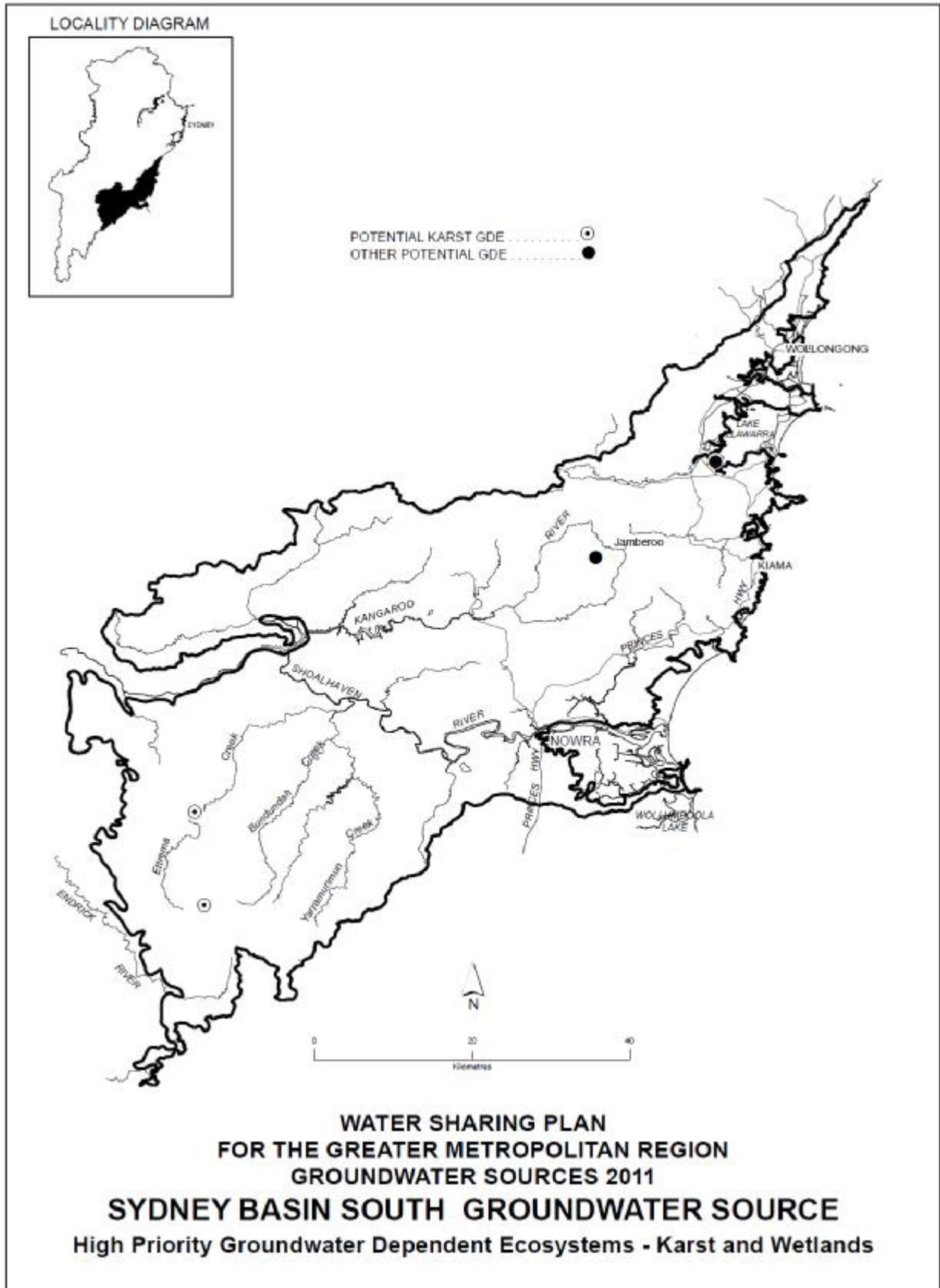
High priority groundwater dependent ecosystems in the Sydney Basin Nepean Groundwater Source



High priority groundwater dependent ecosystems in the Sydney Basin North Groundwater Source

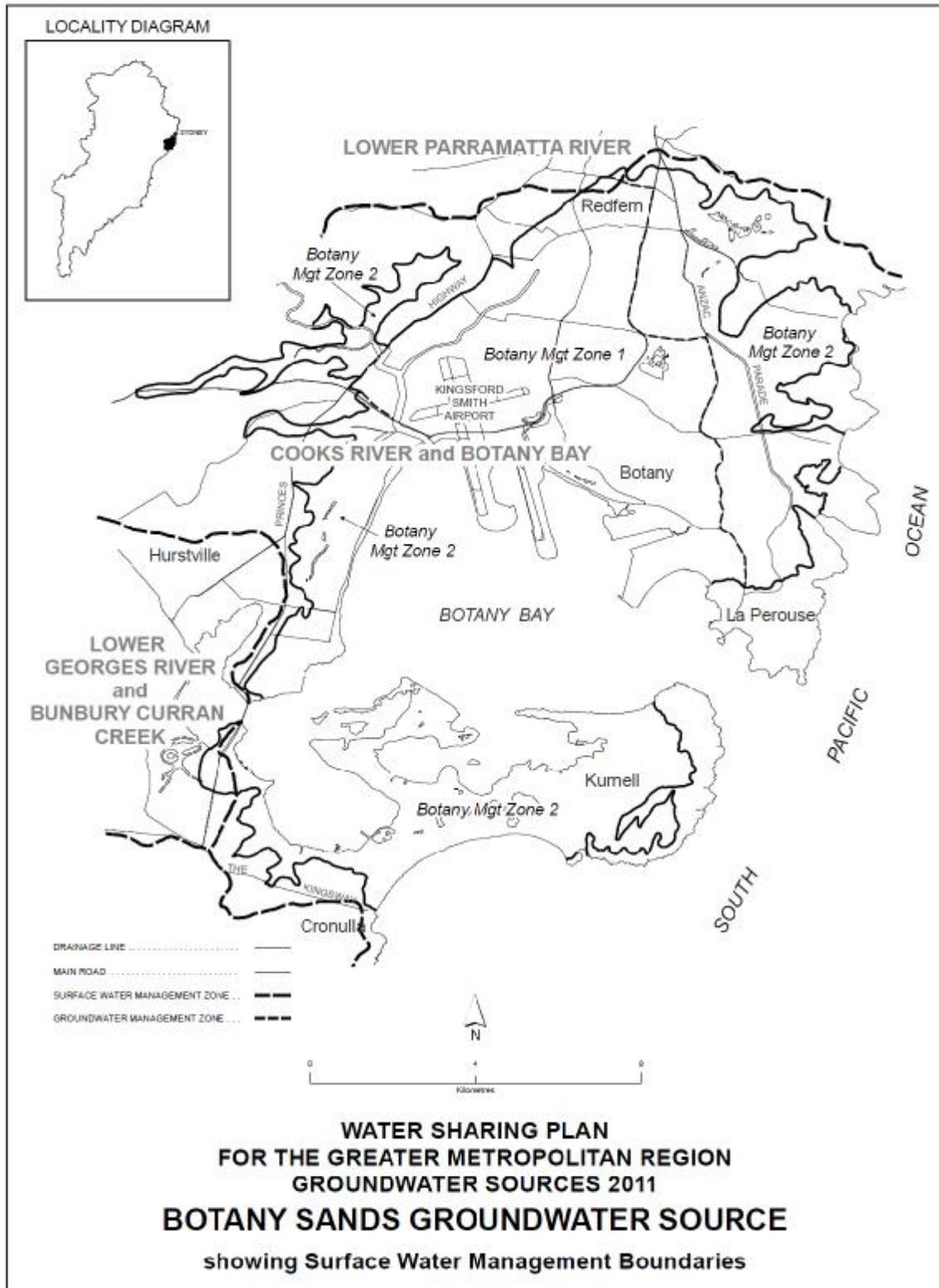


High priority groundwater dependent ecosystems in the Sydney Basin South Groundwater Source

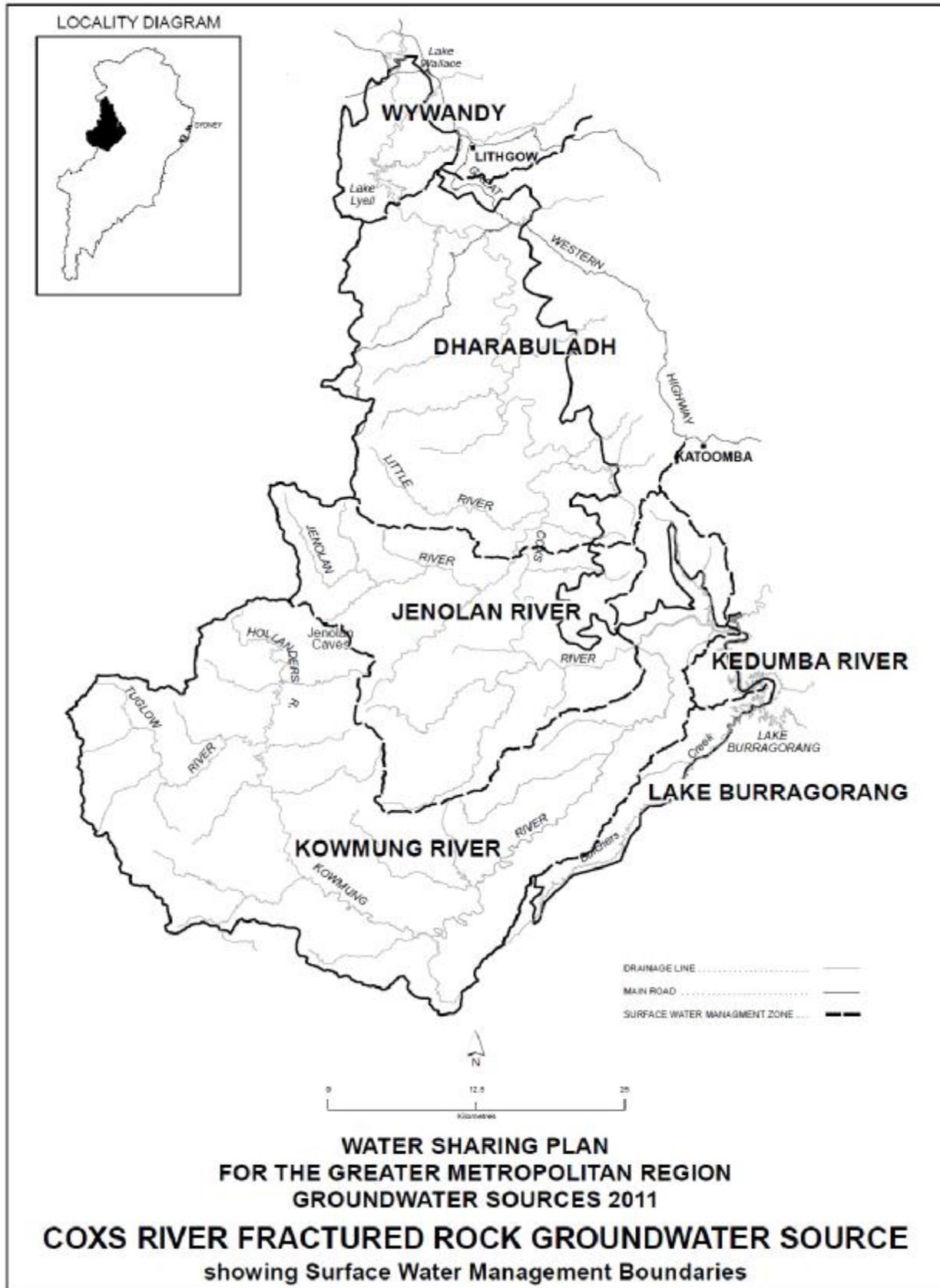


Appendix 3 Overlay of Surface Water Management Boundaries over Groundwater Sources in the Greater Metropolitan Region

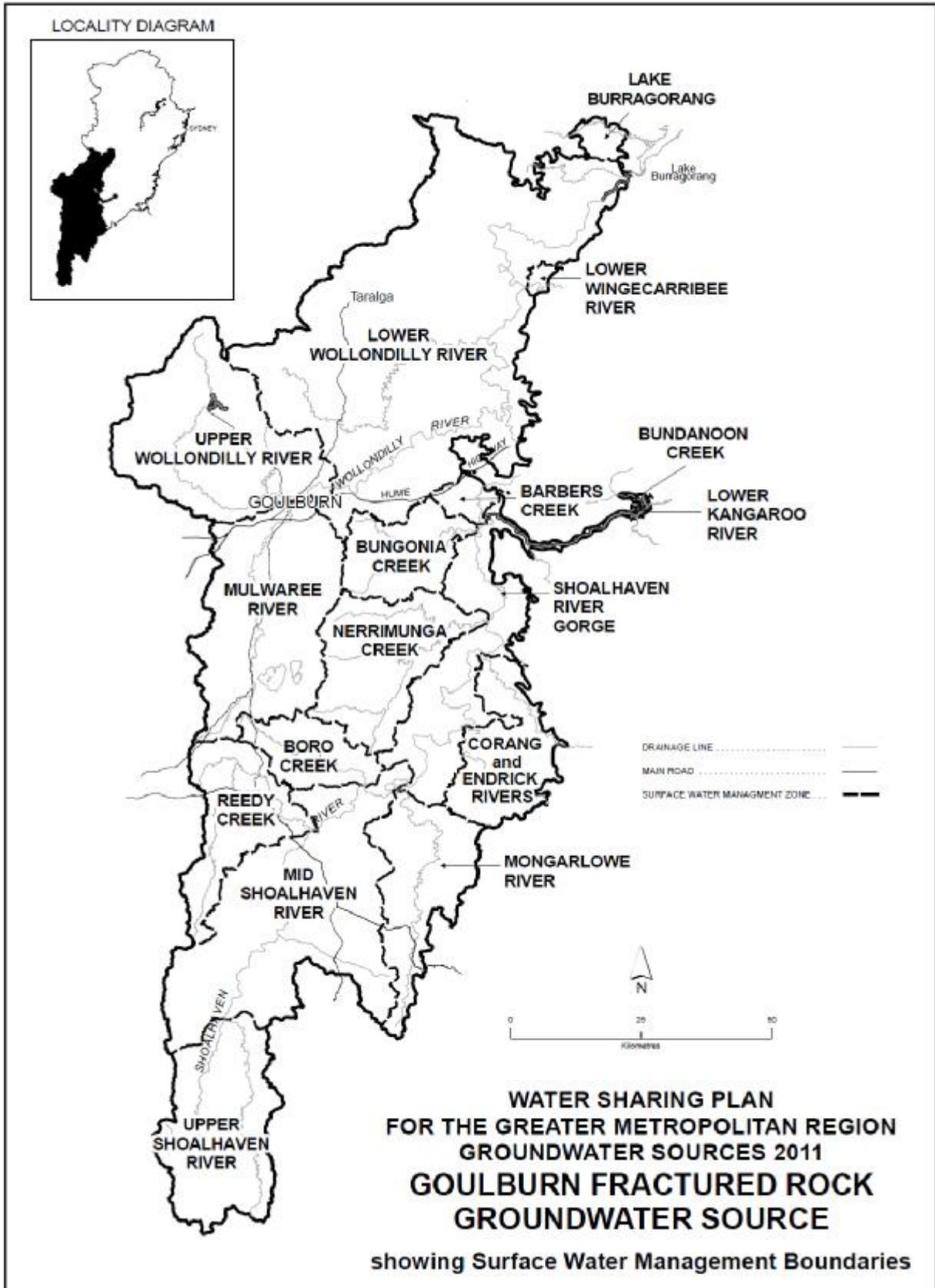
Overlay of surface water management boundaries over the Botany Sands Groundwater Source



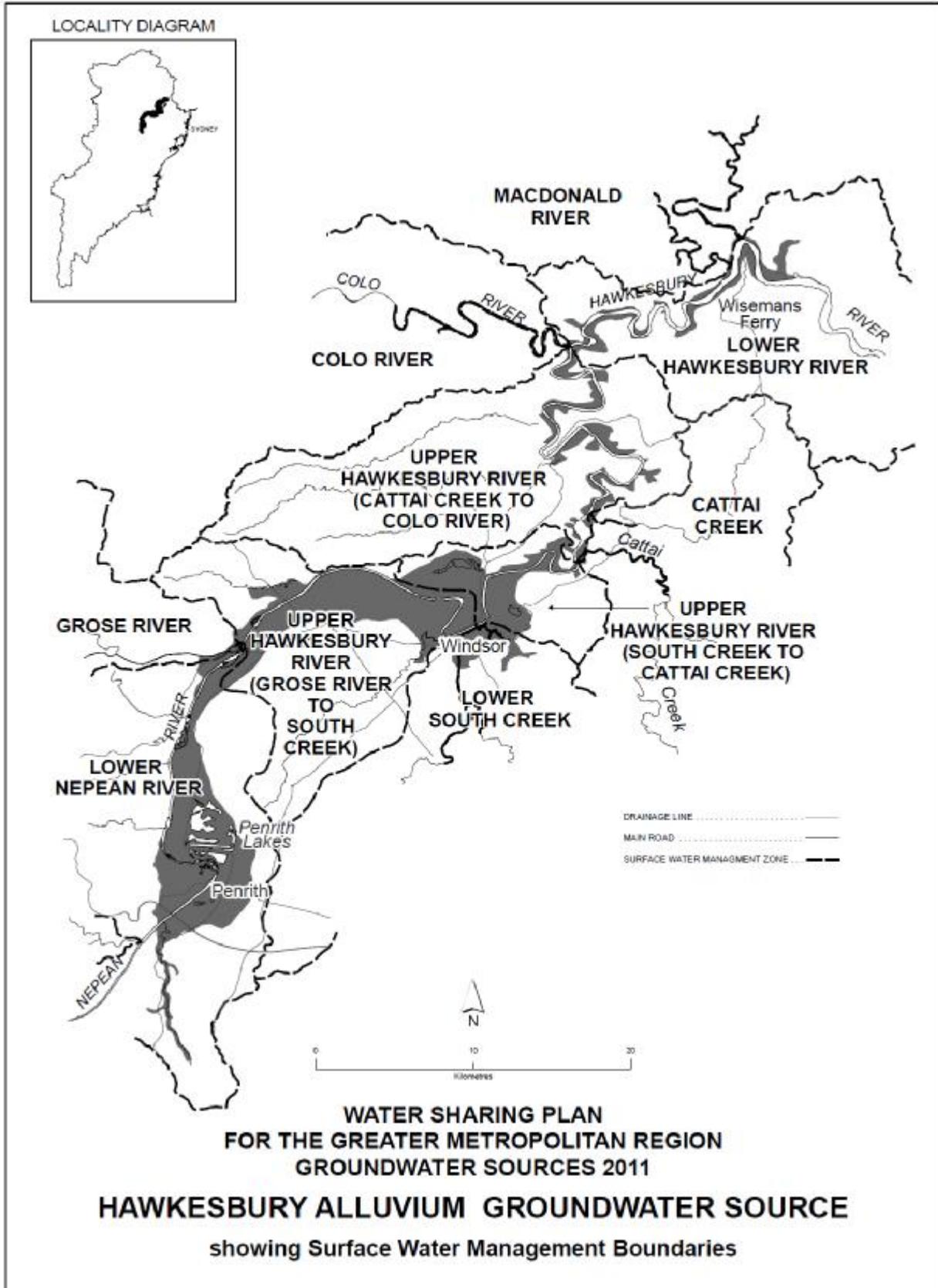
Overlay of surface water management boundaries over the Coxs River Fractured Rock Groundwater Source



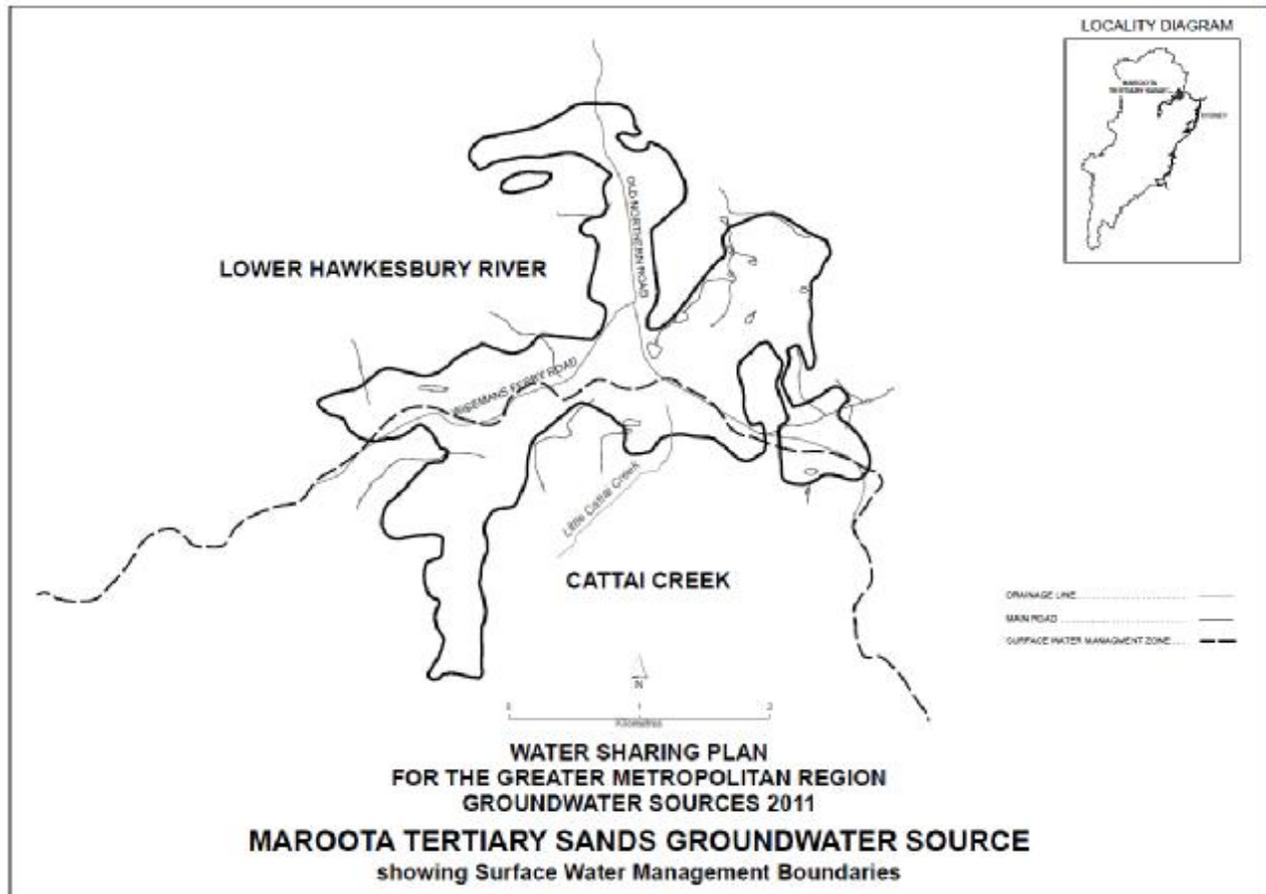
Overlay of surface water management boundaries over the Goulburn Fractured Rock Groundwater Source



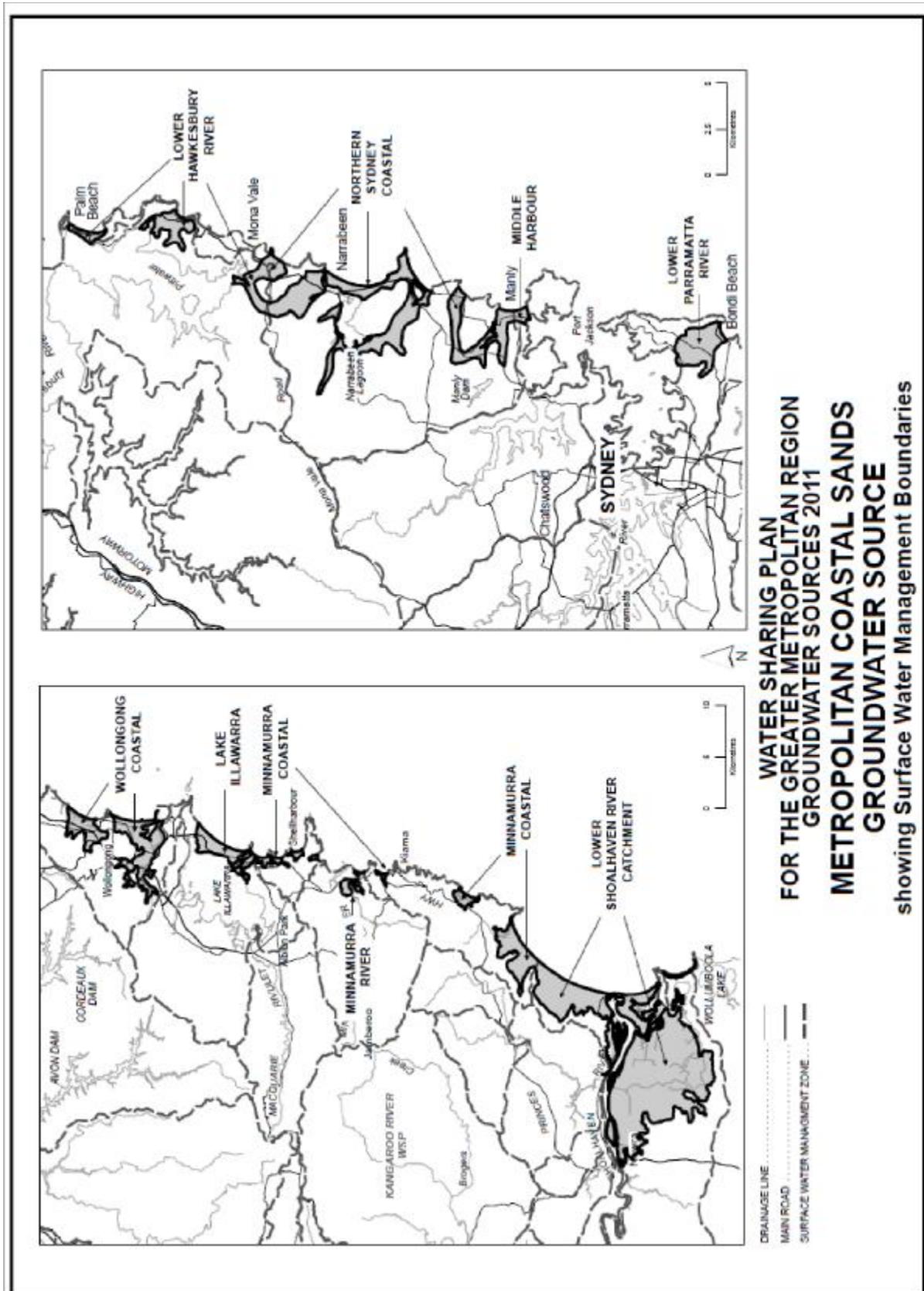
Overlay of surface water management boundaries over the Hawkesbury Alluvium Groundwater Source



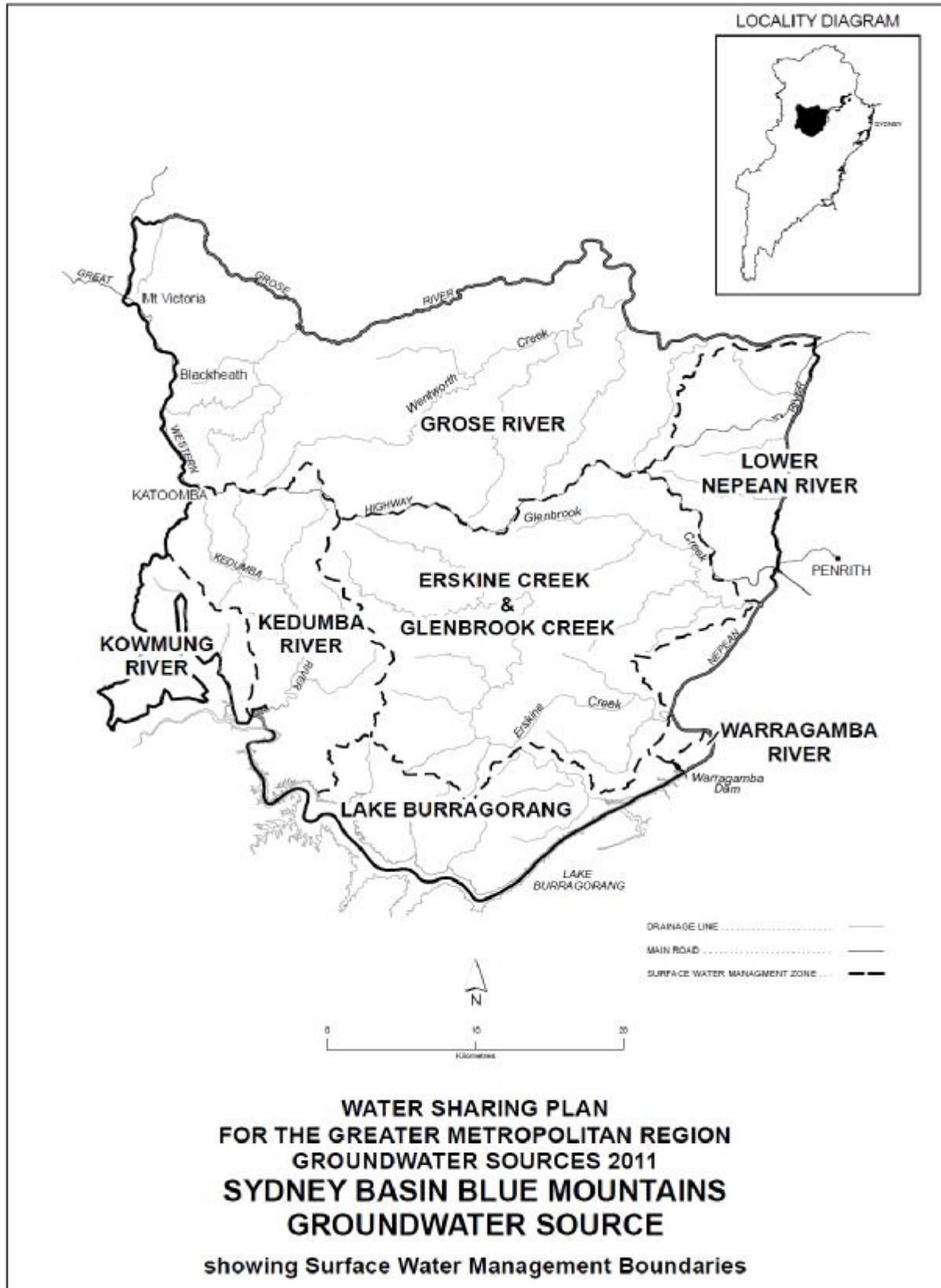
**Overlay of surface water management boundaries over the Maroota Tertiary Sands
Groundwater Source**



Overlay of surface water management boundaries over the Metropolitan Coastal Sands Groundwater Source



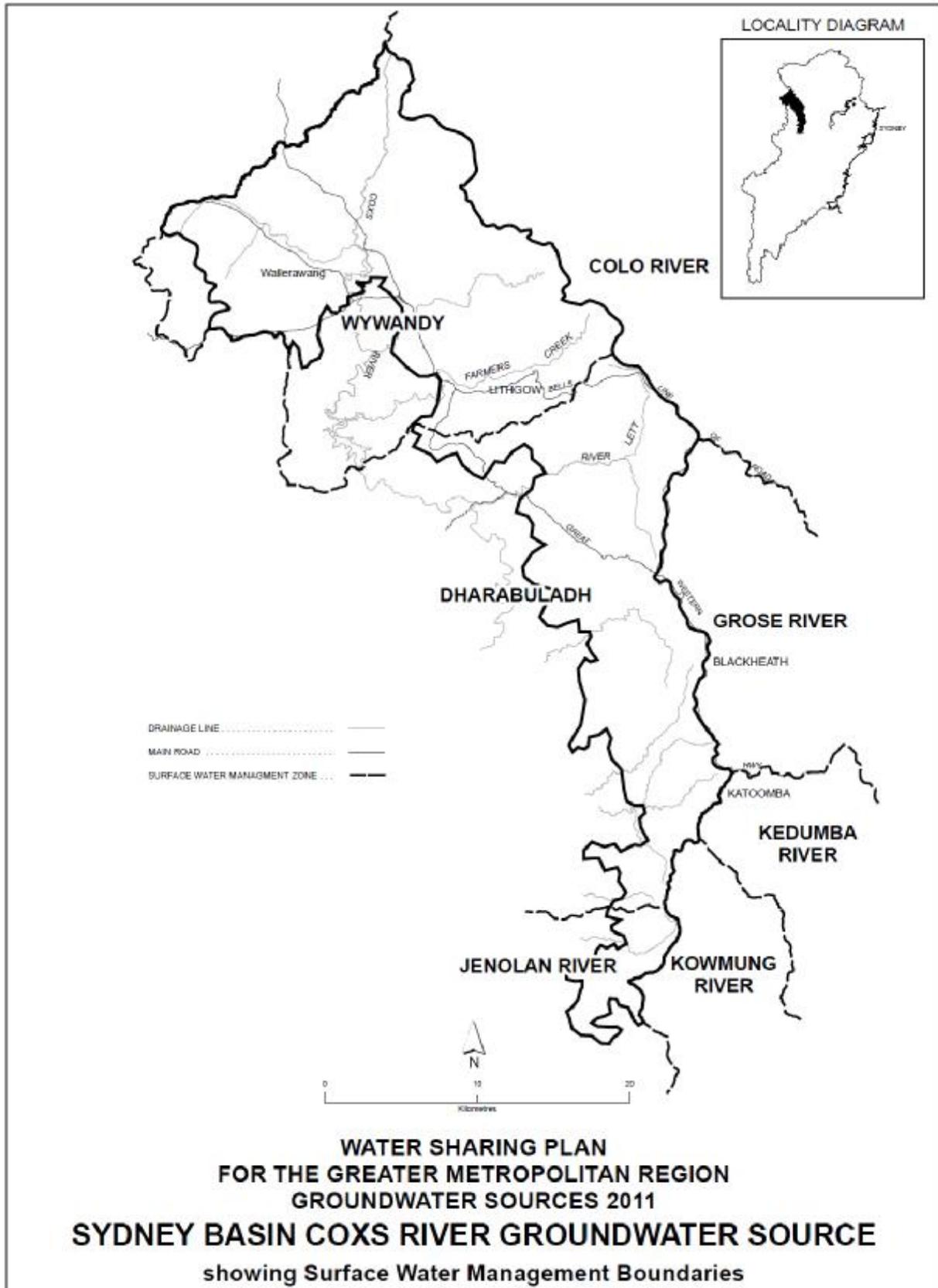
Overlay of surface water management boundaries over the Sydney Basin Blue Mountains Groundwater Source



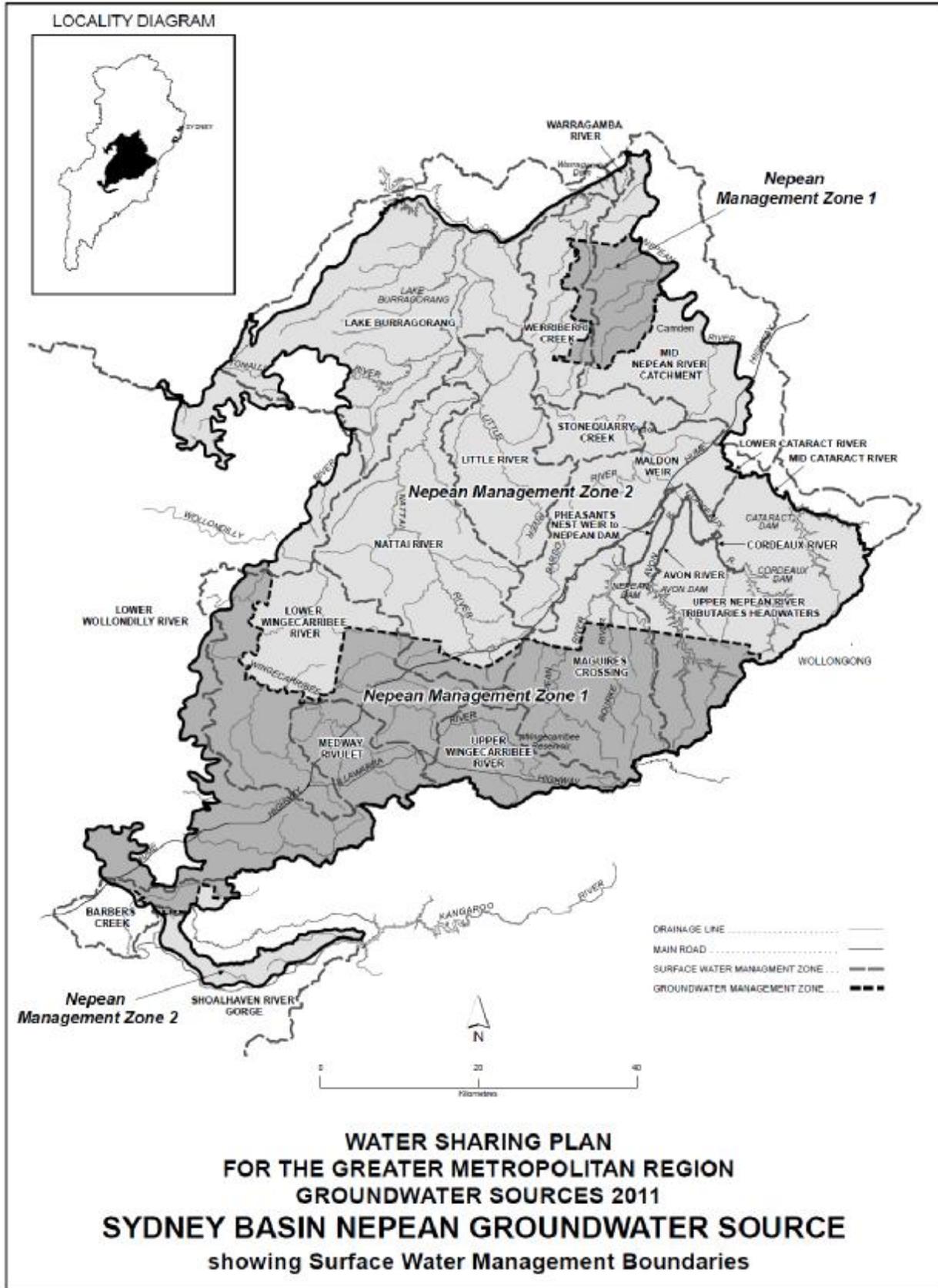
Overlay of surface water management boundaries over the Sydney Basin Central Groundwater Source



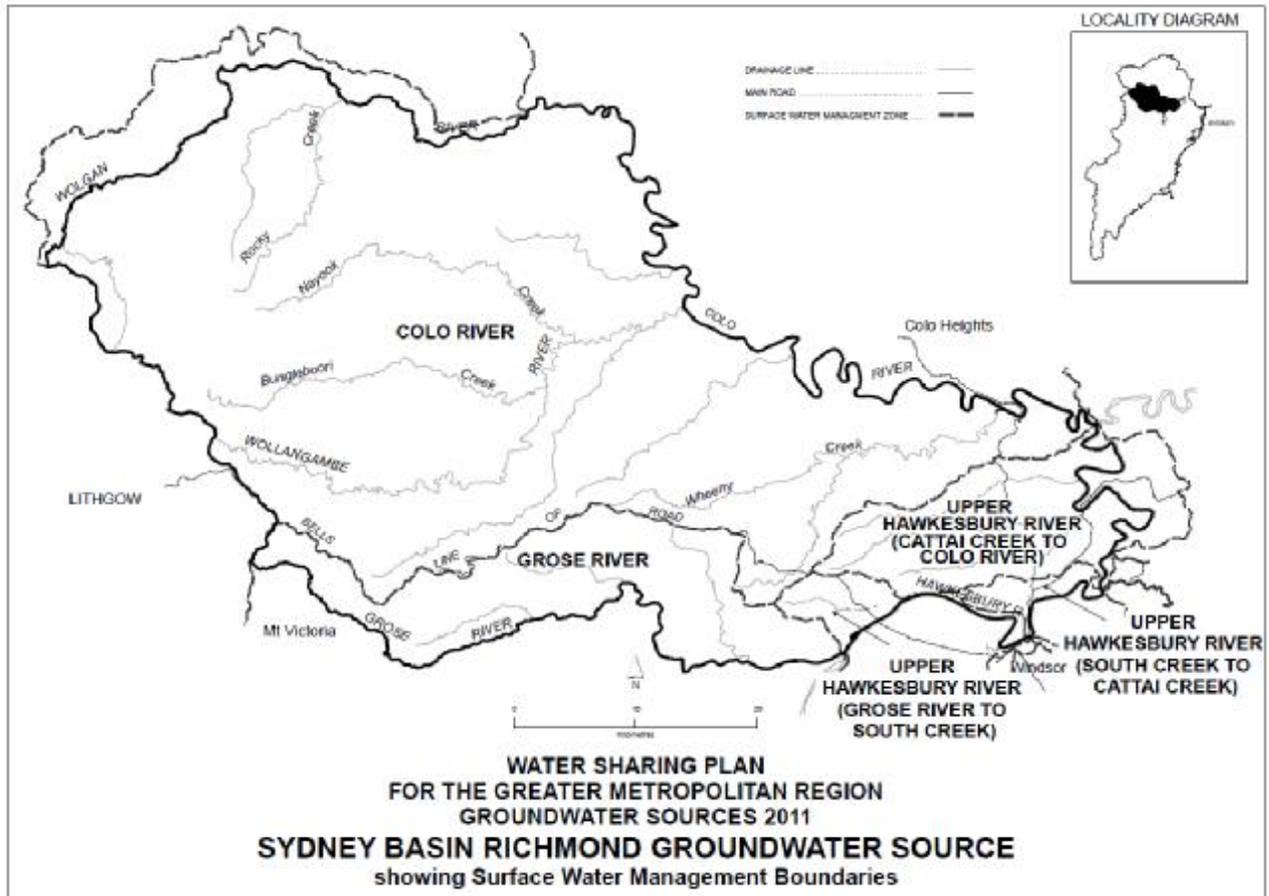
**Overlay of surface water management boundaries over the Sydney Basin Cocks River
Groundwater Source**



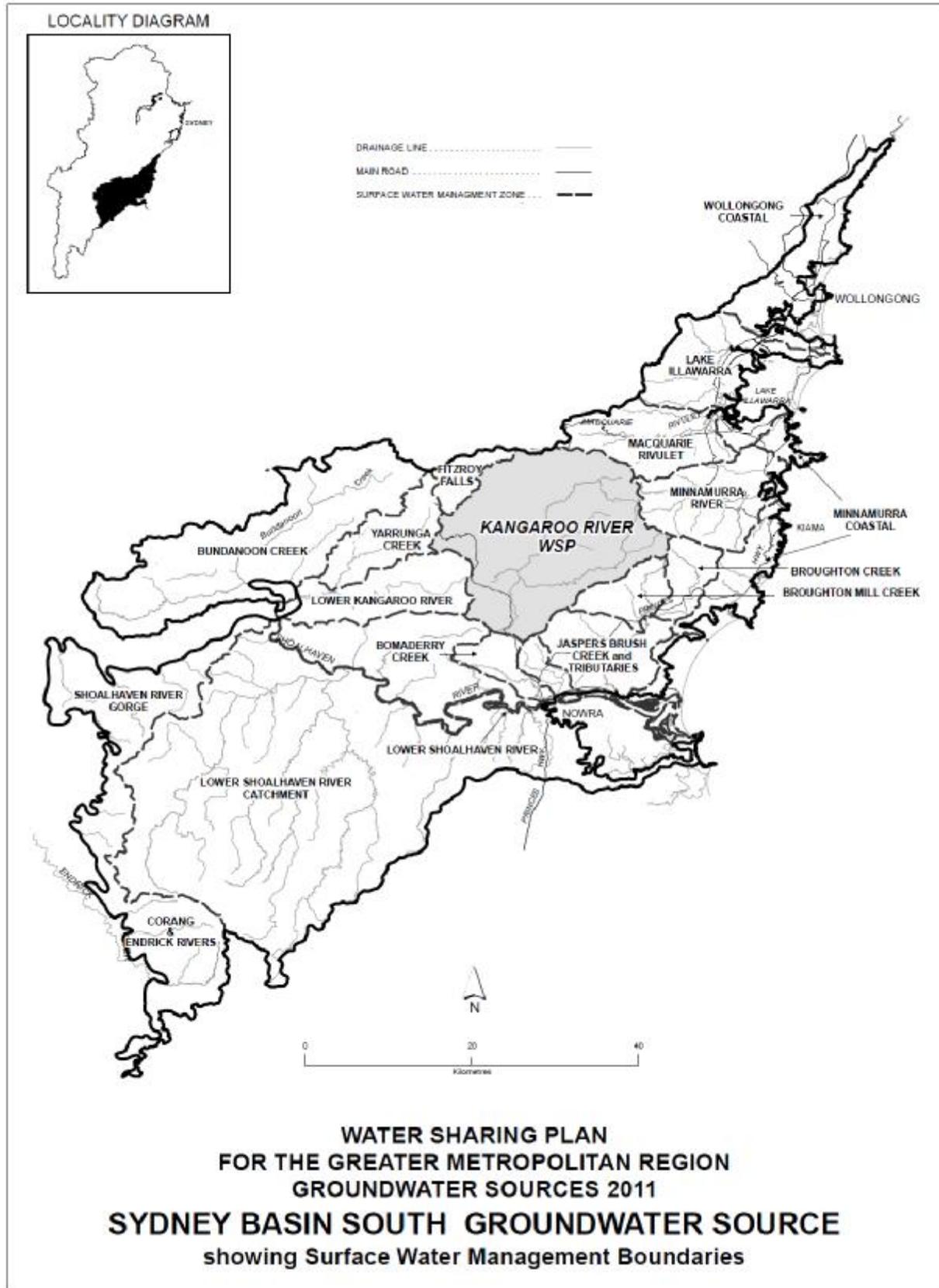
Overlay of surface water management boundaries over the Sydney Basin Nepean Groundwater Source



Overlay of surface water management boundaries over the Sydney Basin Richmond Groundwater Source



Overlay of surface water management boundaries over the Sydney Basin South Groundwater Source



Appendix 4 Inspection of Registered Map

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

NSW Office of Water
Level 3 159 Auburn Street
GOULBURN NSW 2580

NSW Office of Water
5 O'Keefe St
NOWRA NSW 2541

NSW Office of Water
10 Valentine Ave
PARRAMATTA NSW 2150

NSW Office of Water
308 High Street
PENRITH NSW 2751

NSW Office of Water
84 Crown Street
WOLLONGONG NSW 2500