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WATER ACCESS ENTITLEMENTS, ALLOCATIONS AND TRADING AUSTRALIA

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NOTES

BACKGROUND

Water access entitlements, allocations and trading have been key elements of recent water reforms in Australia. Achieving nationally-compatible water access entitlements, returning over-allocated systems to environmentally-sustainable levels of extraction, and removing barriers to trade in water to facilitate the broadening and deepening of the water market are all objectives of the 2004 Intergovernmental Agreement on a National Water Initiative (NWI).

ABOUT THE PUBLICATION

This publication presents data on the number of water access entitlements, the volume of water allocated to water access entitlements, and water trading in Australia in 2004-05. All data have been provided by the relevant Government agencies in each State and Territory, or obtained from publicly available sources. This is the first publication to collate and present this information for the whole of Australia and will form part of the publication *Water Account, Australia, 2004-05* (cat. no. 4610.0).

Because of differences in terminology, legislative arrangements and administrative systems, the data need to be interpreted with caution, particularly when making comparisons between jurisdictions. Please refer to Chapter 1 and the Explanatory Notes for further information. A key element of the NWI is to achieve greater consistency in this type of information. The ABS is working with relevant agencies in this regard.

As this is the first time the ABS has presented information on water access entitlements, allocation and trading, the ABS welcomes feedback in terms of its relevance, usefulness, quality and range of data presented. Please send any comments to the Director, Centre of Environment and Energy Statistics, Locked Bag 10, Belconnen, ACT 2616, or phone (02) 6252 7348.

ACKNOWLEDGEMENT

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Dennis Trewin
Australian Statistician

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ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
Aust.	Australia
AWD	available water determination
EMLR	Eastern Mount Lofty Ranges
GL	gigalitre
ML	megalitre
no.	number
NSW	New South Wales
NT	Northern Territory
NWC	National Water Commission
NWI	National Water Initiative
PSWA	prescribed surface water area
PWA	prescribed wells area
PWC	prescribed watercourse
PWRA	prescribed water resources area
Qld	Queensland
SA	South Australia
Tas.	Tasmania
Vic.	Victoria
WA	Western Australia

CHAPTER 1

UNDERSTANDING WATER ACCESS ENTITLEMENTS, ALLOCATIONS AND TRADING

INTRODUCTION

This chapter gives an overview of what is meant by water access entitlements, water allocations and water trading, and then summarises the water management arrangements relating to water access entitlements in each jurisdiction. The purpose of this chapter is to provide general guidance on how the data should be interpreted to assist users in understanding the data.

The rights to control and use water are vested in State and Territory Governments. While the institutional and regulatory frameworks that govern the allocation and use of water resources address similar issues across jurisdictions, the nature of water access entitlements varies considerably between jurisdictions. In particular, there are differences in the terminology used and the extent to which water access entitlements are bundled with water allocations. It is important to understand these differences in order to interpret the data presented in this publication. A glossary is also provided to assist with the understanding of the differing terminology.

Each jurisdiction agreed in the National Water Initiative (NWI) to implement a number of actions in relation to water access entitlements. These include having water access entitlements that are separate from land titles, are allocated on a volumetric basis (rather than on an area basis) and are compatible across jurisdictions. Furthermore, all water access entitlements and trades (both permanent and temporary) should be recorded in compatible, publicly accessible and reliable water registers on a whole of basin or catchment basis.

The ABS has synthesised the available data on water access entitlements, allocations and trading to provide the best possible national summary at this time. Footnotes to the tables provide details of the assumptions used by the ABS to enable a national presentation of the data. However, because the States and Territories are at varying stages of implementing the NWI and nationally consistent water data collection and reporting are only just beginning, comparisons between jurisdictions should be made with caution.

Definition of Key Terms

In the NWI jurisdictions agreed to a set of national definitions on water use and management, which include the terms “water access entitlement” and “water allocation”. These and other key terms are defined below and have been used throughout this publication.

WATER ACCESS ENTITLEMENT

A water access entitlement is a perpetual or ongoing entitlement to exclusive access to a share of water from a specified consumptive pool as defined in the relevant water plan.

*Definition of Key Terms**continued***WATER ALLOCATION**

A water allocation is the specific volume of water allocated to a water access entitlement in a given season, defined according to rules established in the relevant water plan.

ENTITLEMENT VOLUME

The entitlement volume is the share or base volume of water associated with a water access entitlement.

ALLOCATED VOLUME

The allocated volume is the specific volume of water allocated to water access entitlements for the reference year.

WATER TRADING

Water trading describes transactions involving water access entitlements (permanent trading) or water allocations assigned to water access entitlements (temporary trading).

WATER PLAN

Water plans are statutory plans for surface and/or ground water systems, consistent with the Regional Natural Resource Management Plans, developed in consultation with all relevant stakeholders on the basis of best scientific and socio-economic assessment, to provide secure ecological outcomes and resource security for users.

WATER MANAGEMENT AREA

A water management area is an area defined by a water management agency within a State or Territory for the purposes of reporting on water resources.

Water Access Entitlements

As suggested by the name, water access entitlements are entitlements to access water. Across jurisdictions, various names are used including water licences, water access licences, bulk entitlements and water rights.

It should be noted that because jurisdictions are at varying stages of implementing the actions agreed to in the NWI, some entitlements may not be consistent with the definition of a water access entitlement in the strictest sense, such that they may not be expressed as a share of water from a specified consumptive pool and may not be defined by a water plan. However, they are all entitlements to access water from a specified water resource, and therefore the term “water access entitlement” has been used for to provide the best possible national summary at this time.

Some forms of water use are not required to have a water access entitlement or require a special type of entitlement. Where these have been identified, they have been noted and excluded from the relevant tables so as to not distort the data. For example, the entitlements associated with hydro-electric power generation in Tasmania (a non-consumptive use of water) are excluded.

Water Allocations

Water can be allocated to a water access entitlement in a number of different ways. In a number of jurisdictions, water allocations are bundled with water access entitlements such that the water access entitlement gives the holder a right to access water and the water allocation specifies how much water the holder can access. In this case, the

*Water Allocations**continued*

allocation volume equals the entitlement volume of the water access entitlement, and in most jurisdictions, restrictions are placed on water access entitlements when water availability is low.

Water allocation announcements are used to allocate water to water access entitlements in regulated water sources in New South Wales, Victoria and Queensland. These announcements are generally expressed as a percentage of the entitlement volume, and may be below, equal to, or above the entitlement volume, depending on water availability. Announcements are made at the start of the water year (1 July) and adjustments may be made throughout the year to reflect changes in water availability.

Water Trading

Australia is one of a small number of water-scarce countries that has instituted markets for trading water. While not explicitly defined in the NWI, water trading is the term used to describe transactions (between a buyer and a seller) involving water access entitlements or the water allocations assigned to water access entitlements. Trading can occur on a permanent or temporary basis.

Permanent water trades are transactions that permanently affect some aspect of a water access entitlement, such as changes to the ownership, water source, size of share, or reliability of the water access entitlement. With the separation of water access entitlements from land titles, a permanent water trade may involve a change of ownership, a change of location, or both.

Temporary water trades are transactions that affect the seasonal water allocation associated with a water access entitlement, that is, the specific volume of water allocated to water access entitlements in a given season. They are generally conducted through leasing arrangements for a period of a year or less.

There are difficulties obtaining price data for water trading on a consistent basis, as not all trades involve a monetary transaction, the administration fee charged by the authority processing the trade may or may not be included in the price of the water trade, and for permanent trades that result from land sales, the value of the water access entitlement is often included in the price of the property and cannot be easily distinguished. The availability and comparability of pricing data on water trades should improve as water registers develop further.

Water Management Areas

Data on water access entitlements, allocations and trading are presented for each state by water management areas, where possible. The water management areas used in this publication align with the water management areas used in Australian Water Resources 2005 (AWR2005) with three exceptions. Alternative areas were used for New South Wales (for data on water access entitlements, allocations and trading), for Victoria (for data on water trading only), and for Queensland (for data on water access entitlements, allocations and trading) to align with the data available. Maps of the water management areas of the AWR2005 and the alternative areas used in this publication can be found in the Appendix.

WATER MANAGEMENT ARRANGEMENTS

The following information outlines the water management arrangements, including the legislative frameworks, in operation in each of the States and Territories. It is provided as a general guide to assist data interpretation. More detailed information is available from State and Territory governments.

New South Wales

The *Water Act 1912* and *Water Management Act 2000* provide the legislative framework for water access entitlements, allocations and trade in New South Wales.

Prior to 2004-05, all water access entitlements in New South Wales were subject to the *Water Act 1912* and were called water licences. Water licences were attached to land and included the right to take water, the infrastructure used to extract water, and the use of that water. New water legislation, called the *Water Management Act 2000*, created entitlements to water called water access licences, which are separate to the approvals for the works and use of water. On 1 July 2004, water licences were converted to water access licences and separate approvals for works in all areas of New South Wales with an active water sharing plan. Water licences created under the *Water Act 1912* still exist in those areas of the state without a water sharing plan in effect. All of New South Wales will eventually be subject to the *Water Management Act 2000* and covered by water sharing plans.

Water access licences can be traded separately from land and are categorised according to the water source, the security, or the purpose of the water access licence. The conditions placed on water access licences are set out in the water sharing plans. The entitlement volume for water access licences is called the share component and may be expressed as a volume or as shares of the water available, depending on the category of the water access licence.

Available Water Determinations (AWDs) were also created under the *Water Management Act 2000* and are water allocation announcements that determine how much water is made available to water access licence holders. AWDs are made at the start of each water year and additional determinations may be made in regulated water sources as the year progresses, if water availability improves. AWDs are expressed as a percentage of the share component or as megalitres per share. Water allocation announcements are also used to allocate water to water licences created under the *Water Act 1912* in regulated water sources. These are called Allocation Assessments and express the water available as a percentage of the entitlement volume.

All water access entitlement and allocation tables for New South Wales use the term maximum available water instead of allocated volume. Maximum available water is the maximum licensed volume of water that can be extracted in a year.

Under the *Water Management Act 2000*, New South Wales implemented a new register of water access licences to provide a record of every water access licence in New South Wales and to record water trading transactions. This register is administered by the New South Wales Department of Lands and is available online. The water trading data presented for New South Wales should be interpreted with caution, as 2004-05 was the first year for which the water access licence register was implemented.

*New South Wales**continued*

Catchment Management Authority areas have been used as water management areas for New South Wales in this publication for both surface and groundwater, as the majority of unregulated water sources within water sharing plans do not align with the AWR2005 water management areas for New South Wales. Maps A1.1 and A1.2 in the Appendix show the AWR2005 surface water management areas and groundwater management units for New South Wales. Map A1.3 shows the Catchment Management Authority areas for New South Wales that have been used in this publication.

Victoria

The *Water Act 1989* provides the legislative framework for water access entitlements, allocations and trade in Victoria.

Water access entitlements in Victoria consist of bulk entitlements, water rights, private diversion licences and groundwater licences. Bulk entitlements are issued to rural and regional water authorities, who then distribute the water to their rural or urban customers, to some electricity generating companies and to the State Minister for Environment. Water rights are issued to individuals in authority-supplied irrigation districts. Private diversion licences and groundwater licences are issued to individuals who divert water from a water source.

In regulated water sources, seasonal irrigation water allocations are the water allocation announcements that apply to water rights and private diversion licences and are expressed as a percentage of the entitlement volume. Sales water, which is available to holders of water rights or private diversion licences when storages have sufficient water to meet basic rights in the current and following year, allows seasonal irrigation water allocations to be greater than 100%. Seasonal irrigation water allocations are made at the start of the irrigation season and may be increased throughout the season, depending on water availability.

In unregulated water sources, restrictions are used to allocate water to private diversion licences. The number of unregulated sources with restrictions on diversions fluctuates during the year, with high numbers of restrictions generally applied in the summer months. Similar restrictions are also used to allocate water to groundwater licences.

Allocations to bulk entitlements are determined differently depending on whether they are for rural or urban purposes. For rural bulk entitlements, water allocations similar to seasonal irrigation water allocations are used. Urban bulk entitlements do not receive specific water allocations. Instead, town water restrictions of varying degrees of severity are used when water availability is low.

The different approaches used to allocate water to access entitlements in Victoria, which includes the application of restrictions, makes it difficult to determine the volume of water allocated to water access entitlements. Therefore, the volume of water taken in 2004-05, as estimated in the Victorian State Water Report 2004-05, has been used as a proxy for the allocated volume for water access entitlements in Victoria. The Department of Sustainability and Environment is in the process of creating a water register to centralise the collection of water information and facilitate the provision of more consistent and comprehensive water information for Victoria in the future.

Victoria continued

The Victorian State Water Report 2004-05 presents permanent and temporary water trading data by water management area. However, the data in the Victorian report presents the volume bought and sold, which does not align with the presentation of water trading data used in this publication, which shows the volume traded within, traded into and traded out of water management areas.

The water management areas used for Victoria in this publication align with the AWR2005 water management areas for water access entitlements and allocations, but not trading. Map A1.4 in the Appendix shows the surface water management areas for Victoria and maps A1.5, A1.6 and A1.7 show the groundwater management units for Victoria by groundwater management areas, water supply protection areas and unincorporated areas respectively. Rural water authority areas were used to present water trading data for Victoria as it was not possible to present water trading data for Victoria by water management areas in a format that was consistent with other jurisdictions. Map A1.8 in the Appendix shows the rural water authority areas for Victoria.

Queensland

The *Water Act 2000* provides the legislative framework for water access entitlements, allocations and trade in Queensland.

Three types of water access entitlements existed in Queensland in 2004-05. These were water licences, interim water allocations, and water allocations. Water allocations in Queensland have a different meaning to water allocations as defined by the NWI. Water allocations in Queensland are a type of water access entitlement that are being introduced sporadically as resource operations plans come into effect throughout the State. Existing water access entitlements in areas with active resource operations plans may continue or be converted to water allocations. Water allocations are separate from land ownership, unlike water licences and interim water allocations.

Announced allocations determine how much water is made available to water access entitlements in water supply schemes (for supplemented water sources) and in water management areas (for unsupplemented water sources) where water is closely managed and usually metered. Announced allocations are expressed as a percentage of the entitlement volume. These announcements are made at the start of the water year and may change throughout the year, depending on water availability. Conditions on access apply to water access entitlements in all other areas of Queensland. It was not possible to determine the allocated volume for water access entitlements in Queensland in 2004-05 as the boundaries of these water supply schemes and water management areas do not align with the surface water management areas used to provide the number of entitlements and the entitlement volume for Queensland.

River Basins have been used as water management areas for Queensland in this publication for both surface and groundwater. Maps A1.9 and A1.10 in the Appendix show the AWR2005 surface water management areas and groundwater management units for Queensland. Map A1.11 shows the River Basins for Queensland that have been used in this publication.

South Australia

The *Water Resource Act 1997* and the *Natural Resource Management Act 2004* provide the legislative framework for water access entitlements, allocations and trade in South Australia.

South Australia continued

Water licences are the only type of water access entitlement in South Australia. Water licences are issued in prescribed areas of South Australia where a water resource is being managed through a water allocation plan. Prescribed areas include Prescribed Watercourses for managing defined rivers with beds and banks, Prescribed Wells Areas for managing groundwater sources, and Prescribed Surface Water Areas for managing water flowing over land. In some areas, all three types of water resources are prescribed and these areas are called Prescribed Water Resources Areas for managing surface water, watercourses and groundwater sources.

Licensees in South Australia have a right to an allocation of water, which is specified as a taking allocation approved for use on a specified land title, or a holding allocation not attached to land and not yet approved for use. Water allocations in South Australia do not vary from year to year, and therefore the allocated volume is equal to the entitlement volume. A licensee's ability to take their allocated volume may, however, be reduced by a Notice of Restriction if resource conditions deteriorate, such as low inflows into the River Murray whereby the taking of water will have a negative impact on the resource.

The water management areas used for South Australia in this publication align with the AWR2005 water management areas. Maps A1.12 and A1.13 in the Appendix show the surface water management areas and maps A1.14 and A1.15 show the groundwater management units for South Australia.

Western Australia

The primary water licensing and regulation legislation in Western Australia is the *Rights in Water and Irrigation Act 1914*. This act was amended in 2001 in order to implement the 1994 Council of Australian Governments national water reforms.

Water licences were the only type of water access entitlements in Western Australia in 2004-05. Water users must have a water licence in proclaimed management areas in Western Australia. Water licences define the purpose, location and resource from which water can be extracted. There were no water allocations in Western Australia in 2004-05, and therefore the allocated volume was equal to the entitlement volume.

The water management areas used for Western Australia in this publication align with the AWR2005 water management areas. Map A1.16 in the Appendix shows the surface water management areas and maps A1.17, A1.18 and A1.19, show the groundwater management units for Western Australia.

Tasmania

The *Irrigation Clauses Act 1973* and the *Water Management Act 1999* provide the legislative framework for water access entitlements, allocations and trade in the Tasmania.

Under Tasmania's *Water Management Act 1999*, a water licence may be granted to a person to take water from a water resource. A licence may have more than one water allocation attached to it to enable the licensee to take water from a water resource at different times of the year or at different off-take points or for different purposes at various levels of surety (a relative priority in times of water usage restrictions).

Tasmania continued

The *Water Management Act 1999* does not require the water allocation to be specified as a percentage share of the resource. This is because the vast majority of rivers and streams used for consumptive purposes are unregulated in Tasmania, and the size of the consumptive pool changes with natural stream flow, on a daily, monthly, seasonal and annual basis. Cease-to-take thresholds and restriction management protocols have been developed to restrict differentially licensed water allocations at different surety levels as flow drops towards agreed cease-to-take thresholds. Consequently, water allocations in Tasmania do not vary from year to year, and therefore the allocated volume is equal to the water access entitlement volume.

Tasmania's *Irrigation Clauses Act 1973* provides the statutory basis for the supply of water for irrigation under the system of irrigation rights, or general availability, and for trading of irrigation rights. In 2004-05, there were three irrigation schemes where irrigation rights were issued: the Cressy Longford Irrigation Scheme (132 customers), Winnaleah Irrigation Scheme (79 customers) and the South East Irrigation Scheme (164 customers). The water entities that operate these schemes each hold a bulk allocation as a water access entitlement under Part 6 of the *Water Management Act 1999*.

Hydro Tasmania holds a Special Water Licence under the *Water Management Act 1999* to take water for hydro-electric power generation purposes. Hydro Tasmania holds the largest water licence in Australia that provides for the taking of over 13 million megalitres per annum. Hydro Tasmania's generating system consists of a network of 51 dams and 27 hydro-electric power stations. This licence has not been included in this publication.

Tasmanian water legislation contains provisions for the licensing of groundwater, however, these provisions were not exercised in 2004-05. The Tasmanian Department of Primary Industries and Water are currently developing programs and processes for groundwater licensing.

The water management areas used for Tasmania in this publication align with the AWR2005 water management areas. Map A1.20 in the Appendix shows the surface water management areas for Tasmania. No groundwater data were available for Tasmania.

Northern Territory

The *Water Act 1992* provides the legislative framework for water access entitlements, allocations and trade in the Northern Territory

Water extraction licences were the only type of water access entitlement in the Northern Territory in 2004-05. Water users in the Northern Territory require a water extraction licence to take or use water from any surface water or groundwater resource for uses other than stock and domestic purposes. There were no water allocations in the Northern Territory in 2004-05, and therefore the allocated volume was equal to the entitlement volume.

The water management areas used for the Northern Territory in this publication align with the AWR2005 water management areas. Map A1.21 in the Appendix shows the surface water management areas and maps A1.22 and A1.23 show the groundwater management units for the Northern Territory.

Australian Capital Territory

The *Water Resources Act 1998* provides the legislative framework for water access entitlements, allocations and trade in the Australian Capital Territory.

*Australian Capital Territory
continued*

Water access entitlements in the Australian Capital Territory include licences, which are required to take and use surface and groundwater from a specified waterway or location, and allocations, which specify the volume of water that may be taken and are prerequisites to acquire licences to take water. Water allocations in the Australian Capital Territory do not vary from year to year, and therefore the allocated volume is equal to the entitlement volume. Surface and groundwater is also taken from Commonwealth land within the Australian Capital Territory, however, this information is not available and hence is not able to be included in this publication.

The Australian Capital Territory has been treated as a single water management area in this publication, which aligns with the AWR2005 water management areas.

CHAPTER 2

WATER ACCESS ENTITLEMENTS AND ALLOCATIONS

INTRODUCTION

This chapter presents data on the number of water access entitlements in each State and Territory, the entitlement volume and the allocated volume in 2004-05. For each jurisdiction, data are presented by type of water access entitlement (with the exception of Western Australia, Tasmania and the Northern Territory, where only one type of water access entitlement exists), by surface and groundwater, as well as for the water management areas defined by the jurisdictions. An additional table is presented for New South Wales, which presents water made available as a percentage of the entitlement volume after accounting for carryover water, end of account balances and adjustments for account spills.

MAIN FINDINGS

In 2004-05, there were 223,556 water access entitlements in Australia with a total entitlement volume of 29,831 GL (Table 2.1). New South Wales had the highest number of water access entitlements in Australia, with 118,110 (or 53%) of the total water access entitlements in Australia. New South Wales also had the highest entitlement volume in Australia in 2004-05, with 13,302 GL (or 45%) of the total entitlement volume.

Surface water access entitlements accounted for 76,625 (or 34%) of all water access entitlements and 22,814 GL (or 76%) of the total entitlement volume in Australia (Table 2.2). Groundwater access entitlements accounted for 146,185 (or 65%) of all water access entitlements and 6,998 GL (or 23%) of the total water allocated in Australia. In South Australia and the Australian Capital Territory, water access entitlements that allowed access to both surface and groundwater sources also existed. These accounted for an extremely small percentage of the number and volume of all water access entitlements (0.3% and 0.1% respectively).

New South Wales

In 2004-05, there were 118,110 water access entitlements in New South Wales with a total entitlement volume of 13,302 GL and a maximum volume of water made available of 9,799 GL (Table 2.3). Surface water access entitlements accounted for 24,694 (or 21%) of the water access entitlements and 7,136 GL (or 73%) of the total volume of maximum available water in the State (Table 2.4). Groundwater access entitlements accounted for 93,416 (or 79%) of the water access entitlements and 2,663 GL (or 27%) of the total volume of maximum available water in New South Wales (Table 2.5).

Water licences created under the *Water Act 1912* accounted for 106,742 (or 90%) of the water access entitlements and 4,610 GL (or 47%) of the maximum available water in the State (Table 2.3). The most common water licence category was the groundwater licence, which accounted for 93,005 (or 87%) of water licences and 2,640 GL (or 57%) of the maximum available water for water licences.

*New South Wales**continued*

Water access licences accounted for 11,368 (or 10%) of the water access entitlements and 5,189 GL (or 53%) of the maximum available water in the State (Table 2.3). The most common water access licence category was the general security access licence in regulated rivers, which accounted for 4,327 (or 38%) of water access licences and 2,604 GL (or 27%) of the maximum available water for water access licences.

The largest volume of surface water made available in New South Wales occurred in the Murrumbidgee Regulated River within the Murrumbidgee Catchment Management Authority area and accounted for 1,823 GL (or 19%) of the maximum available water in the State. This was followed by the New South Wales Murray Regulated River within the Murray Catchment Management Authority area, which accounted for 1,759 GL (or 18%) (Table 2.4).

The largest volume of groundwater made available in New South Wales occurred in Barwon within the Border Rivers – Gwydir Catchment Management Authority area and accounted for 690 GL (or 7%) of the maximum available water in the State. This was followed by Murrumbidgee within the Murrumbidgee Catchment Management Authority area, which accounted for 526 GL (or 5%) (Table 2.5).

The water made available to entitlement holders in 2004-05 is shown in Table 2.6. For regulated water sources, water made available is presented by licence category. The Lower Darling, Paterson, Richmond and Upper Namoi Regulated River water sources each had 100% of their entitlement volumes made available to entitlement holders across all licence categories. General security licences in the Lachlan Regulated River water source had the lowest percentage of water made available to entitlement holders in New South Wales, with 1%.

Water made available is also presented by licence category for unregulated water sources with a water sharing plan. In 2004-05, all licence categories in unregulated water sources with a water sharing plan were issued with the same AWD of either two megalitres per share or 200% of share component. This was a one off announcement made at the commencement of the water sharing plans to populate accounts in order to meet the three year accounting rules specified in the water sharing plans. This water can only be extracted if flow rates in water sources are sufficient to meet the rules outlined in the water sharing plans. Any future announcements will be restricted to a maximum of 100%.

Victoria

In 2004-05, there were 25,514 water access entitlements in Victoria with a total entitlement volume of 6,680 GL and a total volume taken of 4,734 GL (Table 2.7). Surface water access entitlements accounted for 17,030 (or 67%) of the water access entitlements and 4,370 GL (or 92%) of the total of water volume taken in the State. Groundwater access entitlements accounted for 8,484 (or 33%) of the water access entitlements and 364 GL (or 8%) of the total volume of water taken in Victoria.

Bulk entitlements accounted for 153 (or 1%) of all water access entitlements and 4,240 GL (or 90%) of the total volume of water taken in Victoria (Table 2.7). Private diversion licences (including farm dams) accounted for 16,877 (or 66%) of all water access entitlements and 131 GL (or 3%) of the total volume of water allocated in the State.

Victoria continued

The largest volume of surface water taken in Victoria, which has been used as a proxy for allocated volume, occurred in the Murray Water Management Area and accounted for 1,522 GL (or 32.2%) of the total volume of water taken (Table 2.8). This was followed by the Goulburn Water Management Area, which accounted for 1,496 GL (or 31.6%) of the total volume of water taken in the State.

The largest volume of groundwater taken in Victoria occurred in the Shepparton Irrigation Water Supply Protection Area and accounted for 80 GL (or 2%) of the total volume of water taken (Table 2.9). This was followed by the Campaspe Deep Lead Water Supply Protection Area, which accounted for 1,496 GL (or 31.6%) of the total volume of water taken in the State. For surface and groundwater, the number of water access entitlements could only be determined at the State level.

Queensland

In 2004-05 there were 48,591 water access entitlements in Queensland with a total entitlement volume of 4,397 GL (Table 2.10). Surface water access entitlements accounted for 27,336 (or 56%) of the water access entitlements and 3,488 GL (or 79%) of the total entitlement volume in the State. Groundwater access entitlements accounted for 21,555 (or 44%) of the water access entitlements and 909 GL (or 21%) of the total entitlement volume in Queensland.

Water licences accounted for the largest number of water access entitlements in 2004-05 at 39,549 (or 81%) and 1,743 GL (or 40%) of the total entitlement volume in the State (Table 2.10). This was followed by water allocations, which accounted for 5,419 (or 11%) of all the water access entitlements and 1,215 GL (or 27%) of the total entitlement volume in Queensland. Interim water allocations accounted for 3,623 (or 8%) of all the water access entitlements and 1,439 GL (or 33%) of the total entitlement volume in 2004-05. A further 1,931 surface water licences also existed in Queensland in 2004-05. These licences do not yet have a volumetric entitlement volume and have not been included in the tables presented.

The largest entitlement volume for surface water in Queensland was in the Burdekin River Basin and accounted for 902 GL (or 21%) of the total entitlement volume (Table 2.11). This was followed by the Fitzroy River Basin, which accounted for 577 GL (or 13%) of the total entitlement volume in the State.

The largest entitlement volume for groundwater in Queensland was in the Balonne-Condamine River Basin, which accounted for 238 GL (or 5%) of the total entitlement volume (Table 2.12). This was followed by the Fitzroy River Basin, which accounted for 118 GL (or 3%) of the total entitlement volume in the State.

South Australia

In 2004-05 there were 10,399 water access entitlements in South Australia with a total entitlement volume and a total allocation volume of 1,661 GL (Table 2.13). In South Australia, the water access entitlement volume equals the allocation volume as discussed in Chapter 1. Surface water only access entitlements accounted for 3,486 (or 34%) of all the water access entitlements and 789 GL (or 48%) of the total water allocated in the State. Groundwater only access entitlements accounted for 6,179 (or 59%) of all the water access entitlements and 854 GL (or 51%) of the total volume of water allocated in South Australia. Water access entitlements that allowed entitlement holders to access

South Australia continued

both surface and groundwater accounted for 734 (or 7%) of all the water access entitlements and 17 GL (or 1%) of the total volume of water allocated in South Australia.

The largest allocation of surface water in South Australia occurred in the River Murray Prescribed Watercourse and accounted for 788 GL (or 47%) of the total volume of water allocated (Table 2.14). This was followed by the Barossa Prescribed Water Resources Area, which accounted for 4 GL (or 0.2%) of the total volume of water allocated in the State.

The largest allocation of groundwater in South Australia occurred in the Lower Limestone Coast Prescribed Wells Area and accounted for 541 GL (or 33%) of the total volume of water allocated (Table 2.15). This was followed by the Tatiara Prescribed Wells Area, which accounted for 92 GL (or 6%) of the total volume of water allocated in the State.

Western Australia

In 2004-05 there were 17,513 water access entitlements in Western Australia with a total entitlement volume and a total allocation volume of 2,547 GL (Table 2.1). In Western Australia, the water access entitlement volume equals the allocation volume as discussed in Chapter 1. Surface water access entitlements accounted for 878 (or 5%) of all the water access entitlements and 903 GL (or 35%) of the total water allocated in the State (Table 2.2). Groundwater access entitlements accounted for 16,635 (or 95%) of all the water access entitlements and 1,644 GL (or 65%) of the total water allocated in Western Australia.

The largest allocation of surface water in Western Australia occurred in the Ord River Water Management Area and accounted for 351 GL (or 14%) of the total volume of water allocated (Table 2.16). This was followed by the Harvey River Water Management Area and accounted for 148 GL (or 6%) of the total volume of water allocated in the State.

The largest allocation of groundwater in Western Australia occurred in the Goldfields Water Management Area and accounted for 264 GL (or 10%) of the total volume of water allocated (Table 2.17). This was followed by the Pilbara Water Management Area and accounted for 237 GL (or 9%) of the total volume of water allocated in the State.

Tasmania

In 2004-05 there were 3,110 water access entitlements in Tasmania with a total entitlement volume and a total allocation volume of 1,038 GL, all of which related to surface water sources (Table 2.18). In Tasmania, the water access entitlement volume equals the allocation volume as discussed in Chapter 1. Water allocations issued under *Tasmania's Water Management Act 1999* accounted for 2,735 (or 88%) of all water access entitlements and irrigation rights granted under the *Irrigation Clauses Act 1973* accounted for 375 (12%) of all water access entitlements in the State.

The largest allocation of water in Tasmania occurred in the Lower Derwent Water Management Area and accounted for 220 GL (or 21%) of the total volume of water allocated in the State (Table 2.18). This was followed by the Brumbys-Lake Water Management Area, which accounted for 193 GL (or 19%) of the total volume of water allocated in the Tasmania.

Northern Territory

In 2004-05 there were 166 water access entitlements in the Northern Territory with a total entitlement volume and a total allocation volume of 140 GL (Table 2.1). In the Northern Territory, the water access entitlement volume equals the allocation volume as discussed in Chapter 1. Surface water access entitlements accounted for 64 (or 39%) of all the water access entitlements and 60 GL (or 43%) of the total water allocated in the Territory (Table 2.2). Groundwater access entitlements accounted for 102 (or 61%) of all the water access entitlements and 80 GL (or 57%) of the total water allocated in the Northern Territory.

The largest allocation of surface water in the Northern Territory occurred in the Darwin-Blackmore Rivers Water Management Area and accounted for 38 GL (or 27%) of the total volume of water allocated (Table 2.19). This was followed by the Daly River Water Management Area, which accounted for 9 GL (or 7%) of the total volume of water allocated in the Territory. The largest allocation of groundwater in the Northern Territory occurred in the Tindall-Katherine Water Management Area and accounted for 27 GL (or 19%) of the total volume of water allocated (Table 2.20). This was followed by the Mereenie – Alice Springs Water Management Area, which accounted for 14 GL (or 10%) of the total volume of water allocated in the Territory.

Australian Capital Territory

In 2004-05 there were 153 water access entitlements in the Australian Capital Territory, which had a total entitlement volume and a total allocation volume of 66 GL (Table 2.21). In the Australian Capital Territory, the water access entitlement volume equals the allocation volume as discussed in Chapter 1.

Surface water only access entitlements accounted for 27 (or 18%) of the water access entitlements and 64 GL (or 97%) of the total volume of water allocated (Table 2.21). Groundwater only access entitlements accounted for 114 (or 75%) of the water access entitlements and 0.7 GL (or 1%) of the total volume of water allocated. Water access entitlements that allowed entitlement holders to access both surface and groundwater accounted for 12 (or 8%) of the water access entitlements and 1.3 GL (or 2%) or total volume of water allocated in the Territory.

2.1 WATER ACCESS ENTITLEMENTS AND ALLOCATIONS - 2004-05

	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
	no.	ML	ML
NSW(a)	118 110	13 301 851	9 798 575
Vic.(b)	25 514	6 680 334	4 733 845
Qld(c)	48 591	4 397 481	na
SA	10 399	1 660 584	1 660 584
WA	17 513	2 546 643	2 546 643
Tas.	3 110	1 038 419	1 038 419
NT	166	139 959	139 959
ACT	153	66 150	66 150
Australia	223 556	29 831 421	na

na not available

(a) Maximum available water has been used for allocated volume in New South Wales

(b) Volume taken has been used as a proxy for allocated volume in Victoria

(c) Excludes 1,931 water licences without a volumetric entitlement volume in Queensland

2.2 WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, by water source - 2004-05 ..

SURFACE WATER			GROUNDWATER			SURFACE AND GROUNDWATER(a)		
Number of entitlements	Entitlement volume	Allocated volume	Number of entitlements	Entitlement volume	Allocated volume	Number of entitlements	Entitlement volume	Allocated volume
no.	ML	ML	no.	ML	ML	no.	ML	ML
24 694	10 644 024	7 135 637	93 416	2 657 827	2 662 938	—	—	—
17 030	5 827 960	4 370 300	8 484	852 374	363 545	—	—	—
27 336	3 488 495	na	21 255	908 986	na	—	—	—
3 486	789 057	789 057	6 179	854 296	854 296	734	17 232	17 232
878	902 500	902 500	16 635	1 644 143	1 644 143	—	—	—
3 110	1 038 419	1 038 419	—	—	—	—	—	—
64	59 832	59 832	102	80 127	80 127	—	—	—
27	64 154	64 154	114	660	660	12	1 336	1 336
76 625	22 814 441	na	146 185	6 998 412	na	746	18 568	18 568

— nil or rounded to zero (including null cells)

na not available

(a) Water access entitlements that allow the holder to access both surface and groundwater sources

(b) Maximum available water has been used for allocated volume in New South Wales

(c) Volume taken has been used as a proxy for allocated volume in Victoria

(d) Excludes 1,931 water licences without a volumetric entitlement volume in Queensland

2.3**TYPE OF WATER ACCESS ENTITLEMENTS, New South Wales - 2004-05**

	<i>Number of entitlements</i>	<i>Total share component(a)</i>	<i>Share component unit(b)</i>	<i>Maximum available water(c)(d)</i>
.....				
Water Licences(e)				
Groundwater	93 005	2 639 864	ML	2 639 864
Regulated Rivers (General Security)	732	376 185	ML	246 951
Unregulated Rivers	13 005	1 722 695	ML	1 722 695
<i>Total</i>	<i>106 742</i>	<i>4 738 744</i>	<i>ML</i>	<i>4 609 510</i>
Water Access Licences(f)				
Aquifer	406	16 433	unit shares	21 544
Domestic and Stock	1 790	60 238	ML	52 384
Domestic and Stock (Domestic)	502	2 083	ML	2 026
Domestic and Stock (Stock)	638	17 584	ML	16 430
Domestic and Stock (Town Water Supply)	1	100	ML	200
Local Water Utility(g)	77	128 354	ML	129 347
Major Utility - Power Generation	1	36 000	ML	36 000
Regulated River (Conveyance)	5	705 968	unit shares	504 346
Regulated River (General Security)	4 327	5 834 965	unit shares	2 603 765
Regulated River (High Security)	946	546 662	unit shares	504 226
Regulated River (High Security - Aboriginal Cultural)	1	900	ML	—
Regulated River (High Security - Research)	9	6 011	ML	6 011
Regulated River (High Security - Town Water Supply)	5	23 004	ML	23 004
Supplementary Water	1 571	1 085 063	unit shares	1 090 406
Unregulated River	1 089	99 742	unit shares	199 376
<i>Total</i>	<i>11 368</i>	<i>8 563 107</i>	<i>—</i>	<i>5 189 065</i>
Total	118 110	13 301 851	—	9 798 575

— nil or rounded to zero (including null cells)

(a) Equates to the entitlement volume, but may be expressed as a volume or as a unit share

(b) Expressed as a volume or as a share of the water source

(c) The maximum licensed volume of water that can be extracted if river, climatic and economic conditions prevail

(d) Includes account carryover water, end of year account balances and adjustments for account spills

(e) Water licences created under the Water Act 1912, for areas of the State not covered by water sharing plans

(f) Water access licences created under the Water Management Act 2000, for areas of the State covered by water sharing plans

(g) Includes five water access licences that are supplied from groundwater sources

Source: Department of Natural Resources, New South Wales

2.4**SURFACE WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, New South Wales,
by catchment management authority area - 2004-05**

<i>Catchment Management Authority Area</i>	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Maximum available water(a) (b)</i>
	no.	ML	ML
Border Rivers - Gwydir			
Border Regulated Rivers(c)	137	266 351	177 972
Gwydir Regulated River	438	708 346	383 766
Rocky Creek, Cobbadah, Upper and Lower Horton	63	5 618	11 236
Tenterfield Creek	66	4 223	8 446
Unregulated water sources(c) (d)	1 128	189 277	189 277
<i>Total</i>	<i>1 832</i>	<i>1 173 815</i>	<i>770 697</i>
Central West			
Castlereagh River	60	5 087	10 174
Macquarie And Cudgegong Regulated Rivers	1 448	723 826	167 738
Unregulated water sources(c) (d)	1 272	581 572	581 572
<i>Total</i>	<i>2 780</i>	<i>1 310 485</i>	<i>759 484</i>
Hunter - Central Rivers			
Hunter Regulated River	1 342	247 408	208 312
Jilliby Jilliby Creek	25	994	1 989
Karuah River	79	3 483	7 006
Ourimbah Creek (Surface Water)	85	7 093	14 183
Paterson Regulated River(c)	116	9 707	9 707
Unregulated water sources(c)	2 354	140 150	140 150
Wybong Creek (Surface Water)	115	8 298	16 558
<i>Total</i>	<i>4 116</i>	<i>417 133</i>	<i>397 905</i>
Lachlan			
Belubula Regulated River(c)	134	26 523	4 162
Lachlan Regulated River	1 409	637 088	25 774
Mandagery Creek	118	8 468	16 936
Unregulated water sources(c)	505	37 509	37 509
<i>Total</i>	<i>2 166</i>	<i>709 588</i>	<i>84 381</i>
Murray			
Lower Darling Regulated River	259	298 430	298 431
New South Wales Murray Regulated River	2 631	2 484 167	1 758 545
Unregulated water sources(c)	540	56 175	56 175
Upper Billabong	4	337	674
<i>Total</i>	<i>3 434</i>	<i>2 839 109</i>	<i>2 113 825</i>
Murrumbidgee			
Adelong Creek	74	4 161	8 294
Murrumbidgee Regulated River	1 478	2 956 281	1 823 265
Tarcutta Creek	98	5 007	10 013
Unregulated water sources(c)	828	71 962	71 962
<i>Total</i>	<i>2 478</i>	<i>3 037 411</i>	<i>1 913 534</i>

(a) The maximum licensed volume of water that can be extracted if river, climatic and economic conditions prevail

(b) Includes account carryover water, end of year account balances and adjustments for account spills

(c) Water licences created under the Water Act 1912, for areas of the State not covered by water sharing plans

(d) Includes part of Barwon-Darling

Source: Department of Natural Resources, New South Wales

2.4 SURFACE WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, New South Wales, by catchment management authority area - 2004-05 *continued*

	Number of entitlements	Entitlement volume	Maximum available water(a) (b)
<i>Catchment Management Authority Area</i>	no.	ML	ML
.....			
Namoi			
Lower Namoi Regulated River	548	369 880	270 846
Mooki River	38	29 633	59 266
Peel Regulated River(c)	195	48 299	37 480
Phillips Creek	4	161	322
Quirindi Creek	36	2 785	5 572
Unregulated water sources(c)	305	130 847	130 847
Upper Namoi Regulated River	102	10 051	10 051
Warrah Creek	8	265	530
<i>Total</i>	<i>1 236</i>	<i>591 921</i>	<i>514 914</i>
Northern Rivers			
Apsley River	10	331	661
Commissioners Waters	47	2 151	4 302
Coopers Creek	130	5 804	11 590
Dorrigo Plateau	101	9 776	19 528
Richmond Regulated River(c)	60	10 384	10 384
Toorumbree Creek	—	—	—
Unregulated water sources(c)	3 088	240 849	240 849
Upper Brunswick River	20	608	1 216
<i>Total</i>	<i>3 456</i>	<i>269 903</i>	<i>288 530</i>
Southern Rivers			
Bega Regulated River(c)	90	14 921	7 246
Kangaroo River	101	4 740	9 481
Unregulated water sources(c)	2 985	274 354	274 354
Wandella Creek	20	643	1 286
<i>Total</i>	<i>3 196</i>	<i>294 658</i>	<i>292 367</i>
Total	24 694	10 644 024	7 135 637

— nil or rounded to zero (including null cells)

(a) The maximum licensed volume of water that can be extracted if river, climatic and economic conditions prevail

(b) Includes account carryover water, end of year account balances and adjustments for account spills

(c) Water licences created under the Water Act 1912, for areas of the State not covered by water sharing plans

Source: Department of Natural Resources, New South Wales

2.5**GROUNDWATER ACCESS ENTITLEMENTS AND ALLOCATIONS, New South Wales, by catchment management authority area - 2004-05**

<i>Catchment Management Authority Area</i>	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Maximum available water(a)(b)</i>
	<i>no.</i>	<i>ML</i>	<i>ML</i>
.....			
Border Rivers - Gwydir			
Barwon(c)(d)	22 447	690 446	690 446
<i>Total</i>	22 447	690 446	690 446
Central West			
Macquarie(c)	16 455	264 112	264 112
<i>Total</i>	16 455	264 112	264 112
Hunter - Central Rivers			
Brisbane Water	2	24	24
Hunter(c)	8 377	150 052	150 052
Lower Mangrove And Popran Creeks	51	880	875
Mooney Mooney And Mullet Creeks	45	576	551
Ourimbah Creek (Groundwater)	35	740	740
Stockton	19	941	3 641
Tomago	8	712	1 312
Tomaree	12	827	827
Upper Mangrove	24	302	302
Wollombi Brook	3	25	25
Wybong Creek (Groundwater)	17	1 915	3 830
Wyang River	12	443	443
<i>Total</i>	8 605	157 437	162 622
Lachlan			
Lachlan(c)	9 127	428 461	428 461
<i>Total</i>	9 127	428 461	428 461
Murray			
Lower Murray-Darling(c)	717	10 037	10 037
Murray(c)	4 696	494 898	494 898
<i>Total</i>	5 413	504 935	504 935
Murrumbidgee			
Murrumbidgee(c)	8 305	526 146	526 146
<i>Total</i>	8 305	526 146	526 146
Northern Rivers			
Alstonville	54	2 770	2 770
Bangalow	24	1 293	1 293
Coopers	2	24	24
Dorrigo Basalt	7	124	50
Lennox	1	5	5
North Coast(c)	11 428	40 271	40 271
Stuarts Point	24	3 632	3 632
Tuckean	69	2 692	2 692
Wyrallah	2	38	38
<i>Total</i>	11 611	50 849	50 775
Southern Rivers			
Sydney South Coast(c)	11 453	35 441	35 441
<i>Total</i>	11 453	35 441	35 441
Total	93 416	2 657 827	2 662 938

-
- (a) The maximum licensed volume of water that can be extracted if river, climatic and economic conditions prevail
- (b) Includes account carryover water, end of year account balances and adjustments for account spills
- (c) Water licences created under the Water Act 1912, for areas of the State not covered by water sharing plans
- (d) Includes that part of Barwon in the Namoi Water Management Area
- Source: Department of Natural Resources, New South Wales

2.6**WATER MADE AVAILABLE, New South Wales - 2004-05**

<i>Surface water source</i>	<i>Water made available</i>
	<i>%</i>
.....	
Bega Regulated River(a)	
Domestic and Stock	45
General Security	100
High Security	100
Town Water Supply	100
Belubula Regulated River(a)	
Domestic and Stock	14
General Security	20
High Security	100
Border Regulated Rivers(a)	
Domestic and Stock	66
General Security	100
High Security	100
Town Water Supply	100
Gwydir Regulated River	
Domestic And Stock	100
General Security	29
High Security	100
High Security (Research)	100
Local Water Utility	100
Supplementary Water(b)	125
Hunter Regulated River	
Domestic And Stock	100
General Security	100
High Security	100
Local Water Utility	100
Major Utility (Power Generation)	100
Supplementary Water(b)	20
Lachlan Regulated River	
Conveyance	6
Domestic And Stock	30
General Security	1
High Security	30
Local Water Utility	50
Lower Darling Regulated River	
Domestic And Stock	100
General Security	100
High Security	100
Local Water Utility	100
Supplementary Water(b)	100
Lower Namoi Regulated River	
Domestic And Stock	100
General Security	60
High Security	100
High Security (Research)	100
Local Water Utility	100
Supplementary Water(b)	100

(a) Regulated rivers with water licences created under the Water Act 1912

(b) Supplementary Water is not a stored source of water and is only made available if uncontrolled flow events occur

Source: Department of Natural Resources, New South Wales

2.6**WATER MADE AVAILABLE, New South Wales - 2004-05** *continued*

<i>Surface water source</i>	<i>Water made available</i>
	<i>%</i>
Macquarie and Cudgegong Regulated Rivers	
Domestic And Stock	100
General Security	12
High Security	100
High Security (Research)	100
High Security (Town Water Supply)	100
Local Water Utility	100
Supplementary Water(a)	100
Murrumbidgee Regulated River	
Conveyance	39
Conveyance (Coleambally Irrigation)	89
Conveyance (Murrumbidgee Irrigation)	66
Domestic And Stock	100
General Security	50
High Security	95
High Security (Aboriginal Cultural)	100
High Security (Research)	100
High Security (Town Water Supply)	100
Local Water Utility	100
Supplementary Water(a)	100
NSW Murray Regulated River	
Conveyance	69
Domestic And Stock	100
General Security	63
High Security	97
High Security (Research)	100
High Security (Town Water Supply)	100
Local Water Utility	100
Supplementary Water(a)	100
Paterson Regulated River(b)	
Domestic and Stock	100
General Security	100
High Security	100
Town Water Supply	100
Peel Regulated River(b)	
Domestic and Stock	65
General Security	100
High Security	100
Town Water Supply	100
Richmond Regulated River(b)	
Domestic and Stock	100
General Security	100
High Security	100
Upper Namoi Regulated River	
Domestic And Stock	100
General Security	100
High Security	100
Local Water Utility	100

(a) Supplementary Water is not a stored source of water and is only made available if uncontrolled flow events occur

(b) Regulated rivers with water licences created under the Water Act 1912

Source: Department of Natural Resources, New South Wales

2.6**WATER MADE AVAILABLE, New South Wales - 2004-05** *continued*

	<i>Water made available</i>
<i>Surface water source</i>	<i>%</i>
.....	
Unregulated Rivers(a)	
Domestic And Stock	200
Local Water Utility	200
Unregulated River	200
.....	

(a) All unregulated rivers with water sharing plans were issued the same AWD in 2004-05 to populate water accounts

Source: Department of Natural Resources, New South Wales

2.7**TYPE OF WATER ACCESS ENTITLEMENTS, Victoria - 2004-05**

	<i>Number of entitlements(a)</i>	<i>Entitlement volume(b)</i>	<i>Volume taken(c)</i>
	<i>no.</i>	<i>ML</i>	<i>ML</i>
.....			
Surface Water(d)			
Bulk Entitlements	153	5 071 510	4 239 710
Private Diversion Licences	16 877	756 450	130 590
Total	17 030	5 827 960	4 370 300
Groundwater			
Groundwater Licences	8 484	852 374	363 545
Total	8 484	852 374	363 545
Total	25 514	6 680 334	4 733 845
.....			

(a) Sourced from the annual reports of Victorian rural water authorities and the Department of Sustainability and Environment, Victoria

(b) Sourced from the Victorian State Water Report 2004-05

(c) Volume taken has been used as a proxy for allocated volume

(d) Excludes water rights, as the holders of water rights receive a portion of the bulk entitlements held by the rural authority in that area

2.8**SURFACE WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Victoria, by water management area - 2004-05**

<i>Water Management Area</i>	<i>Number of entitlements(a)</i>	<i>Entitlement volume</i>	<i>Volume taken(b)</i>
no.	ML	ML	
Avoca	na	16 490	1 720
Barwon	na	91 690	44 010
Broken	na	19 260	20 780
Bunyip(c)	na	27 770	11 810
Campaspe	na	313 750	44 580
East Gippsland	na	2 440	640
Glenelg(d)	na	56 670	800
Goulburn	na	2 029 630	1 495 850
Hopkins(c)	na	74 560	5 740
Kiewa	na	17 720	5 680
Lake Corangamite	na	13 270	700
Latrobe	na	295 690	148 700
Loddon(c)	na	67 650	32 530
Mallee	na	—	—
Maribymong(c)	na	18 560	5 140
Millicent Coast(c)	na	90	240
Mitchell	na	25 800	13 830
Moorabool	na	68 630	18 980
Murray(c)	na	1 745 650	1 522 350
Otway Coast	na	37 470	19 490
Ovens(c)	na	36 690	23 460
Portland Coast	na	17 420	800
Snowy	na	9 460	3 170
South Gippsland	na	50 210	16 430
Tambo	na	11 630	2 560
Thomson(c)	na	467 430	357 900
Werribee(c)	na	37 850	18 190
Wimmera(c)	na	222 600	86 210
Yarra River	na	51 880	468 010
Total	(e) 17 030	5 827 960	4 370 300

— nil or rounded to zero (including null cells)

na not available

(a) Number of entitlements was not available by water management area in 2004-05

(b) Volume taken has been used as a proxy for allocated volume

(c) Some or all of the bulk entitlements in this water management area are yet to be finalised

(d) The bulk entitlement component of the Glenelg Water Management Area is included in the Wimmera Water Management Area

(e) Sourced from the annual reports of rural water authorities and the Department of Sustainability and Environment, Victoria

Source: Victorian State Water Report 2004-05

2.9**GROUNDWATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Victoria, by water management area - 2004-05**

	Number of entitlements(a)	Entitlement volume	Volume taken(b)
Water Management Area	no.	ML	ML
Groundwater Management Areas			
Alexandra	na	1 714	600
Balrootan	na	1 522	370
Barnawartha	na	485	170
Colongulac	na	3 600	1 260
Corinella	na	164	57
Cut Paw Paw	na	531	186
Ellesmere	na	2 280	798
Frankston	na	1 098	384
Gellibrand	na	—	—
Gerangamete	na	4 000	—
Giffard	na	5 705	2 520
Glenormiston	na	2 512	879
Goorambat	na	1 543	540
Goroke	na	—	—
Heywood	na	6 442	2 255
Jan Juc	na	4 000	1 400
Kaniva	na	—	—
Kialla	na	2 332	816
Kinglake	na	1 840	644
Lancefield	na	1 373	110
Leongatha	na	1 471	515
Little Desert	na	—	—
Merrimu	na	451	90
Moe	na	3 096	1 084
Moorabbin	na	2 071	725
Mullindoolingong	na	1 285	450
Murungee	na	11 792	4 127
Nagambie	na	6 648	4 410
Nepean	na	6 049	2 117
Newlingrook	na	1 968	689
Nhill	na	—	—
Orbost	na	1 200	270
Paaratte	na	3 192	1 117
Portland	na	1 646	576
Rosedale	na	21 241	9 920
Stratford	na	31 553	17 230
Tarwin	na	41	14
Wa De Lock	na	26 865	9 403
<i>Total</i>	na	<i>161 710</i>	<i>65 726</i>

— nil or rounded to zero (including null cells)

na not available

(a) Number of entitlements was not available by water management area for 2004-05

(b) Volume taken has been used as a proxy for allocated volume

Source: Victorian State Water Report 2004-05

2.9**GROUNDWATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Victoria, by water management area - 2004-05 *continued***

	Number of entitlements(a)	Entitlement volume	Volume taken(b)
<i>Water Management Area</i>	no.	ML	ML
Water Supply Protection Area			
Aspley	na	4 285	1 360
Bungaree	na	5 356	2 610
Campaspe Deap Lead	na	46 039	25 713
Condah	na	7 568	3 270
Denison	na	13 733	6 500
Deutgam	na	5 234	960
Glenelg	na	32 782	19 950
Kaniva	na	3 673	2 250
Katunga	na	44 080	26 220
Kooweerup	na	13 769	3 070
Mid Loddon	na	34 046	17 580
Murrayville	na	9 633	4 700
Neuarpur	na	24 696	19 250
Nullawarre	na	22 238	9 490
Sale	na	21 574	7 680
Shepparton Irrigation	na	203 619	79 820
Spring Hill	na	4 909	1 370
Telopea Downs	na	7 482	3 830
Upper Loddon	na	13 036	6 210
Wandin Yallock	na	3 043	300
Warrion	na	14 214	4 276
Wy Yung	na	7 525	790
Yangery	na	14 473	4 520
Yarram	na	25 657	8 100
<i>Total</i>	na	582 664	259 819
Unincorporated Areas	na	108 000	38 000
Total	(c) 8 484	852 374	363 545

na not available

(a) Number of entitlements was not available by water management area for 2004-05

(b) Volume taken has been used as a proxy for allocated volume

(c) Sourced from the annual reports of rural water authorities

Source: Victorian State Water Report 2004-05

2.10

TYPE OF WATER ACCESS ENTITLEMENTS, Queensland - 2004-05

	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
	no.	ML	ML
.....			
Surface Water			
Interim Water Allocation	3 251	1 362 491	na
Water Allocation	5 419	1 214 735	na
Water Licence	18 666	911 268	na
<i>Total</i>	27 336	3 488 495	na
Groundwater			
Interim Water Allocation	372	76 935	na
Water Allocation	—	—	—
Water Licence	20 883	832 051	na
<i>Total</i>	21 255	908 986	na
Total			
Interim Water Allocation	3 623	1 439 426	na
Water Allocation	5 419	1 214 735	na
Water Licence	39 549	1 743 319	na
Total	48 591	4 397 481	na

— nil or rounded to zero (including null cells)

na not available

Source: Department of Natural Resources and Water, Queensland

2.11**SURFACE WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Queensland, by river basin - 2004-05**

	Number of entitlements	Entitlement volume	Allocated volume
<i>River Basin</i>	no.	ML	ML
Archer	2	7	na
Baffle	110	5 937	na
Barron	2 009	198 464	na
Black	134	4 095	na
Border Rivers	1 422	130 120	na
Boyne	29	79 429	na
Brisbane	2 756	117 747	na
Bulloo	9	29	na
Burdekin	1 224	902 352	na
Burnett	3 180	297 571	na
Burrum	391	33 507	na
Calliope	81	2 635	na
Coleman	—	—	—
Condamine-Culgoa	2 818	192 194	na
Coopers Creek	108	5 751	na
Daintree	79	1 479	na
Diamantina	4	—	—
Don	155	5 667	na
Ducie	—	—	—
Embley	—	—	—
Endeavour	36	2 371	na
Fitzroy	2 528	577 374	na
Flinders	36	10 934	na
Fraser Island	—	—	—
Georgina	2	74	na
Gilbert	54	9 735	na
Haughton	225	42 700	na
Herbert	622	41 135	na
Holroyd	—	—	—
Jardine	4	1 500	na
Jeannie	5	664	na
Johnstone	850	50 204	na
Kolan	757	101 347	na
Leichhardt	35	58 027	na
Logan	1 163	56 354	na
Maroochy	525	7 562	na
Mary	2 039	132 067	na
Mitchell	319	22 873	na
Moonie	103	693	na
Morning	1	—	—
Mornington Island	—	—	—
Mossman	43	16 850	na
Mulgrave-Russell	312	29 935	na
Murray	123	8 276	na
Nicholson	15	2 368	na
Noosa	62	1 172	na
Norman	3	2 132	na
Normanby	27	2 131	na
O'Connell	400	33 014	na
Paroo	3	39	na
Pine	371	5 259	na
Pioneer	491	89 794	na
Plane	596	76 951	na
Proserpine	196	40 378	na
Ross	74	1 404	na
Settlement	—	—	—
Shoalwater	—	—	—

— nil or rounded to zero (including null cells)

na not available

Source: Department of Natural Resources and Water, Queensland

2.11**SURFACE WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Queensland, by
river basin - 2004-05** *continued*

	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
<i>River Basin</i>	<i>no.</i>	<i>ML</i>	<i>ML</i>
South Coast	487	6 062	na
Staaten	1	—	—
Stewart	1	71	na
Stradbroke Islands	8	44 343	na
Styx	19	1 010	na
Torres Strait Islands	1	—	—
Tully	120	30 372	na
Warrego	138	3 511	na
Waterpark	30	828	na
Watson	—	—	—
Wenlock	—	—	—
Total	27 336	3 488 495	na

— nil or rounded to zero (including null cells)

na not available

Source: Department of Natural Resources and Water, Queensland

2.12**GROUNDWATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Queensland, by river basin - 2004-05**

	Number of entitlements	Entitlement volume	Allocated volume
<i>River Basin</i>	no.	ML	ML
Archer	1	100	na
Balonne-Condamine	5 730	238 354	na
Barron	246	26 977	na
Black	799	10 922	na
Border Rivers	700	22 716	na
Brisbane	738	122	na
Bulloo	207	880	na
Burdekin	254	10 569	na
Burnett	1 614	47 058	na
Burrum	884	29 447	na
Coleman	7	265	na
Coopers Creek	1 292	5 114	na
Daintree	44	1 446	na
Diamantina	132	1 143	na
Don	461	21 368	na
Ducie	2	55	na
Embley	17	29 948	na
Endeavour	61	969	na
Fitzroy	3 334	117 592	na
Flinders	897	13 527	na
Fraser Island	20	373	na
Georgina	190	17 769	na
Gilbert	49	13	na
Haughton	259	45 012	na
Holroyd	2	—	—
Jardine	—	—	—
Jeannie	3	6 235	na
Johnstone	2	220	na
Kolan	422	15 703	na
Leichhardt	97	253	na
Lockhart	1	315	na
Maroochy	—	—	—
Mitchell	15	3	na
Moonie	59	193	na
Morning	3	—	—
Mornington Island	3	—	—
Mossman	52	2 298	na
Mulgrave-Russell	136	23 498	na
Nicholson	23	852	na
Noosa	—	—	—
Norman	102	60	na
Normanby	29	902	na
Paroo	235	272	na
Pine	—	—	—
Pioneer	150	22 123	na
Plane	549	66 288	na
Proserpine	238	41 486	na
Ross	244	251	na
Settlement	1	—	—
Shoalwater	2	—	—
Staaten	1	—	—
Stradbroke Islands	80	80 965	na
Styx	—	—	—
Torres Strait Islands	—	—	—
Warrego	844	3 379	na
Waterpark	19	1 702	na
Watson	1	250	na

— nil or rounded to zero (including null cells)

na not available

Source: Department of Natural Resources and Water, Queensland

2.12**GROUNDWATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Queensland, by river basin - 2004-05** *continued*

	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
<i>River Basin</i>	no.	ML	ML
Wenlock	4	—	—
Total	21 255	908 986	na

— nil or rounded to zero (including null cells)

na not available

Source: Department of Natural Resources and Water, Queensland

2.13**WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, South Australia, by water management area - 2004-05**

	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
<i>Water Management Area</i>	no.	ML	ML
Prescribed Watercourses(a)			
Little Para	12	638	638
River Murray	3 474	788 419	788 419
<i>Total</i>	3 486	789 057	789 057
Prescribed Wells Areas(b)			
Angas Bremer	110	6 670	6 670
Lower Limestone Coast	3 436	540 716	540 716
Mallee	200	52 001	52 001
McLaren Vale	439	6 624	6 624
Musgrave	9	2 388	2 388
Noora	—	—	—
Northern Adelaide Plains	1 263	25 243	25 243
Padthaway	114	35 112	35 112
Southern Basins	17	8 917	8 917
Tatiara	472	92 420	92 420
Tintinara Coonalpyn	119	84 205	84 205
<i>Total</i>	6 179	854 296	854 296
Prescribed Water Resources Areas(c)			
Barossa	433	11 115	11 115
Clare Valley	301	6 117	6 117
<i>Total</i>	734	17 232	17 232
Total	10 399	1 660 584	1 660 584

— nil or rounded to zero (including null cells)

(a) Surface water only

(b) Groundwater only, includes water allocated following recharge into aquifers

(c) Surface water, water courses and groundwater

Source: Department of Water, Land and Biodiversity Conservation, South Australia

2.14**SURFACE WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, South Australia, by water management area - 2004-05**

<i>Water Management Area</i>	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
	no.	ML	ML
Barossa PWRA(a)	na	3 876	3 876
Clare Valley PWRA(a)	na	2 603	2 603
Little Para PWC	12	638	638
River Murray PWC	3 474	788 419	788 419
Total	na	795 537	795 537

na not available

(a) Number of licences cannot be split between surface and groundwater sources

Source: Department of Water, Land and Biodiversity Conservation, South Australia

2.15**GROUNDWATER ACCESS ENTITLEMENTS AND ALLOCATIONS, South Australia, by water management area - 2004-05**

<i>Water Management Area</i>	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
	no.	ML	ML
Angas Bremer PWA	110	6 670	6 670
Barossa PWRA(a)	na	7 238	7 238
Clare Valley PWRA(a)	na	3 513	3 513
Lower Limestone Coast PWA	3 436	540 716	540 716
Mallee PWA	200	52 001	52 001
McLaren Vale PWA	439	6 624	6 624
Musgrave PWA	9	2 388	2 388
Noora PWA	—	—	—
Northern Adelaide Plains PWA	1 263	25 243	25 243
Padthaway PWA	114	35 112	35 112
Southern Basins PWA	17	8 917	8 917
Tatiara PWA	472	92 420	92 420
Tintinara Coonalpyn PWA	119	84 205	84 205
Total	na	865 047	865 047

— nil or rounded to zero (including null cells)

na not available

(a) Number of licences cannot be split between surface and groundwater sources

Source: Department of Water, Land and Biodiversity Conservation, South Australia

2.16**SURFACE WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Western Australia,
by water management area - 2004-05**

<i>Water Management Area</i>	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
no.	ML	ML	
Albany Coast	3	2 000	2 000
Ashburton River	2	5	5
Avon River	2	78	78
Blackwood River	5	1 116	1 116
Busselton Coast	50	3 175	3 175
Collie River	24	94 511	94 511
Donnelly River	93	9 309	9 309
Fitzroy River	3	41	41
Fortescue River	2	—	—
Gascoyne River	1	7	7
Greenough River	2	48	48
Harvey River	23	147 880	147 880
Isdell River	1	3	3
Moore-Hill Rivers	38	5 336	5 336
Murray River	76	131 067	131 067
Ord River	53	351 392	351 392
Port Hedland Coast	2	15 005	15 005
Preston River	50	6 108	6 108
Swan Coast	141	104 612	104 612
Warren River	307	30 807	30 807
Total	878	902 500	902 500

— nil or rounded to zero (including null cells)

Source: Department of Water, Western Australia

2.17 GROUNDWATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Western Australia, by water management area - 2004-05

<i>Water Management Area</i>	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
no.	ML	ML	
Albany	430	5 036	5 036
Arrowsmith	147	72 895	72 895
Blackwood	76	14 022	14 022
Bolgart	3	44	44
Bremer Bay	5	142	142
Broome	164	7 916	7 916
Bunbury	1 027	36 714	36 714
Busselton-Capel	1 004	80 394	80 394
Canning-Kimberley	91	55 207	55 207
Carnarvon	162	10 612	10 612
Cockburn	573	37 737	37 737
Collie	11	33 728	33 728
Condungup	1	20	20
Derby	26	2 538	2 538
Dwellingup	2	16	16
East Murchison	127	71 623	71 623
Esperance	31	2 187	2 187
Gascoyne	325	31 848	31 848
Gibson	1	25	25
Gingin	679	215 686	215 686
Gnangara	21	61 755	61 755
Goldfields	245	264 088	264 088
Happy Valley	1	85	85
Hopetoun	1	140	140
Jandakot	1 403	20 849	20 849
Jurien	73	34 498	34 498
Karri	9	166	166
Kondinin-Ravensthorpe	8	5 273	5 273
Mirrabooka	1 941	27 025	27 025
Murray	234	9 520	9 520
New Norcia	2	36	36
Perth	3 788	168 748	168 748
Pilbara	170	236 898	236 898
Rockingham	635	19 668	19 668
Serpentine	723	15 895	15 895
South West Coastal	286	30 095	30 095
Swan	1 072	25 339	25 339
Wanneroo	1 104	40 545	40 545
Westonia	5	2 800	2 800
Yanchep	23	2 143	2 143
Yenart	4	145	145
Yerecoin	2	43	43
Total	16 635	1 644 143	1 644 143

Source: Department of Water, Western Australia

2.18**SURFACE WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Tasmania, by
water management area - 2004-05**

<i>Water Management Area</i>	<i>Number of entitlements no.</i>	<i>Entitlement volume ML</i>	<i>Allocated volume ML</i>
Arthur	6	1 169	1 169
Black-Detention	73	8 495	8 495
Blythe	110	5 165	5 165
Boobyalla-Tomahawk	24	4 976	4 976
Brumbys-Lake(a)	199	193 094	193 094
Cam	63	3 425	3 425
Clyde	10	18 042	18 042
Derwent Estuary-Bruny	87	38 117	38 117
Duck	94	6 876	6 876
Emu	28	61 799	61 799
Forth-Wilmot	119	7 570	7 570
Furneaux	2	575	575
George	15	1 048	1 048
Gordon-Franklin	1	2	2
Great Forester-Brid	157	61 814	61 814
Great Lake	—	—	—
Huon	163	48 329	48 329
Inglis	153	6 721	6 721
Jordan	76	8 145	8 145
King Island	14	1 081	1 081
King-Henty	8	5 763	5 763
Leven	161	7 085	7 085
Little Forester	17	2 318	2 318
Little Swanport	12	835	835
Lower Derwent	124	220 005	220 005
Macquarie	86	35 950	35 950
Meander	173	17 075	17 075
Mersey	207	16 102	16 102
Montagu	16	959	959
Musselroe-Ansons	7	5 851	5 851
Nelson Bay	1	260	260
North Esk	27	35 275	35 275
Ouse	7	3 614	3 614
Pieman	4	9 000	9 000
Pipers	32	1 066	1 066
Pitt Water-Coal(b)	233	15 392	15 392
Prosser	19	5 806	5 806
Ringarooma(c)	162	16 060	16 060
Rubicon	136	11 750	11 750
Scamander-Douglas	11	1 265	1 265
South Esk	92	43 309	43 309
Swan-Apsley	30	11 329	11 329
Tamar Estuary	53	4 697	4 697
Tasman	30	1 822	1 822
Upper Derwent	60	88 492	88 492
Welcome	8	895	895
Total	3 110	1 038 419	1 038 419

— nil or rounded to zero (including null cells)

(a) Includes 132 irrigation rights in the Cressy Longford Irrigation Scheme

(b) Includes 164 irrigation rights in the South East Irrigation Scheme

(c) Includes 79 irrigation rights in the Winnaleah Irrigation Scheme

Source: Department of Primary Industries and Water, Tasmania

2.19

SURFACE WATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Northern

Territory, by water management area - 2004-05

<i>Water Management Area</i>	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
	no.	ML	ML
Adelaide River	8	8 476	8 476
Blyth River	1	3	3
Buckingham River	1	45	45
Daly River	26	9 323	9 323
Darwin-Blackmore Rivers	4	38 200	38 200
Finniss River	13	1 311	1 311
Goyder River	1	18	18
Groote Eylandt	2	1 220	1 220
Mary River	1	525	525
Robinson River	2	45	45
Roper River	3	564	564
South Alligator River	1	92	92
Victoria River	1	10	10
Total	64	59 832	59 832

Source: Department of Natural Resources, Environment and The Arts,
Northern Territory

2.20

GROUNDWATER ACCESS ENTITLEMENTS AND ALLOCATIONS, Northern Territory,

by water management area - 2004-05

<i>Water Management Area</i>	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
	no.	ML	ML
Alice Springs Town Basin	8	1 668	1 668
Berry Springs Dolomite	3	311	311
Gove	1	10 300	10 300
Jinduckin Formation (Unincorporated Area)	13	840	840
Koolpinyah Dolomite	8	11 448	11 448
Mereenie - Alice Springs	9	13 770	13 770
Ooloo Limestone (Unincorporated Area)	5	7 710	7 710
Palaeozoic Sedimentary (Unincorporated Area)	18	2 007	2 007
Tennant Creek	2	2 200	2 200
Ti Tree	15	3 101	3 101
Tindall-Katherine	20	26 772	26 772
Total	102	80 127	80 127

Source: Department of Natural Resources, Environment and The Arts, Northern Territory

2.21

TYPE OF WATER ACCESS ENTITLEMENTS, Australian Capital Territory - 2004-05

	<i>Number of entitlements</i>	<i>Entitlement volume</i>	<i>Allocated volume</i>
	no.	ML	ML
Surface water	27	64 154	64 154
Groundwater	114	660	660
Surface and groundwater	12	1 336	1 336
Total	153	66 150	66 150

Source: Environment ACT

CHAPTER 3

WATER TRADING

INTRODUCTION

This chapter presents data on the number of water trades and the volume of water traded within, traded into, and traded out of a jurisdiction for both permanent and temporary trades in 2004-05. Data are presented at the State level, as well as for water management areas within jurisdictions. Average price data have been presented for those jurisdictions able to provide this information (New South Wales, Queensland and Western Australia).

For interstate trades, data have been presented by origin and destination. Data on inter-regional trades are also shown for New South Wales and Victoria. These tables show where the water from inter-regional trades has been traded to and from.

It should be noted that permanent trading data for New South Wales, Western Australia and Tasmania include trades that result in ownership changes from land sales, while Queensland has excluded these transactions. Therefore, comparisons between jurisdictions should be made with caution.

MAIN FINDINGS

In 2004-05, 1,802 permanent and 13,456 temporary water trades were conducted in Australia with 248 GL of water traded permanently and 1,053 GL of water traded temporarily (Tables 3.1 and 3.2). The highest number of permanent (702) and temporary (9,323) water trades were conducted in Victoria. Victoria also had the highest volume of water temporarily traded in Australia with 444 GL. The highest volume of water traded permanently occurred in Western Australia with 63 GL.

New South Wales

In 2004-05, 164 permanent and 2,042 temporary water trades were conducted with 41 GL of water traded permanently and 383 GL of water traded temporarily in New South Wales (Tables 3.3 and 3.4).

The majority of permanent trades in New South Wales were ownership changes resulting from land sales. The largest volume of water traded permanently in New South Wales occurred within the Murrumbidgee Regulated River within the Murrumbidgee Catchment Management Authority area, with 11 GL (or 28%) of the total water traded permanently in the State (Table 3.3). The only inter-regional permanent trades conducted in 2004-05 involving New South Wales were permanent interstate trades from Victoria to the New South Wales Murray Regulated River within the Murray Catchment Management Authority area.

Of the 2,042 GL of water traded temporarily in 2004-05, temporary trades within Catchment Management Authority areas accounted for 1,696 (or 83%) of the temporary trades and 300 GL (or 78%) of the water traded temporarily within the State (Table 3.4). The largest volume of water traded temporarily in New South Wales occurred within the New South Wales Murray Regulated River within the Murray Catchment Management Authority area, with 206 GL (or 54%) of the total water traded temporarily in the State.

*New South Wales**continued*

The highest average price per megalitre for temporary trades in New South Wales was \$309 in the Lachlan Regulated River within the Lachlan Catchment Management Authority area.

For inter-regional temporary trading involving New South Wales, the largest volume of water was traded from South Australia to the New South Wales Murray Regulated River within the Murray Catchment Management Authority area, with 22 GL (or 6%) of the total water traded temporarily in the State (Table 3.5).

Victoria

In 2004-05, 702 permanent and 9,323 temporary water trades were conducted with 57 GL of water traded permanently and 444 GL of water traded temporarily in Victoria (Tables 3.6 and 3.7).

The largest volume of water traded permanently in Victoria occurred within the Goulburn Murray Water Rural Water Authority area, with 42 GL (or 74%) of the total water traded permanently in the State (Table 3.6). For inter-regional permanent trading involving Victoria, the largest volume of water was traded from the Goulburn Murray Water area to the Lower Murray Water area, with 25 GL (or 44%) of the total water traded permanently in the State (Table 3.7).

Temporary trades within rural water authority areas accounted for 8,366 (or 90%) of the temporary trades and 356 GL (or 80%) of the water traded temporarily within the State (Table 3.8). The largest volume of water traded temporarily in Victoria occurred within the Goulburn Murray Water Rural Water Authority area, with 365 GL (or 82%) of the total water traded temporarily in the State. For inter-regional temporary trading involving Victoria, the largest volume of water was traded from the Lower Murray Water Rural Water Authority area to the Goulburn Murray Water Rural Water Authority area, with 19 GL (or 4%) of the total water traded temporarily in the State.

Queensland

In 2004-05, 168 permanent and 1,874 temporary water trades were conducted with 20 GL of water traded permanently and 194 GL of water traded temporarily in Queensland (Tables 3.10 and 3.11).

The largest volume of water traded permanently in Queensland occurred within the Fitzroy River Basin, with 15 GL (or 76%) of the total water traded permanently in the State (Table 3.10). The highest average price per megalitre for permanent trades in Queensland was \$2,000 in the Fitzroy River Basin.

In Queensland, all temporary water trading occurred within water management areas. The largest volume of water traded temporarily in Queensland occurred between SunWater, the State's largest bulk water supplier, and its customers, with 189 GL (or 97%) of the total water traded temporarily in the State (Table 3.11). The remaining temporary trades occurred within groundwater management areas managed by the Queensland Department of Natural Resources and Water.

South Australia

In 2004-05, 364 permanent and 166 temporary water trades were conducted with 33 GL of water traded permanently and 99 GL of water traded temporarily in South Australia (Tables 3.12 and 3.13).

South Australia continued

The largest volume of water traded permanently in South Australia occurred within the River Murray Prescribed Watercourse, with 24 GL (or 71%) of the total water traded permanently in South Australia (Table 3.12). The only inter-regional permanent trades conducted in 2004-05 involving South Australia were permanent interstate trades from Victoria to the River Murray Prescribed Watercourse.

Temporary trades within management areas accounted for 314 (or 67%) of the temporary trades and 50 GL (or 50%) of the water traded temporarily within the State (Table 3.13). The largest volume of water traded temporarily in South Australia occurred in the River Murray Prescribed Watercourse, with 95 GL (or 96%) of the total water traded temporarily in the State.

Western Australia

In 2004-05, 218 permanent and 8 temporary water trades were conducted with 63 GL of water traded permanently and 9 GL of water traded temporarily in Western Australia (Tables 3.14 and 3.15).

The majority of permanent trades in Western Australia were ownership changes that resulted from land sales. Groundwater accounted for 198 (or 91%) of the permanent trades and 61 GL (or 98%) of the total water traded permanently in the State (Table 3.14). The largest volume of water traded permanently in Western Australia occurred within the Pilbara Water Management Area, with 43 GL (or 68%) of the total water traded permanently in Western Australia. The highest average price per megalitre for permanent trades in Western Australia was \$870 in the Busselton-Capel Water Management Area.

In Western Australia, all temporary water trading occurred within water management areas. Groundwater accounted for 6 (or 75%) of the temporary trades and 5 GL (or 63%) of the water traded temporarily (Table 3.15). The largest volume of water traded temporarily in Western Australia occurred within the Cockburn Water Management Area, with 5 GL (or 63%) of the total water traded temporarily in the State. The average price per megalitre for temporary trades in Western Australia was \$80.

Tasmania

In 2004-05, 323 permanent and 111 temporary water trades were conducted with 37.6 GL of water traded permanently and 5.6 GL of water traded temporarily in Tasmania (Tables 3.16 and 3.17).

The majority of permanent trades in Tasmania occurred within the South Esk Basin, where Hydro Tasmania transferred 32.6 GL to irrigators under a Memorandum of Understanding between the Tasmanian Department of Primary Industries and Water, the Tasmanian Farmers and Graziers Association, and Hydro Tasmania (Table 3.16). The remaining permanent trades of water allocations were ownership changes resulting from land sales, which accounted for 4.4 GL (or 12%) of the total water traded permanently in the State. Permanent trades of irrigation rights accounted for 0.5 GL (or 1%) of the total water traded permanently in the State.

The majority of the temporary water trades in Tasmania were transfers from the Meander River, which accounted for 4.9 GL (or 97%) of the water traded temporarily in the State (Table 3.17). Temporary trades of irrigation rights accounted for 0.6 GL (or 10%) of the total water traded temporarily in the State.

<i>Northern Territory</i>	No permanent or temporary water trading occurred in the Northern Territory in 2004-05.
<i>Australian Capital Territory</i>	No permanent or temporary water trading occurred in the Australian Capital Territory in 2004-05.
<i>Interstate Trade</i>	<p>In 2004-05, there were 46 permanent and 368 temporary water trades between states with 5.2 GL of water traded interstate permanently and 81.7 GL of water traded interstate temporarily (Tables 3.18 and 3.19).</p> <p>All water traded permanently originated from Victoria, with South Australia receiving 4.8 GL (or 92%) and New South Wales receiving 0.4 GL (or 8%) of the total water traded interstate (Table 3.18).</p> <p>The largest volume of water traded temporarily originated from Victoria with 28.3 GL (or 34.6%), followed by New South Wales with 28.2 GL (or 34.5%), and South Australia with 25 GL (or 31%) of the total water traded interstate temporarily (Table 3.19). New South Wales received the largest volume of water traded temporarily with 38 GL (or 46%), followed by South Australia with 25 GL (or 30%), and Victoria with 19 GL (or 24%). The largest volume of water traded temporarily between states was traded from South Australia to New South Wales, with 23 GL (or 28%) of the total water traded interstate temporarily.</p>

3.1 PERMANENT WATER TRADING - 2004-05

	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED(a)		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	\$/ML
NSW	154	40 846	10	436	—	—	164	41 282	na
Vic.	656	52 175	—	—	46	5 214	702	57 389	na
Qld	168	20 285	—	—	—	—	168	20 285	1 750
SA	328	28 643	36	4 778	—	—	364	33 421	na
WA	218	62 810	—	—	—	—	218	62 810	680
Tas.	232	37 603	—	—	—	—	232	37 603	na
NT	—	—	—	—	—	—	—	—	—
ACT	—	—	—	—	—	—	—	—	—
Australia	1 756	242 362	46	5 214	46	5 214	1 802	247 576	na

— nil or rounded to zero (including null cells)

na not available

(a) Total for Australia cannot be calculated by taking the sum of the States and Territories as this would double count interstate trades

3.2 TEMPORARY WATER TRADING - 2004-05

	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED(a)		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	\$/ML
NSW	1 739	316 506	117	37 848	186	28 196	2 042	382 550	96
Vic.	9 042	396 723	179	19 259	102	28 281	9 323	444 263	na
Qld	1 874	194 195	—	—	—	—	1 874	194 195	na
SA	314	49 525	72	24 560	80	25 190	314	49 525	na
WA	8	8 617	—	—	—	—	8	8 617	80
Tas.	111	5 601	—	—	—	—	111	5 601	na
NT	—	—	—	—	—	—	—	—	—
ACT	—	—	—	—	—	—	—	—	—
Australia	13 088	971 168	368	81 667	368	81 667	13 456	1 052 834	na

— nil or rounded to zero (including null cells)

na not available

(a) Total for Australia cannot be calculated by taking the sum of the States and Territories as this would double count interstate trades

3.3 PERMANENT WATER TRADING, New South Wales, by catchment management authority area - 2004-05

	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	
Catchment Management Authority Area									\$/ML
.....									
Border Rivers - Gwydir									
Border Regulated Rivers(a)	1	99	—	—	—	—	1	99	na
Gwydir Regulated River	8	8 580	—	—	—	—	8	8 580	na
Tenterfield Creek	2	122	—	—	—	—	2	122	na
Total	11	8 801	—	—	—	—	11	8 801	na
Central West									
Castlereagh River	3	195	—	—	—	—	3	195	na
Macquarie And Cudgegong Regulated Rivers	7	82	—	—	—	—	7	82	na
Total	10	277	—	—	—	—	10	277	na
Hunter - Central Rivers									
Hunter Regulated River	20	2 275	—	—	—	—	20	2 275	na
Karuah River	1	65	—	—	—	—	1	65	na
Mooney Mooney And Mullet Creeks (Groundwater)	1	10	—	—	—	—	1	10	na
Wybong Creek (Groundwater)	1	81	—	—	—	—	1	81	na
Wybong Creek (Surface Water)	6	277	—	—	—	—	6	277	na
Total	29	2 708	—	—	—	—	29	2 708	na
Lachlan									
Lachlan Regulated River	26	6 680	—	—	—	—	26	6 680	na
Mandagery Creek	5	357	—	—	—	—	5	357	na
Total	31	7 037	—	—	—	—	31	7 037	na
Murray									
New South Wales Murray Regulated River	39	7 609	10	436	—	—	49	8 045	na
Total	39	7 609	10	436	—	—	49	8 045	na
Murrumbidgee									
Murrumbidgee Regulated River	24	11 489	—	—	—	—	24	11 489	na
Total	24	11 489	—	—	—	—	24	11 489	na
Namoi									
Lower Namoi Regulated River	5	2 405	—	—	—	—	5	2 405	na
Peel Regulated River(a)	1	300	—	—	—	—	1	300	na
Total	6	2 705	—	—	—	—	6	2 705	na
Northern Rivers									
Commissioners Waters	1	22	—	—	—	—	1	22	na
Coopers Creek	1	43	—	—	—	—	1	43	na
Dorrigo Plateau	1	4	—	—	—	—	1	4	na
Stuarts Point (Groundwater)	1	150	—	—	—	—	1	150	na
Total	4	219	—	—	—	—	4	219	na
Total	154	40 846	10	436	—	—	164	41 282	na

— nil or rounded to zero (including null cells)

na not available

(a) Water licences created under the Water Act 1912, for areas of the State not covered by water sharing plans

Source: Department of Natural Resources, New South Wales

3.4 TEMPORARY WATER TRADING, New South Wales, by catchment management authority area - 2004-05

Catchment Management Authority Area	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED (a)		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	\$/ML
Border Rivers - Gwydir									
Border Regulated Rivers(b)	43	7 632	—	—	—	—	43	7 632	na
Gwydir Regulated River	29	29 957	—	—	—	—	29	29 957	250
<i>Total</i>	72	37 589	—	—	—	—	72	37 589	na
Central West									
Macquarie And Cudgegong Regulated Rivers	163	10 221	—	—	—	—	163	10 221	190
<i>Total</i>	163	10 221	—	—	—	—	163	10 221	190
Hunter - Central Rivers									
Hunter Regulated River	54	6 075	—	—	—	—	54	6 075	16
<i>Total</i>	54	6 075	—	—	—	—	54	6 075	16
Lachlan									
Belubula Regulated River(b)	4	88	—	—	—	—	4	88	na
Lachlan Regulated River	129	4 531	—	—	—	—	129	4 531	309
<i>Total</i>	133	4 619	—	—	—	—	133	4 619	na
Murray									
Lower Darling Regulated River	39	29 113	—	—	7	1 139	46	30 252	32
New South Wales Murray Regulated River	741	125 690	143	41 432	188	38 667	1 072	205 789	60
<i>Total</i>	780	154 803	143	41 432	195	39 806	1 118	236 041	na
Murrumbidgee									
Murrumbidgee Regulated River	457	79 125	6	11 805	27	3 779	490	94 709	86
<i>Total</i>	457	79 125	6	11 805	27	3 779	490	94 709	86
Namoi									
Lower Namoi Regulated River	26	6 756	11	1 295	—	—	37	8 051	104
Peel Regulated River(b)	11	634	—	—	—	—	11	634	na
Upper Namoi Regulated River	—	—	—	—	11	1 295	11	1 295	99
<i>Total</i>	37	7 390	11	1 295	11	1 295	59	9 980	na
Total	1 696	299 822	160	54 532	233	44 880	2 042	382 550	na

— nil or rounded to zero (including null cells)

na not available

(a) Total for NSW cannot be calculated by taking the sum of the catchment management authority areas as this would double count inter-regional trades

(b) Water licences created under the Water Act 1912, for areas of the State not covered by water sharing plans

Source: Department of Natural Resources, New South Wales

3.5 INTER-REGIONAL TEMPORARY WATER TRADING, New South Wales, by origin and destination - 2004-05

ORIGIN

Destination	Lower Darling		Murrumbidgee		NSW Murray		Upper Namoi		South Australia		Victoria		Total	
	no.	ML	no.	ML	no.	ML	no.	ML	no.	ML	no.	ML	no.	ML
Lower Namoi	—	—	—	—	—	—	11	1 295	—	—	—	—	11	1 295
Murrumbidgee	—	—	..	..	5	11 492	—	—	1	313	—	—	6	11 805
NSW Murray	7	1 139	20	2 758	..	..	—	—	57	22 476	59	15 059	143	41 432
South Australia	—	—	3	581	26	10 757	—	—	..	..	..	..	29	11 338
Victoria	—	—	4	440	153	16 418	—	—	..	..	..	..	157	16 858
Total	7	1 139	27	3 779	184	38 667	11	1 295	58	22 789	59	15 059	346	82 728

.. not applicable

— nil or rounded to zero (including null cells)

3.6 PERMANENT WATER TRADING, Victoria, by rural water authority area - 2004-05

Rural Water Authority Area	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED (a)		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	\$/ML
First Mildura Irrigation Trust	2	61	2	7	26	981	30	1 049	na
Goulburn Murray Water	364	16 115	1	200	180	25 908	545	42 224	na
GWM Water	2	40	—	—	—	—	2	40	na
Lower Murray Water	60	8 218	180	25 535	37	4 597	277	38 351	na
Southern Rural Water	31	1 467	—	—	—	—	31	1 467	na
Total	459	25 902	183	25 742	243	31 486	702	57 389	na

— nil or rounded to zero (including null cells)

na not available

(a) Total for Victoria cannot be calculated by taking the sum of the rural water authority areas as this would double count inter-regional trades

Source: Rural Water Authorities' Annual Reports, 2004-05

3.7 INTER-REGIONAL PERMANENT WATER TRADING, Victoria, by origin and destination - 2004-05

ORIGIN								
Destination	FMIT(a)		GM Water(b)		LM Water(c)		Total	
	no.	ML	no.	ML	no.	ML	no.	ML
FMIT(a)	..	..	—	—	2	7	2	7
GM Water(b)	—	—	..	..	1	200	1	200
LM Water(c)	14	157	166	25 378	..	..	180	25 535
Coliban Water	—	—	1	62	—	—	1	62
North East Water	—	—	13	469	—	—	13	469
New South Wales	5	244	—	—	5	192	10	436
South Australia	7	579	—	—	29	4 198	36	4 778
Total	26	981	180	25 908	37	4 597	243	31 486

.. not applicable

— nil or rounded to zero (including null cells)

(a) First Mildura Irrigation Trust

(b) Goulburn Murray Water

(c) Lower Murray Water

Source: Rural Water Authorities' Annual Reports, 2004-05

3.8 TEMPORARY WATER TRADING, Victoria, by rural water authority area - 2004-05

Rural Water Authority Area	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED(a)		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	\$/ML
First Mildura Irrigation Trust	62	1 756	24	460	195	5 904	281	8 120	na
Goulburn Murray Water	7 236	305 920	610	48 720	66	10 036	7 912	364 676	na
GWM Water	124	387	—	—	4	880	128	1 267	na
Lower Murray Water	591	31 058	158	9 097	397	40 523	1 146	80 678	na
Southern Rural Water	353	16 723	—	—	—	—	353	16 723	na
Total	8 366	355 843	792	58 277	662	57 343	9 323	444 263	na

— nil or rounded to zero (including null cells)

na not available

(a) Total for Victoria cannot be calculated by taking the sum of the rural water authority areas as this would double count inter-regional trades

Source: Rural Water Authorities' Annual Reports, 2004-05

3.9

INTER-REGIONAL TEMPORARY WATER TRADING, Victoria, by origin and

destination - 2004-05

ORIGIN

Destination	FMIT(a)		GM Water(b)		GWM Water(c)		LM Water(d)		Coliban Water		Environment(e)	
	no.	ML	no.	ML	no.	ML	no.	ML	no.	ML	no.	ML
FMIT(a)	..	..	—	—	—	—	22	410	—	—	—	—
GM Water(b)	76	3 386	..	..	4	880	265	19 255	4	215	2	460
LM Water(d)	109	2 044	21	1 226	—	—	..	..	—	—	—	—
Central Highlands Water	—	—	2	10	—	—	—	—	—	—	—	—
Coliban Water	—	—	1	100	—	—	—	—	..	..	—	—
Environment(e)	—	—	4	596	—	—	49	743	—	—	..	..
Goulburn Valley Water	—	—	7	412	—	—	—	—	—	—	—	—
New South Wales	8	254	28	6 106	—	—	23	8 699	—	—	—	—
South Australia	2	220	3	1 586	—	—	38	11 416	—	—	—	—
Total	195	5 904	66	10 036	4	880	397	40 523	4	215	2	460

.. not applicable

— nil or rounded to zero (including null cells)

(a) First Mildura Irrigation Trust

(b) Goulburn Murray Water

(c) Grampians Wimmera Mallee Water

(d) Lower Murray Water

(e) Bulk entitlement held by the State Minister for the Environment for environmental purposes

3.9

INTER-REGIONAL TEMPORARY WATER TRADING, Victoria, by origin and

destination - 2004-05 *continued*ORIGIN *continued*

Destination	Goulburn Valley Water		North East Water		New South Wales		South Australia		Total	
	no.	ML	no.	ML	no.	ML	no.	ML	no.	ML
FMIT(a)	—	—	—	—	—	—	2	50	24	460
GM Water(b)	108	10 943	2	200	135	12 010	14	1 372	610	48 720
LM Water(c)	—	—	—	—	22	4 848	6	979	158	9 097
Central Highlands Water	—	—	—	—	—	—	—	—	2	10
Coliban Water	—	—	—	—	—	—	—	—	1	100
Environment(d)	—	—	—	—	—	—	—	—	53	1 339
Goulburn Valley Water	..	..	—	—	—	—	—	—	7	412
New South Wales	—	—	—	—	..	..	..	..	59	15 059
South Australia	—	—	—	—	..	..	..	..	43	13 222
Total	108	10 943	2	200	157	16 858	22	2 401	957	88 419

.. not applicable

— nil or rounded to zero (including null cells)

(a) First Mildura Irrigation Trust

(b) Goulburn Murray Water

(c) Lower Murray Water

(d) Bulk entitlement held by the State Minister for the Environment for environmental purposes

3.10 PERMANENT WATER TRADING, Queensland, by river basin - 2004-05

<i>River Basin</i>	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED		AVERAGE PRICE
	<i>no.</i>	<i>ML</i>	<i>no.</i>	<i>ML</i>	<i>no.</i>	<i>ML</i>	<i>no.</i>	<i>ML</i>	<i>\$/ML</i>
Burnett Basin	78	4 551	—	—	—	—	78	4 551	1 350
Fitzroy Basin	81	15 352	—	—	—	—	81	15 352	2 000
Kolan Basin	9	382	—	—	—	—	9	382	na
Total	168	20 285	—	—	—	—	168	20 285	na

— nil or rounded to zero (including null cells)

na not available

Source: Department of Natural Resources and Water, Queensland

3.11 TEMPORARY WATER TRADING, Queensland, by water management area - 2004-05

<i>Water Management Area</i>	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED		AVERAGE PRICE
	<i>no.</i>	<i>ML</i>	<i>no.</i>	<i>ML</i>	<i>no.</i>	<i>ML</i>	<i>no.</i>	<i>ML</i>	<i>\$/ML</i>
Border Rivers GMA	1	100	—	—	—	—	1	100	na
Bundaberg GMA	60	1 662	—	—	—	—	60	1 662	na
Callide Valley GMA	2	90	—	—	—	—	2	90	na
Condamine GMA	26	2 139	—	—	—	—	26	2 139	na
Oakey Creek GMA	8	598	—	—	—	—	8	598	na
Pioneer GMA	6	126	—	—	—	—	6	126	na
Upper Hodgson Creek GMA	3	280	—	—	—	—	3	280	na
SunWater & customers	1 768	189 200	—	—	—	—	1 768	189 200	na
Total	1 874	194 195	—	—	—	—	1 874	194 195	na

— nil or rounded to zero (including null cells)

na not available

Source: Queensland Annual Water Statistics 2004-05, and
SunWater Annual Report 2004-05

3.12 PERMANENT WATER TRADING, South Australia, by water management area - 2004-05

Water Management Area	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	
Angas Bremer PWA	2	145	—	—	—	—	2	145	na
Barossa PWRA	2	18	—	—	—	—	2	18	na
Clare Valley PWRA	3	15	—	—	—	—	3	15	na
Lower Limestone Coast PWA	71	5 910	—	—	—	—	71	5 910	na
Mallee PWA	4	745	—	—	—	—	4	745	na
McLaren Vale PWA	7	34	—	—	—	—	7	34	na
Northern Adelaide Plains PWA	18	306	—	—	—	—	18	306	na
Padthaway PWA	1	118	—	—	—	—	1	118	na
River Murray PWC	201	19 089	36	4 778	—	—	237	23 867	na
Tatiara PWA	18	1 831	—	—	—	—	18	1 831	na
Tintinara Coonalpyn PWA	1	433	—	—	—	—	1	433	na
Total	328	28 643	36	4 778	—	—	364	33 421	na

— nil or rounded to zero (including null cells)
na not available

Source: Department of Water, Land and Biodiversity
Conservation, South Australia

3.13 TEMPORARY WATER TRADING, South Australia, by water management area - 2004-05

Water Management Area	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	
Barossa PWRA	2	75	—	—	—	—	2	75	na
Lower Limestone Coast PWA	27	2 233	—	—	—	—	27	2 233	na
Mallee PWA	3	386	—	—	—	—	3	386	na
McLaren Vale PWA	19	54	—	—	—	—	19	54	na
Northern Adelaide Plains PWA	42	1 080	—	—	—	—	42	1 080	na
River Murray PWC	218	45 466	72	24 560	80	25 190	370	95 215	na
Tatiara PWA	3	232	—	—	—	—	3	232	na
Total	314	49 525	72	24 560	80	25 190	466	99 275	na

— nil or rounded to zero (including null cells)
na not available

Source: Department of Water, Land and Biodiversity Conservation,
South Australia

3.14**PERMANENT WATER TRADING, Western Australia, by water management area - 2004-05**

Water Management Area	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	\$/ML
Surface Water									
Ashburton River	1	2	—	—	—	—	1	2	na
Busseton Coast	3	278	—	—	—	—	3	278	na
Fortescue River	1	2	—	—	—	—	1	2	na
Harvey River	5	50	—	—	—	—	5	50	na
Moore-Hill Rivers	1	497	—	—	—	—	1	497	na
Murray River	4	194	—	—	—	—	4	194	na
Port Hedland Coast	1	2	—	—	—	—	1	2	na
Preston River	1	400	—	—	—	—	1	400	na
Swan Coast	2	15	—	—	—	—	2	15	na
Warren River	1	51	—	—	—	—	1	51	na
<i>Total</i>	<i>20</i>	<i>1 491</i>	—	—	—	—	<i>20</i>	<i>1 491</i>	<i>na</i>
Groundwater									
Broome	6	64	—	—	—	—	6	64	na
Bunbury	1	18	—	—	—	—	1	18	na
Busseton-Capel	10	1 390	—	—	—	—	10	1 390	870
Canning-Kimberley	1	25	—	—	—	—	1	25	na
Carnarvon	9	576	—	—	—	—	9	576	na
Cockburn	3	368	—	—	—	—	3	368	na
Collie	1	53	—	—	—	—	1	53	na
East Murchison	6	1 314	—	—	—	—	6	1 314	na
Gascoyne	11	332	—	—	—	—	11	332	na
Gingin	21	4 593	—	—	—	—	21	4 593	na
Goldfields	3	6 420	—	—	—	—	3	6 420	na
Jandakot	3	36	—	—	—	—	3	36	na
Mirrabooka	1	9	—	—	—	—	1	9	na
Murray	3	21	—	—	—	—	3	21	na
Perth	3	55	—	—	—	—	3	55	na
Pilbara	36	42 684	—	—	—	—	36	42 684	na
Rockingham	1	7	—	—	—	—	1	7	na
Serpentine	8	1 150	—	—	—	—	8	1 150	na
South West Coastal	4	368	—	—	—	—	4	368	na
Swan	32	664	—	—	—	—	32	664	na
Wanneroo	35	1 172	—	—	—	—	35	1 172	490
<i>Total</i>	<i>198</i>	<i>61 319</i>	—	—	—	—	<i>198</i>	<i>61 319</i>	<i>na</i>
Total	218	62 810	—	—	—	—	218	62 810	680

— nil or rounded to zero (including null cells)

Source: Department of Water, Western Australia

na not available

3.15**TEMPORARY WATER TRADING, Western Australia, by water management area - 2004-05**

Water Management Area	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	\$/ML
Surface Water									
Harvey River	1	3 000	—	—	—	—	1	3 000	na
Warren River	1	150	—	—	—	—	1	150	na
Total	2	3 150	—	—	—	—	2	3 150	na
Groundwater									
Busseton-Capel	2	80	—	—	—	—	2	80	na
Cockburn	4	5 387	—	—	—	—	4	5 387	na
Total	6	5 467	—	—	—	—	6	5 467	na
Total	8	8 617	—	—	—	—	8	8 617	80

— nil or rounded to zero (including null cells)

na not available

Source: Department of Water, Western Australia

3.16**PERMANENT WATER TRADING, Tasmania - 2004-05**

	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	\$/ML
Water Allocations									
Permanent trades from Hydro Tasmania	—	32 650	—	—	—	—	—	32 650	na
Other permanent trades	—	4 425	—	—	—	—	—	4 425	na
Total	220	37 075	—	—	—	—	220	37 075	na
Irrigation Rights									
Cressy Longford Irrigation Scheme	8	471	—	—	—	—	8	471	na
South East Irrigation Scheme	4	57	—	—	—	—	4	57	na
Total	12	528	—	—	—	—	12	528	na
Total	232	37 603	—	—	—	—	232	37 603	na

— nil or rounded to zero (including null cells)

na not available

Source: Department of Primary Industries and Water, Tasmania

3.17

TEMPORARY WATER TRADING, Tasmania - 2004-05

	WATER TRADED WITHIN		WATER TRADED INTO		WATER TRADED OUT		TOTAL WATER TRADED		AVERAGE PRICE
	no.	ML	no.	ML	no.	ML	no.	ML	\$/ML
Water Allocations									
Temporary trades from the Meander River	—	4 850	—	—	—	—	—	4 850	na
Other temporary trades	—	172	—	—	—	—	—	172	na
<i>Total</i>	70	5 022	—	—	—	—	70	5 022	na
Irrigation Rights									
Cressy Longford Irrigation Scheme	2	66	—	—	—	—	2	66	na
South East Irrigation Scheme	33	302	—	—	—	—	33	302	na
Winnaleah Irrigation Scheme	6	211	—	—	—	—	6	211	na
<i>Total</i>	41	579	—	—	—	—	41	579	na
Total	111	5 601	—	—	—	—	111	5 601	na

— nil or rounded to zero (including null cells)

Source: Department of Primary Industries and Water, Tasmania

na not available

3.18

INTERSTATE PERMANENT WATER TRADING, by origin and destination - 2004-05

	ORIGIN							
	New South Wales		Victoria		South Australia		Total	
Destination	no.	ML	no.	ML	no.	ML	no.	ML
New South Wales	10	436	—	—	10	436
Victoria	—	—	—	—	—	—
South Australia	—	—	36	4 778	..	..	36	4 778
Total	—	—	46	5 214	—	—	46	5 214

.. not applicable

— nil or rounded to zero (including null cells)

3.19

INTERSTATE TEMPORARY WATER TRADING, by origin and destination - 2004-05

ORIGIN

<i>Destination</i>	<i>New South Wales</i>		<i>Victoria</i>		<i>South Australia</i>		<i>Total</i>	
	<i>no.</i>	<i>ML</i>	<i>no.</i>	<i>ML</i>	<i>no.</i>	<i>ML</i>	<i>no.</i>	<i>ML</i>
New South Wales	..	..	59	15 059	58	22 789	117	37 848
Victoria	157	16 858	..	..	22	2 401	179	19 259
South Australia	29	11 338	43	13 222	..	..	72	24 560
Total	186	28 196	102	28 281	80	25 190	368	81 666

.. not applicable

EXPLANATORY NOTES

INTRODUCTION	<p>1 This publication has been prepared as part of the ABS environmental accounting program, and in particular as a component of the <i>Water Account, Australia</i> (cat. No. 4610.0). At the core of the ABS Water Accounts are the physical supply and use tables (collectively referred to as flow tables). In the past, they have also contained information on water stocks and emerging issues, such as water trading.</p>
SCOPE AND COVERAGE	<p>2 All available quantitative volumetric data (megalitres) on water access entitlements, allocations and trading within Australia for the financial year 2004-05 are in scope. Price data for water trading were also compiled where data were available.</p> <p>3 Non-volumetric water access entitlements are excluded. However, they are noted in the text and in footnotes to tables where they have been identified.</p>
DATA SOURCES	<p>4 State and Territory agencies were asked to provide data on water access entitlements, allocations and trading to the ABS from their administrative systems.</p> <p>5 Data were sought from the agencies responsible for administering water access entitlements, allocations and trading in each State and Territory. The main data providers were:</p> <ul style="list-style-type: none">■ Department of Natural Resources, New South Wales■ Department of Sustainability and Environment, Victoria■ Department of Natural Resources and Water, Queensland■ Department of Water, Land and Biodiversity Conservation, South Australia■ Department of Water, Western Australia■ Department of Primary Industries and Water, Tasmania■ Department of Natural Resources, Environment and the Arts, Northern Territory■ Environment ACT, Australian Capital Territory <p>6 Additional data was obtained from the following sources:</p> <ul style="list-style-type: none">■ Annual Water Statistics, 2004-05 (Queensland)■ First Mildura Irrigation Trust Annual Report, 2004-05■ Goulburn Murray Water Annual Report, 2004-05■ Grampians Wimmera Mallee Water Annual Report, 2004-05■ Lower Murray Water Annual Report, 2004-05■ Southern Rural Water Annual Report, 2004-05■ State Water Report, 2004-05, A Statement of Victorian Water Resources■ SunWater Annual Report, 2004-05
COLLATION PROCEDURE	<p>7 The data collated by the ABS on water access entitlements, allocations and trading from State and Territory agencies and other publicly available sources were aggregated and presented in a consistent tabular format. The tabulated data and explanatory text were then returned to their respective agencies for checking. Where necessary, the ABS sought clarification from data providers on aspects of the data provided.</p>
DATA QUALITY AND RELIABILITY	<p>8 The data contained in this publication originate from a range of sources, as detailed above, and have a variable degree of consistency and reliability.</p>

DATA QUALITY AND RELIABILITY *continued*

9 This is the first time that national data on water access entitlements, allocations and trading have been collated. The systems for collating, storing and accessing data for national reporting, and in particular to meet the requirements of the NWI, are at various stages of development in the States and Territories, while the standards needed to support regular national reporting are yet to be fully developed and implemented. As such, comparisons between the States and Territories should be made with caution. The continuing development of the systems and standards needed to support national reporting should see the situation improve. If data quality and availability are improved, the ABS may be able to revise the 2004-05 data to make them more comparable between the States and Territories and over time.

10 Some State and Territory agencies provided commentary or qualifications to the data and reports supplied:

11 The Victorian State Water Report 2004-05 states: "This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication."

12 Disclaimer received from Western Australia states: "No compensation is payable in respect of anything done or omitted to be done in good faith by the Commission in the performance or purported performance of any duty, or the exercise or purported exercise of any power, in relation to this register, including its accuracy and the notification of people with a registered interest."

13 For interstate and inter-regional water trades, where data differed between the origin (seller) and destination (buyer), the data provided by the destination (buyer) have been presented.

RELATED PUBLICATIONS

14 The ABS has produced a range of water related publications.

- *Water Account, Australia* (cat. no. 4610.0)
- *Water Use on Australian Farms* (cat. no. 4618.0)
- *Characteristics of Australia's Irrigated Farms 2000-01 to 2003-04* (cat. no. 4623.0)
- *A Methodology for Estimating Regional Agricultural Water Use* (cat. no. 4616.0.55.001)

ACKNOWLEDGMENT

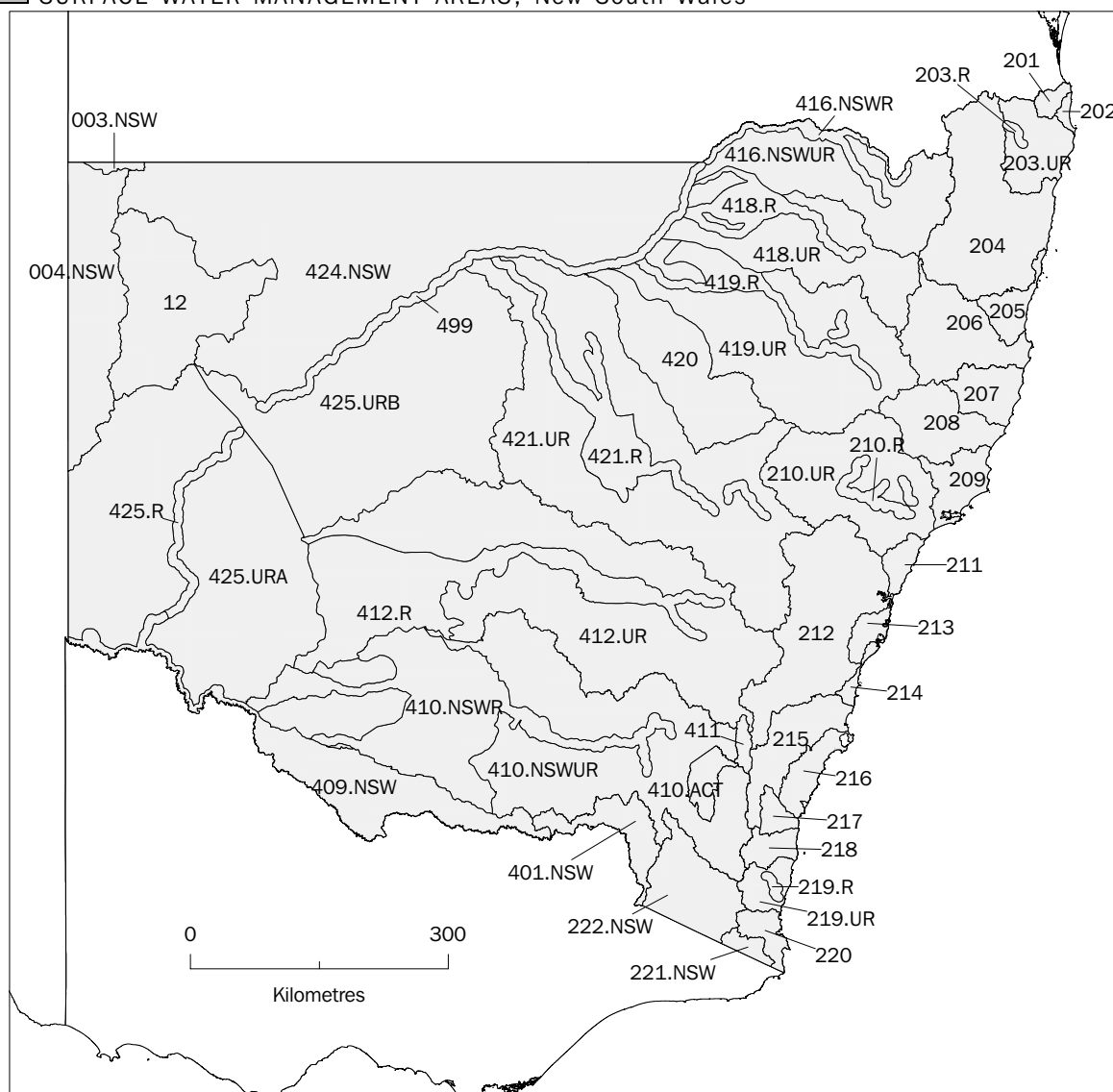
15 ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated; without it, the wide range of statistics published by the ABS would not be available.

APPENDIX

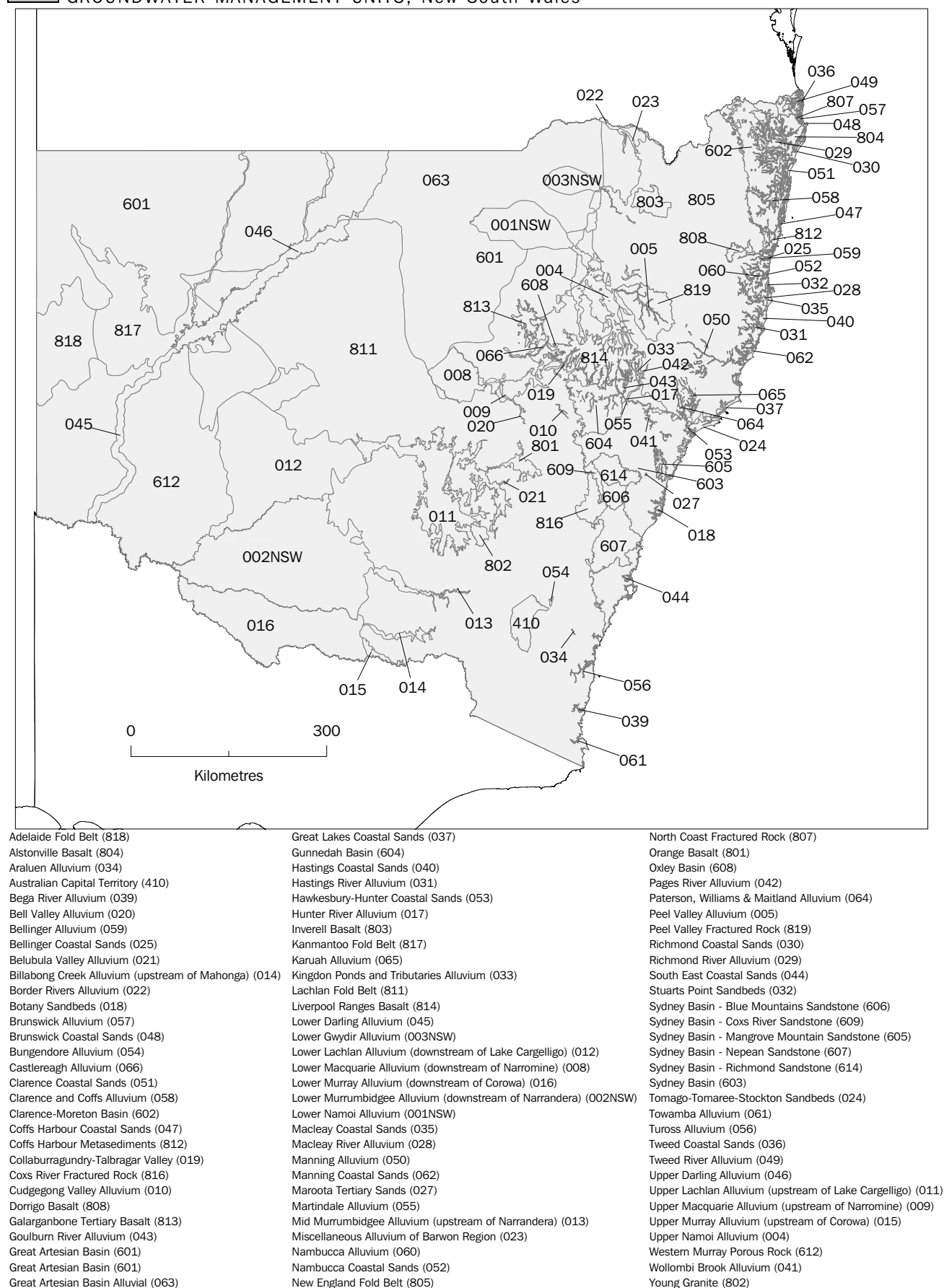
REFERENCE MAPS

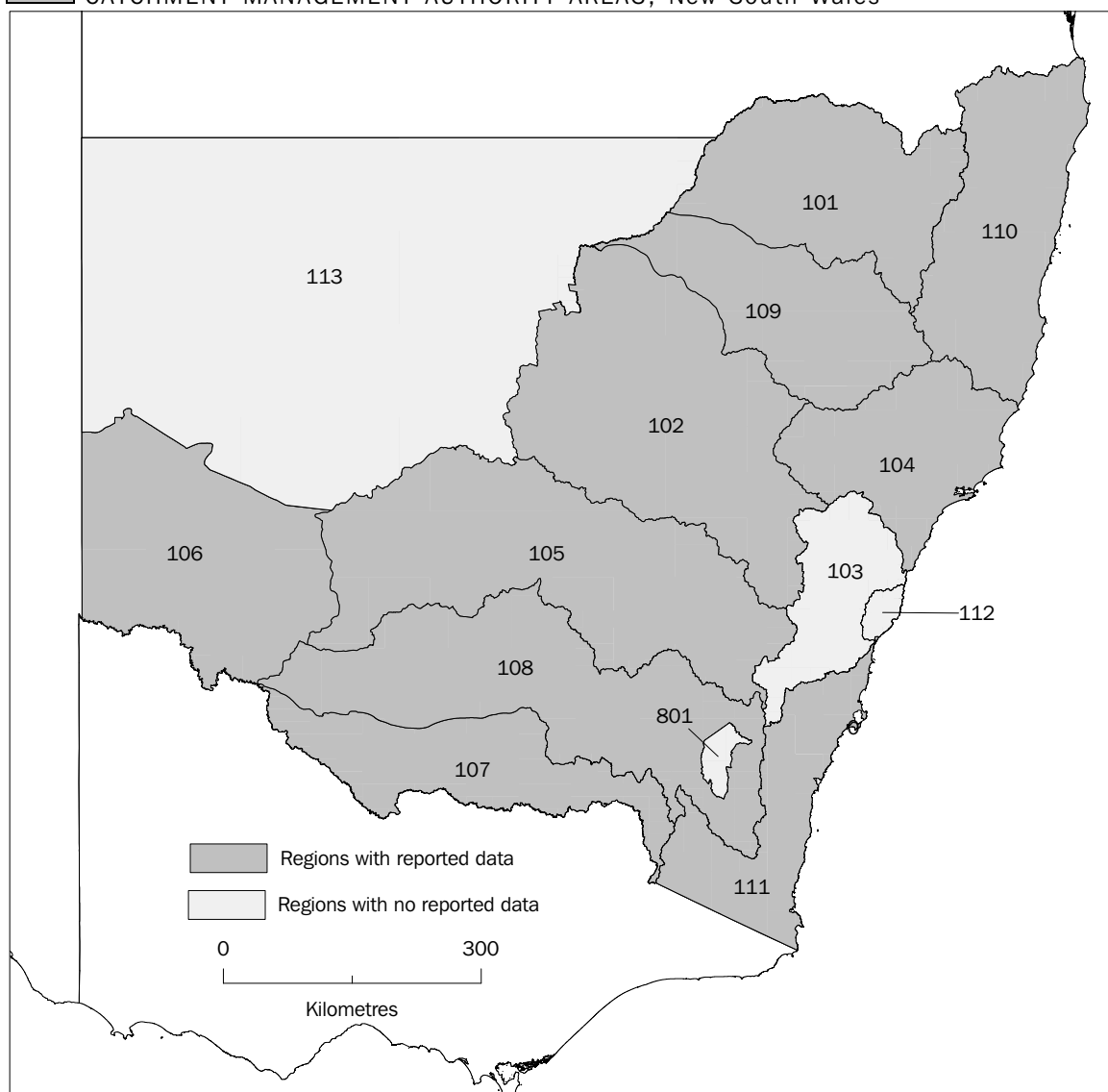
MAP LEGENDS

Legends to maps have been presented in alphabetical order rather than in numerical order to assist users when making comparisons between the tables and maps.

A1.1 SURFACE WATER MANAGEMENT AREAS, New South Wales

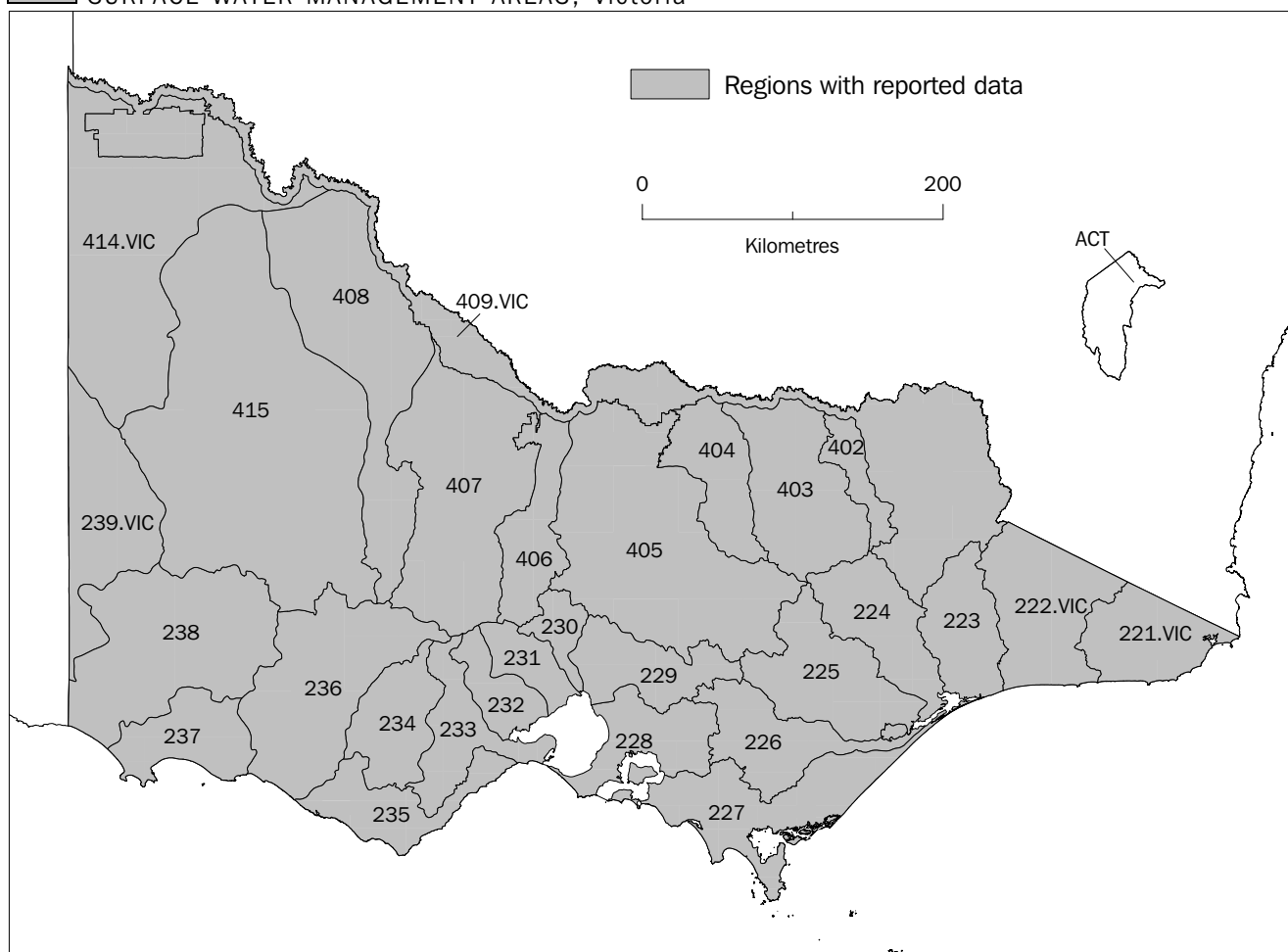
Barwon Darling Management Area (499)	Gwydir River - Unregulated (418.UR)	Moruya River (217)
Bega River - Regulated (219.R)	Hastings River (207)	Murray - Regulated (409.NSW)
Bega River - Unregulated (219.UR)	Hawkesbury River (212)	Murrumbidgee River - Regulated (410.NSWR)
Bellinger River (205)	Hunter River - Regulated (210.R)	Murrumbidgee River - Unregulated (410.NSWUR)
Border Rivers - Regulated (416.NSWR)	Hunter River - Unregulated (210.UR)	Namoi River - Regulated (419.R)
Border Rivers - Unregulated (416.NSWUR)	Karuah River (209)	Namoi River - Unregulated (419.UR)
Brunswick River (202)	Lachlan River - Regulated (412.R)	Richmond River - Regulated (203.R)
Castlereagh River (420)	Lachlan River - Unregulated (412.UR)	Richmond River - Unregulated (203.UR)
Clarence River (204)	Lake Bancannia (12)	Shoalhaven River (215)
Clyde River - Jervis Bay (216)	Lake Frome (004.NSW)	Snowy River (222.NSW)
Cooper Creek (003.NSW)	Lake George (411)	Sydney Coast - Georges River (213)
Darling River - Lower Unregulated (425.URA)	Macleay River (206)	Towamba River (220)
Darling River - Regulated (425.R)	Macquarie - Tuggerah Lakes (211)	Tuross River (218)
Darling River - Upper Unregulated (425.URB)	Macquarie River - Regulated (421.R)	Tweed River (201)
East Gippsland (221.NSW)	Macquarie River - Unregulated (421.UR)	Upper Murray River (401.NSW)
Far West (424.NSW)	Manning River (208)	Wollongong Coast (214)
Gwydir River - Regulated (418.R)		

A1.2 GROUNDWATER MANAGEMENT UNITS, New South Wales

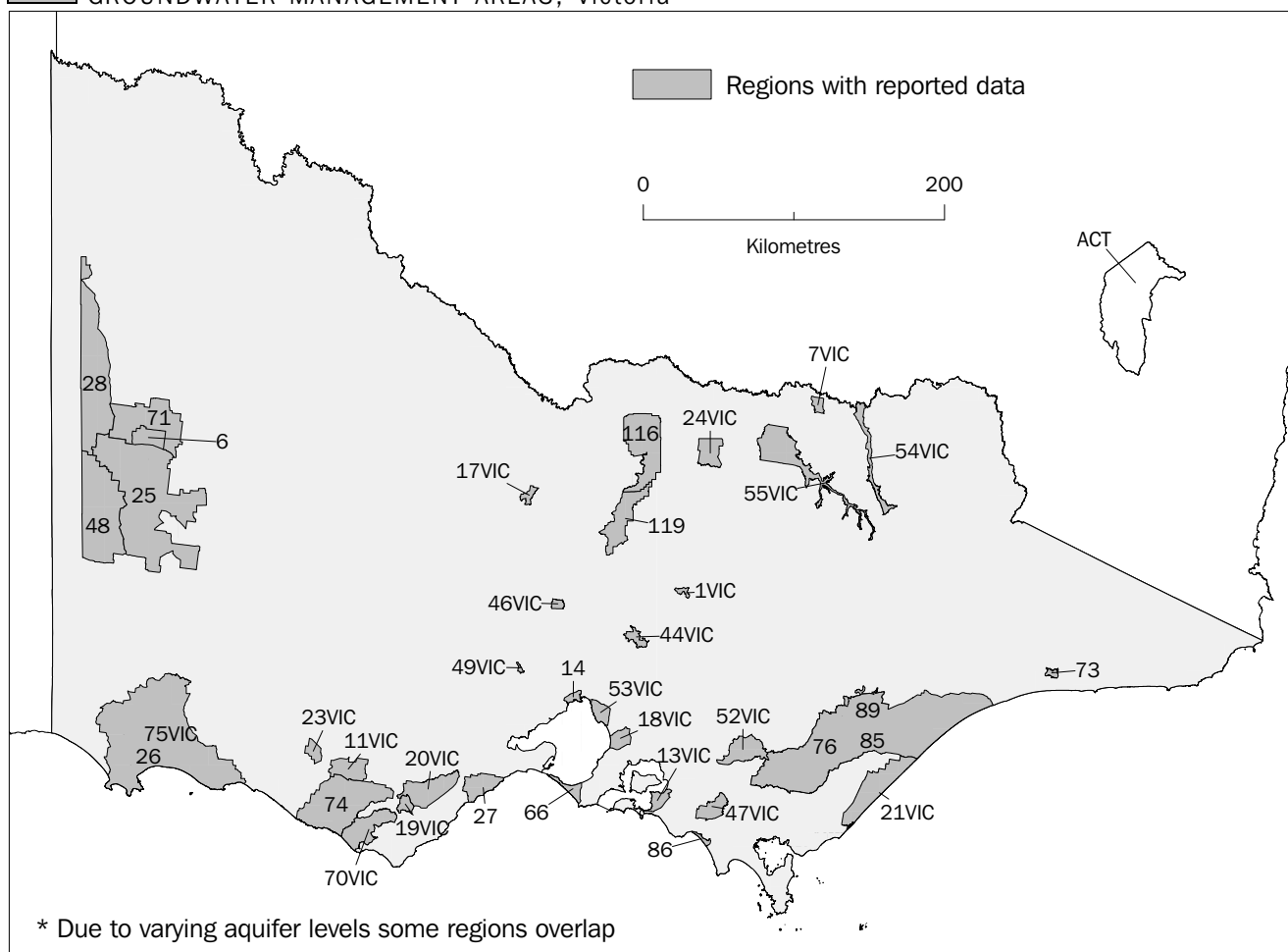
A1.3 CATCHMENT MANAGEMENT AUTHORITY AREAS, New South Wales

Border Rivers - Gwydir (101)
 Central West (102)
 Hawkesbury - Nepean (103)
 Hunter - Central Rivers (104)
 Lachlan (105)
 Lower Murray - Darling (106)
 Murray (107)

Murrumbidgee (108)
 Namoi (109)
 Northern Rivers (110)
 Southern Rivers (111)
 Sydney Metro (112)
 Western (113)
 Australian Capital Territory (801)

A1.4 SURFACE WATER MANAGEMENT AREAS, Victoria

Avoca (408)	Lake Corangamite (234)	Ovens (403)
Barwon (233)	Latrobe (226)	Portland Coast (237)
Broken (404)	Loddon (407)	Snowy (222.VIC)
Bunyip (228)	Mallee (414.VIC)	South Gippsland (227)
Campaspe (406)	Maribyrnong (230)	Tambo (223)
East Gippsland (221.VIC)	Millicent Coast (239.VIC)	Thomson (225)
Glenelg (238)	Mitchell (224)	Werribee (231)
Goulburn (405)	Moorabool (232)	Wimmera (415)
Hopkins (236)	Murray (409.VIC)	Yarra River (229)
Kiewa (402)	Otway Coast (235)	

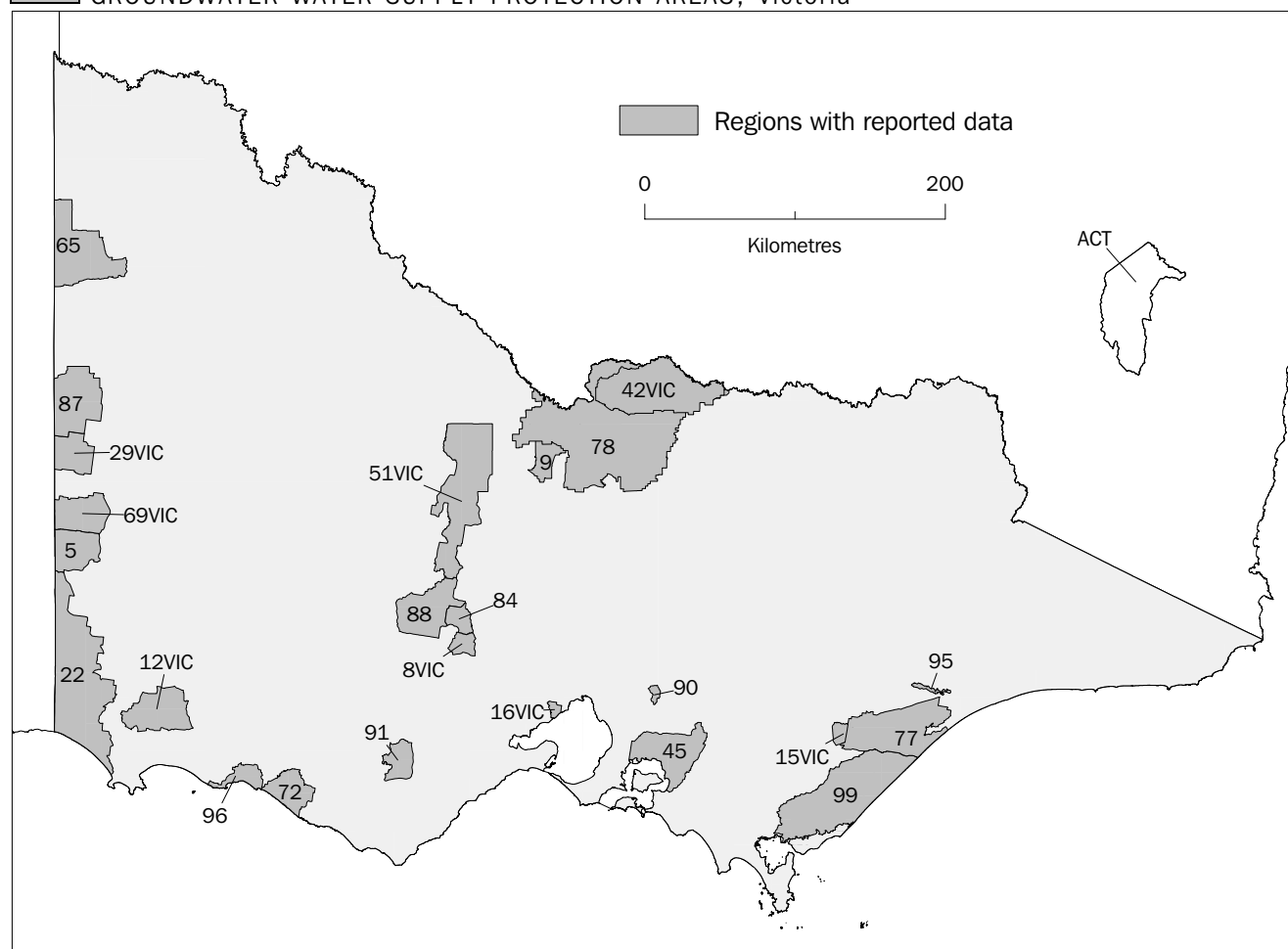
A1.5 GROUNDWATER MANAGEMENT AREAS, Victoria

Alexandra GMA (1VIC)
Balrootan GMA (6)
Barnawartha GMA (7VIC)
Colongulac GMA (11VIC)
Corinella GMA (13VIC)
Cut Paw Paw GMA (14)
Ellesmere GMA (17VIC)
Frankston GMA (18VIC)
Gellibrand GMA (19VIC)
Gerangamete GMA (20VIC)

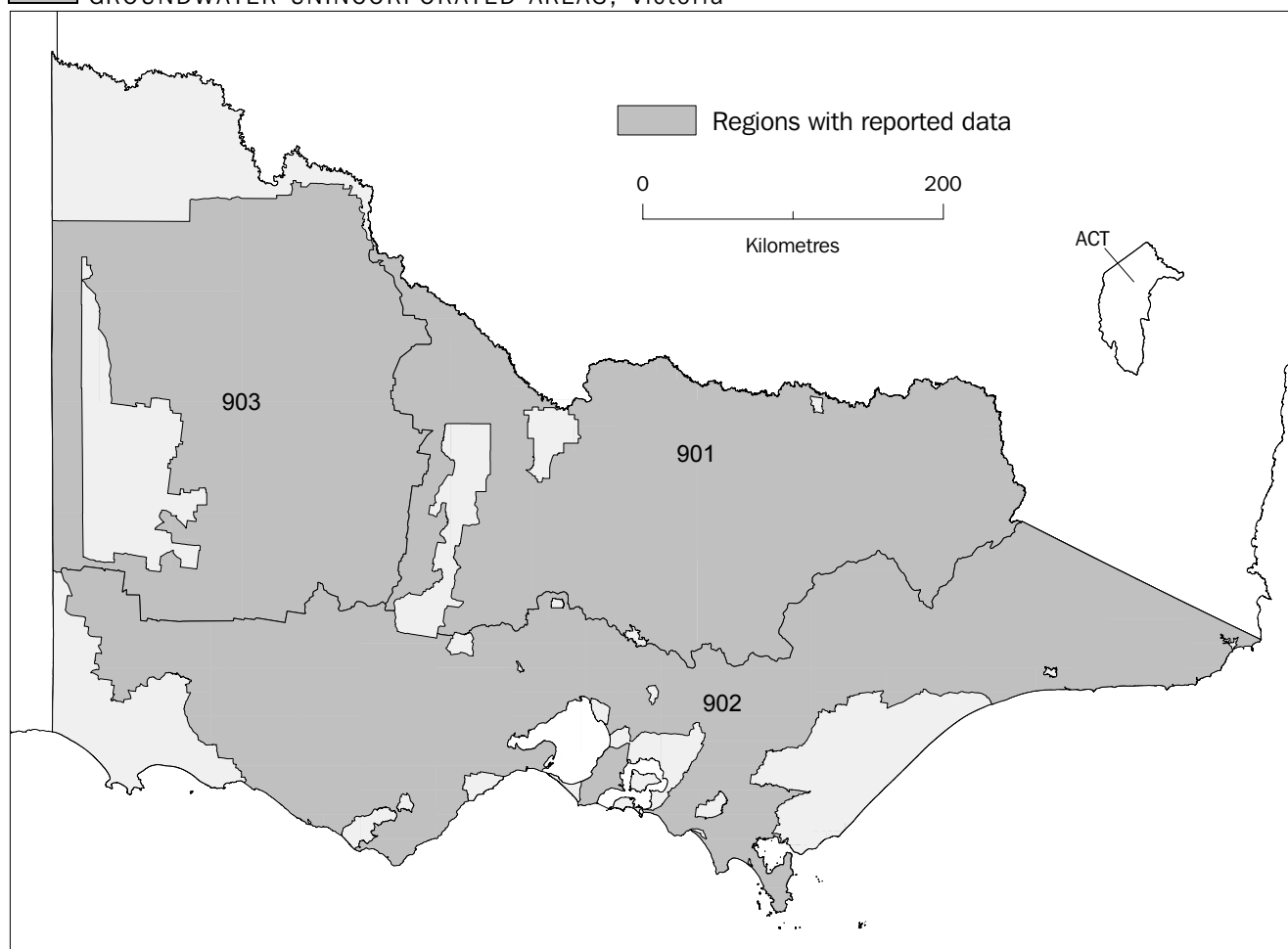
Giffard GMA (21VIC)
Glenormiston GMA (23VIC)
Goorambat GMA (24VIC)
Goroke GMA (25)
Heywood GMA (26)
Jan Juc GMA (27)
Kaniva TSCA GMA (28)
Kialla GMA (116)
Kinglake GMA (44VIC)
Lancefield GMA (46VIC)

Leongatha GMA (47VIC)
Little Desert GMA (48)
Merrimu GMA (49VIC)
Moe GMA (52VIC)
Moorabbin GMA (53VIC)
Mullindoolingong GMA (54VIC)
Murmungee GMA (55VIC)
Nagambie GMA (119)
Nepean GMA (66)
Newlingrook GMA (70VIC)

Nhill GMA (71)
Orbost GMA (73)
Paaratte GMA (74)
Portland GMA (75VIC)
Rosedale GMA (76)
Stratford GMA (85)
Tarwin GMA (86)
Wa De Lock GMA (89)

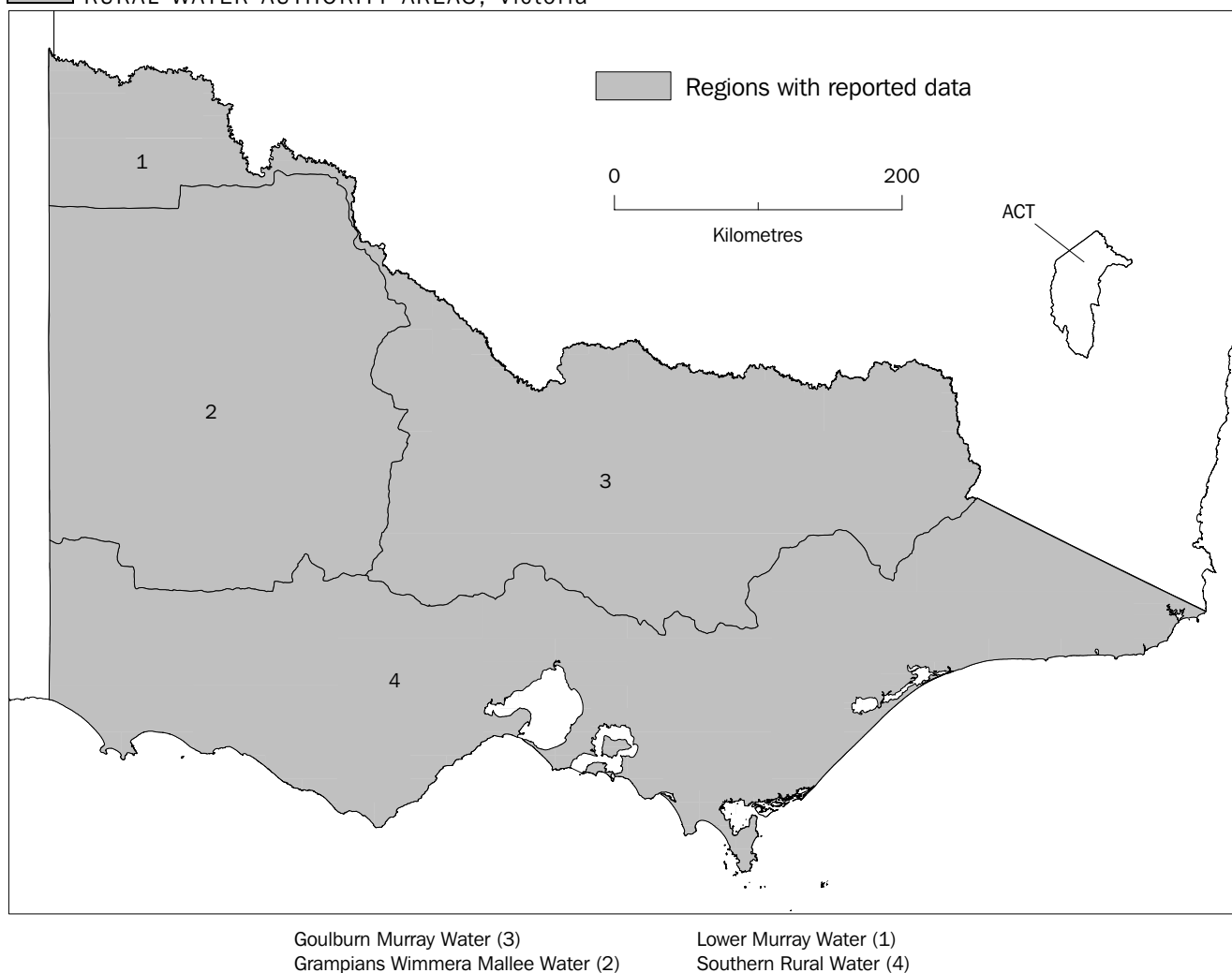
A1.6 GROUNDWATER WATER SUPPLY PROTECTION AREAS, Victoria

Apsley WSPA (5)	Glenelg WSPA (22)	Neurapur WSPA (69VIC)	Upper Loddon WSPA (88)
Bungaree WSPA (8VIC)	Kaniva WSPA (29VIC)	Nullawarre WSPA (72)	Wandin Yallock WSPA (90)
Campaspe Deep Lead WSPA (9)	Katunga WSPA (42VIC)	Sale WSPA (77)	Warrioon WSPA (91)
Condah WSPA (12VIC)	Kooweerup WSPA (45)	Shepparton Irrigation WSPA (78)	Wy Yung WSPA (95)
Denison WSPA (15VIC)	Mid Loddon WSPA (51VIC)	Spring Hill WSPA (84)	Yangery WSPA (96)
Deutgam WSPA (16VIC)	Murrayville WSPA (65)	Telopea downs WSPA (87)	Yarram WSPA (99)

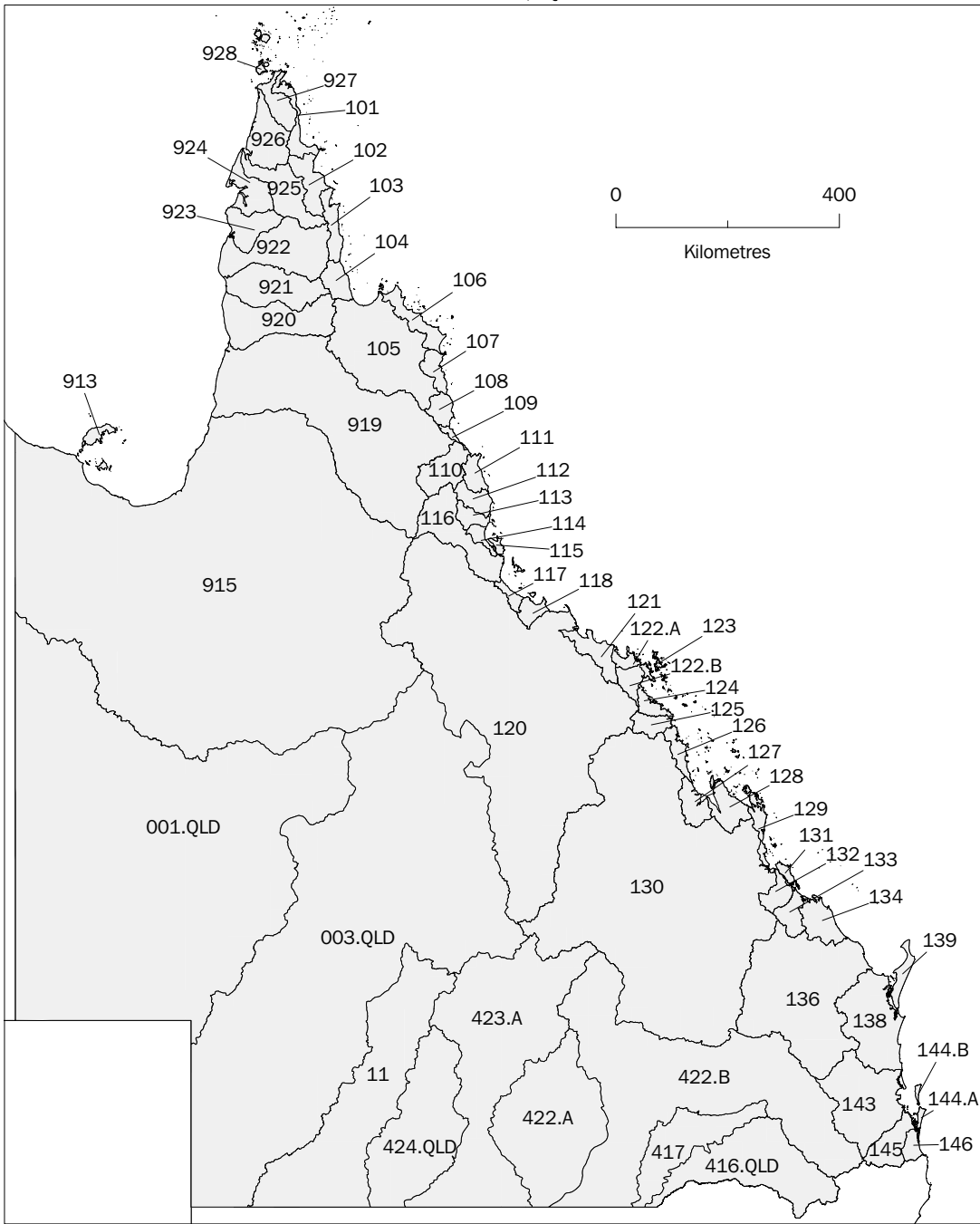
A1.7 GROUNDWATER UNINCORPORATED AREAS, Victoria

Unincorporated - Goulburn Murray (901)
Unincorporated - Southern Rural Water (902)
Unincorporated - Grampians Wimmera Mallee (903)

A1.8 RURAL WATER AUTHORITY AREAS, Victoria

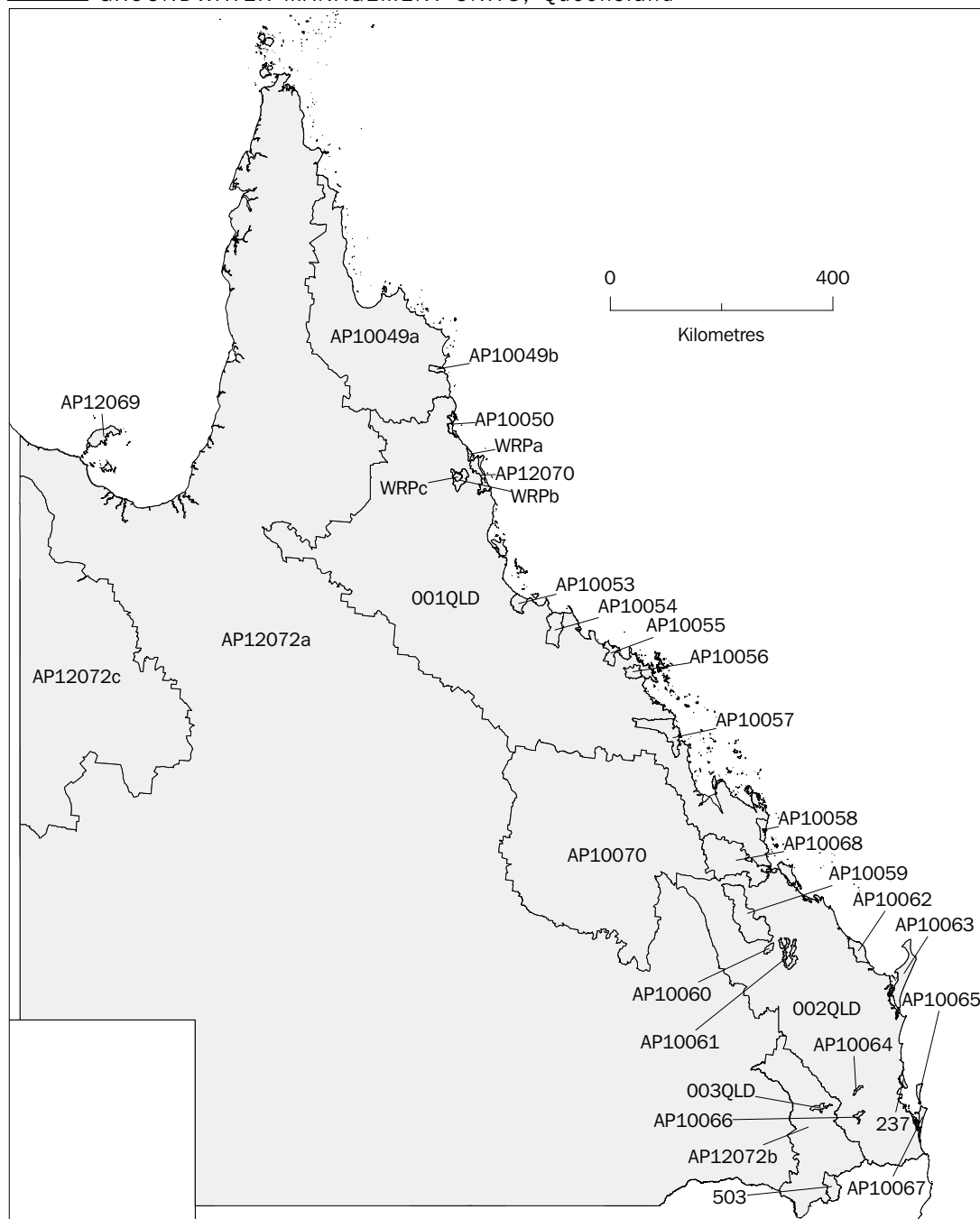


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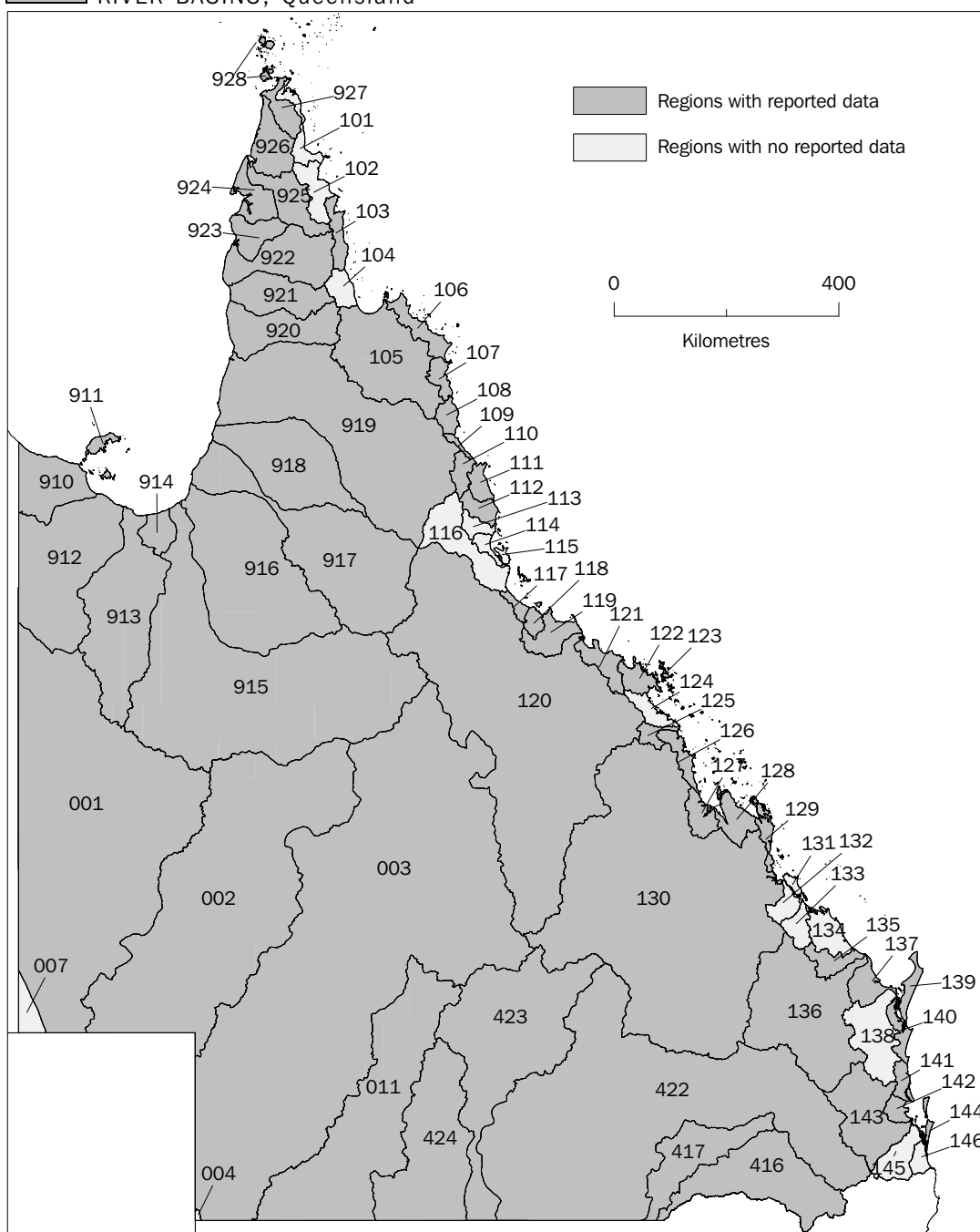


- | | | | |
|-----------------------------|-----------------------------------|---------------------------------|-------------------------------------|
| Archer (Basin) (922) | Ducie (Basin) (926) | Mary (138) | Ross (Basin) (118) |
| Baffle (Basin) (134) | Embley (Basin) (924) | Mitchell (919) | Shoalwater (Basin) (128) |
| Barron (110) | Endeavour (Basin) (107) | Moonie (417) | Southern Gulf (915) |
| Black (Basin) (117) | Fitzroy (130) | Moreton (143) | Stewart (Basin) (104) |
| Border Rivers (416.QLD) | Fraser Island (Basin) (139) | Mornington Island (Basin) (913) | Stradbroke (Basin) (144.A) |
| Boyne (133) | Georgina Diamantina (001.QLD) | Mossman (Basin) (109) | Stradbroke (Basin) (144.B) |
| Bulloo (11) | Gold Coast (146) | Mulgrave-Russell (Basin) (111) | Styx (Basin) (127) |
| Burdekin (120) | Herbert (Basin) (116) | Murray (Basin) (114) | Torres Strait Islands (Basin) (928) |
| Burnett (136) | Hinchinbrook Island (Basin) (115) | Nebine (422.A) | Tully (Basin) (113) |
| Calliope (132) | Holroyd (Basin) (921) | Normanby (Basin) (105) | Warrego (423.A) |
| Coleman (Basin) (920) | Jacky Jacky (Basin) (101) | O'Connell (Basin) (124) | Waterpark (Basin) (129) |
| Condamine Balonne (422.B) | Jardine (Basin) (927) | Olive-Pascoe (Basin) (102) | Watson (Basin) (923) |
| Cooper Creek (003.QLD) | Jeannie (Basin) (106) | Paroo (424.QLD) | Wenlock (Basin) (925) |
| Curtis Island (Basin) (131) | Johnstone (Basin) (112) | Pioneer (125) | Whitsunday (122.B) |
| Daintree (Basin) (108) | Lockhart (Basin) (103) | Plane (Basin) (126) | Whitsunday Island (Basin) (123) |
| Don (Basin) (121) | Logan Basin (145) | Proserpine (Basin) (122.A) | |

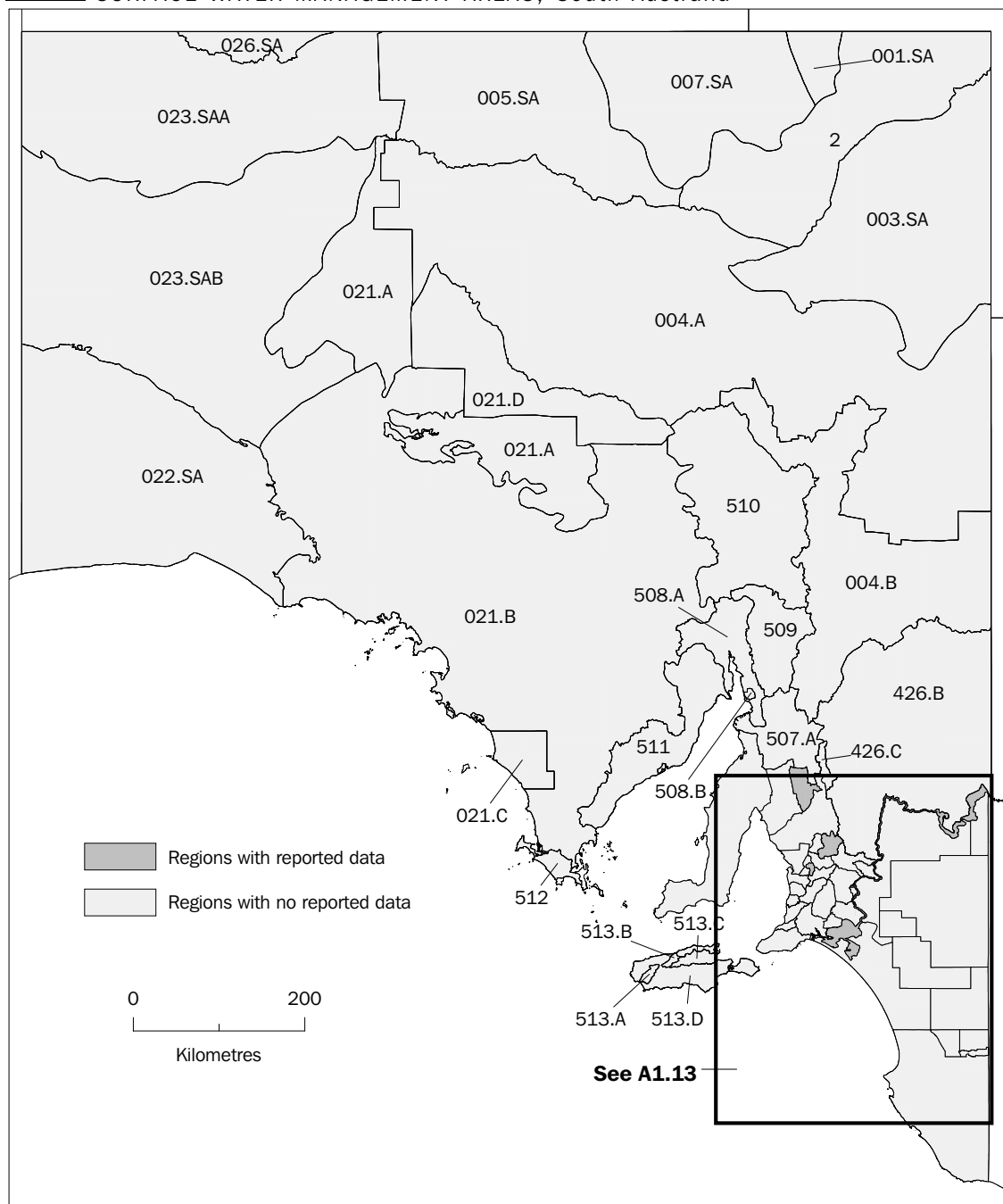
A1.10 GROUNDWATER MANAGEMENT UNITS, Queensland



Atherton Area A (WRPc)	Clarendon (AP10066)	Highlands (AP10070)
Atherton Area B (WRPb)	Cook (AP10049a)	Monto (AP10061)
Bluewater (AP10053)	Cressbrook Creek (AP10064)	Moreton Island (AP10065)
Bowen (AP10055)	Duck Farm (AP10049b)	Mossman (AP10050)
Bribie Island (237)	Eastern Downs (AP12072b)	Mount Isa (AP12072c)
Bundaberg (AP10062)	Eastern Downs GWMA (003QLD)	North Stradbroke Isl (AP10067)
Burdekin (AP10054)	Farnborough (AP10058)	Pioneer (AP10057)
Cairns Coast (AP12070)	Fitzroy (AP10068)	Proserpine (AP10056)
Cairns Northern Beaches (WRPa)	Fraser Island (AP10063)	Unincorporated Area - New England (503)
Callide (AP10059)	Great Artesian Basin (AP12069)	Unmanaged_001 (001QLD)
Cattle Creek (AP10060)	Great Artesian Basin (AP12072a)	Unmanaged_002 (002QLD)

A1.11 RIVER BASINS, Queensland

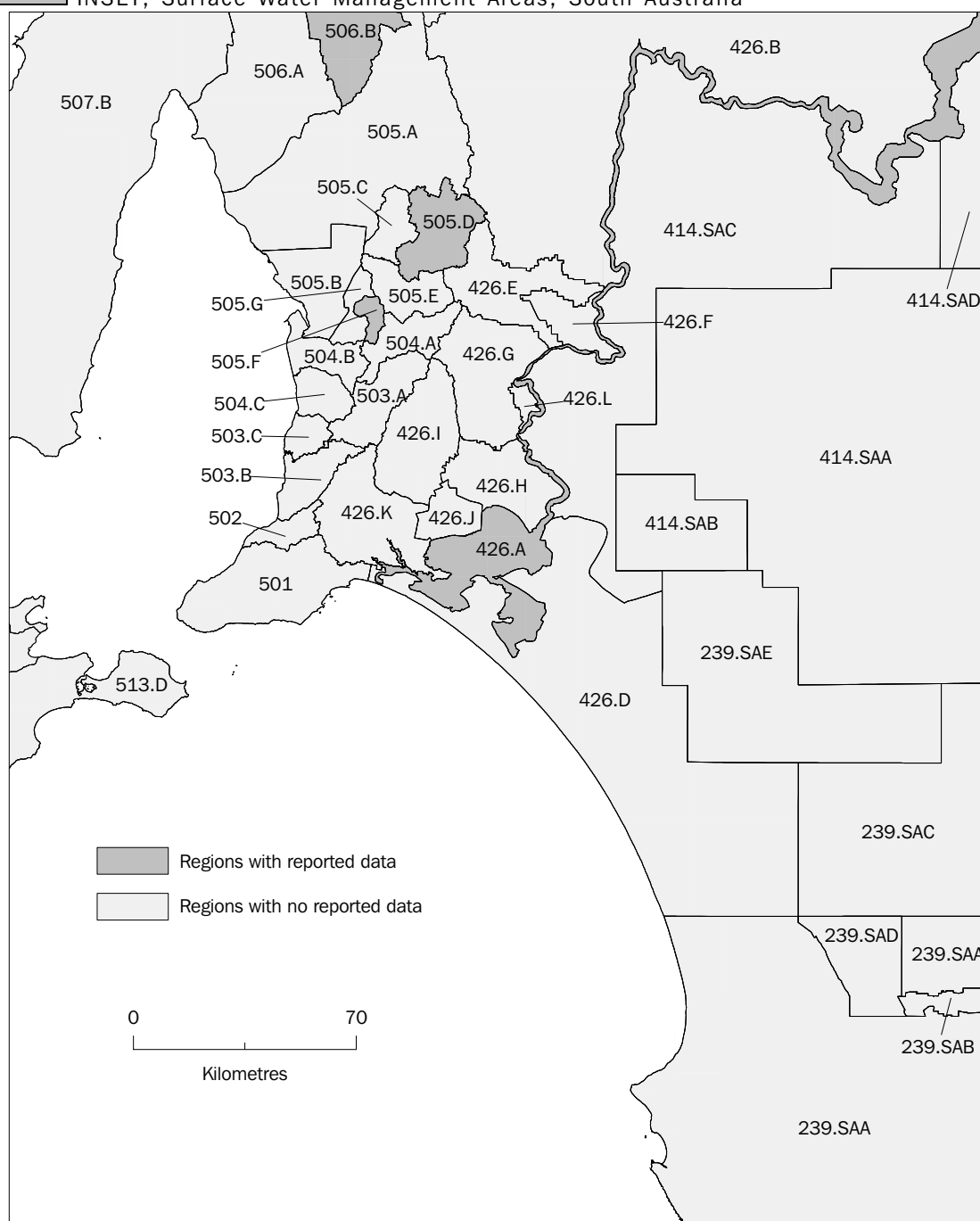
Archer River (922)	Daintree River (108)	Jacky Jacky Creek (101)	Mulgrave-Russell Rivers (111)	South Coast (146)
Baffle Creek (134)	Diamantina River (002)	Jardine River (927)	Murray River (114)	Staaten River (918)
Barron River (110)	Don River (121)	Jeannie River (106)	Nicholson River (912)	Stewart River (104)
Black River (117)	Ducie River (926)	Johnstone River (112)	Noosa River (140)	Stradbroke Island (144)
Border Rivers (416)	Embley River (924)	Kolan River (135)	Norman River (916)	Styx River (127)
Boyne River (133)	Endeavour River (107)	Lake Frome (004)	Normanby River (105)	Torres Strait Islands (928)
Brisbane River (143)	Fitzroy River (130)	Leichhardt River (913)	O'Connell River (124)	Tully River (113)
Bulloo River (011)	Flinders River (915)	Lockhart River (103)	Olive-Pascoe Rivers (102)	Warrego River (423)
Burdekin River (120)	Fraser Island (139)	Logan-Albert Rivers (145)	Paroo River (424)	Water Park Creek (129)
Burnett River (136)	Georgina River (001)	Maroochy River (141)	Pine River (142)	Watson River (923)
Burrum River (137)	Gilbert River (917)	Mary River (138)	Pioneer River (125)	Wenlock River (925)
Calliope River (132)	Houghton River (119)	Mitchell River (919)	Plane Creek (126)	Whitsunday Island (123)
Coleman River (920)	Hay River (007)	Moonie River (417)	Proserpine river (122)	
Condamine-Culgoa Rivers (422)	Herbert River (116)	Morning Inlet (914)	Ross River (118)	
Cooper Creek (003)	Hinchinbrook Island (115)	Morningside Island (911)	Settlement Creek (910)	
Curtis Island (131)	Holroyd River (921)	Mossman River (109)	Shoalwater Creek (128)	

A1.12 SURFACE WATER MANAGEMENT AREAS, South Australia

Broughton River (507.A)
 Cooper Creek (003.SA)
 Cygnet River (513.C)
 Diamantina River (2)
 Eromanga Unincorporated (021.A)
 Eucla (022.SA)
 Eyre & Frome (004.A)
 Finke River (005.SA)

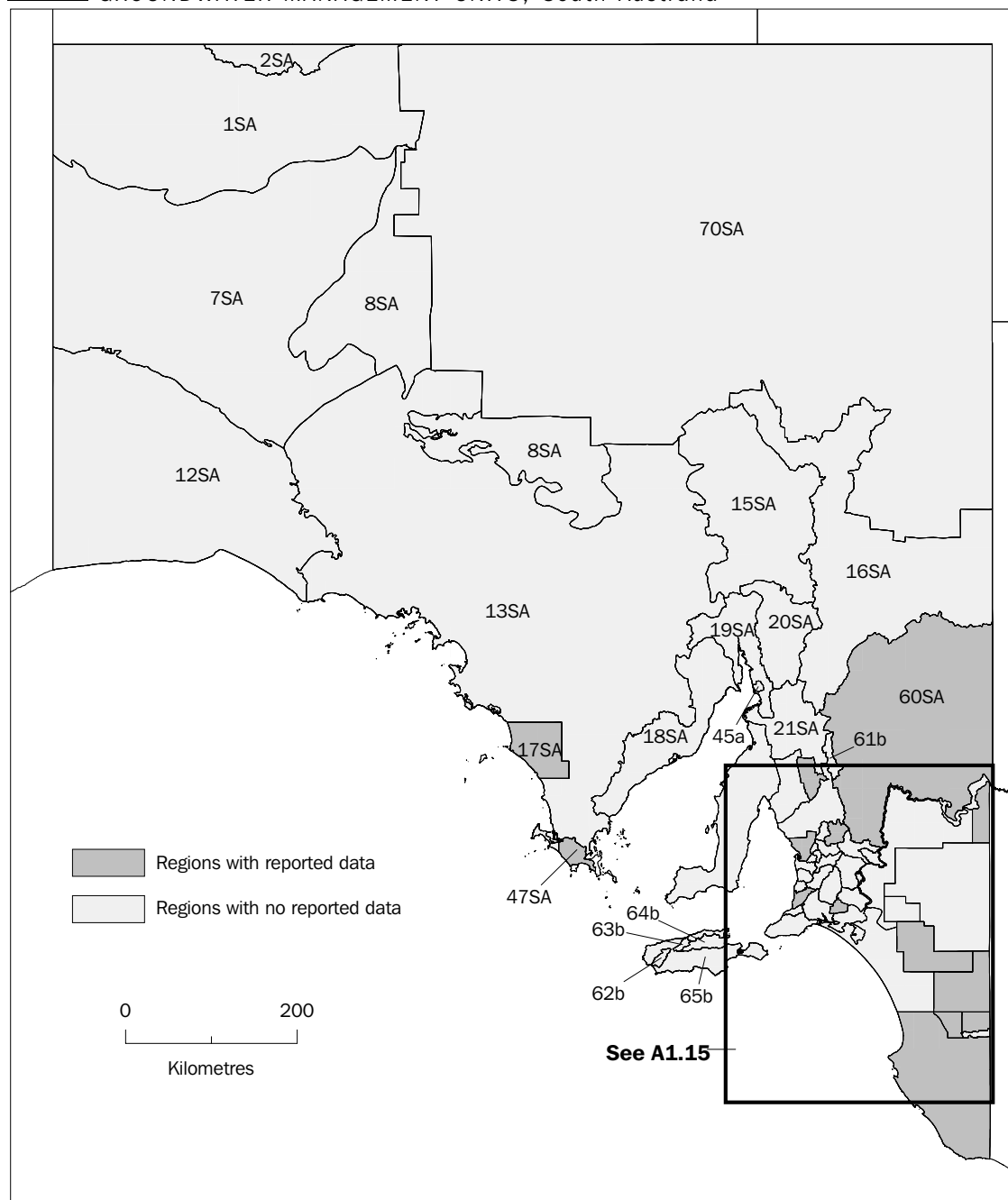
Gawler Craton (021.B)
 Georgina River (001.SA)
 Hay River (007.SA)
 Kangaroo Island (513.D)
 Lake Torrens (510)
 Mackay (026.SA)
 Mallee (426.B)
 Mambray Coast (508.A)

Musgrave (023.SAA)
 Musgrave PWA (021.C)
 Northern Flinders (004.B)
 South West Eromanga (021.D)
 Southern Basins PWA (512)
 Spencer Gulf (511)
 Warburton (023.SAB)
 Willochra Creek (509)

A1.13 INSET, Surface Water Management Areas, South Australia

Adelaide (503.C)	Kangaroo Island (513.D)	Murraylands (414.SAC)	Peake-Roby-Sherlock PWA (414.SAB)
Angas-Bremer (426.I)	Light (505.A)	Mypolonga Flat (426.L)	River Murray PWC (426.A)
Angas-Bremer PWA (426.J)	Little Para (505.F)	Myponga (502)	Southern EMLR (426.K)
Barossa PWRA (505.D)	Lower Limestone Coast PWA (239.SAA)	Noora (414.SAD)	Tatiara (239.SAC)
Clare Valley PWRA (506.B)	Lower Torrens (504.B)	Northern Adelaide Plains PWA (505.B)	Tintinara-Coonalpyn PWA (239.SAE)
Coorong (426.D)	Mallee (426.B)	Northern EMLR (426.G)	Upper Torrens (504.A)
Ferries-McDonald (426.H)	Mallee PWA (414.SAA)	Onkaparinga (503.A)	Wakefield (506.A)
Fleurieu Peninsula (501)	Marne-Saunders (426.E)	Padthaway PWA (239.SAD)	Yatla (505.G)
Gawler (505.C)	McLaren Vale PWA (503.B)	Parra Wirra (505.E)	Yorke Peninsula (507.B)
Kakoonie (426.F)	Morambro Creek PSWA (239.SAB)	Patawalonga (504.C)	

A1.14 GROUNDWATER MANAGEMENT UNITS, South Australia



Broughton River (21SA)

Burra Creek (61b)

Cygnets River (64b)

Eromanga Unincorporated (8SA)

Eucla (12SA)

Gawler Craton (13SA)

Kangaroo Island (65b)

Lake Torrens (15SA)

Mackay (2SA)

Mallee (60SA)

Mambray Coast (19SA)

Middle River (63b)

Musgrave (1SA)

Musgrave PWA (17SA)

Northern Flinders (16SA)

Rocky River (62b)

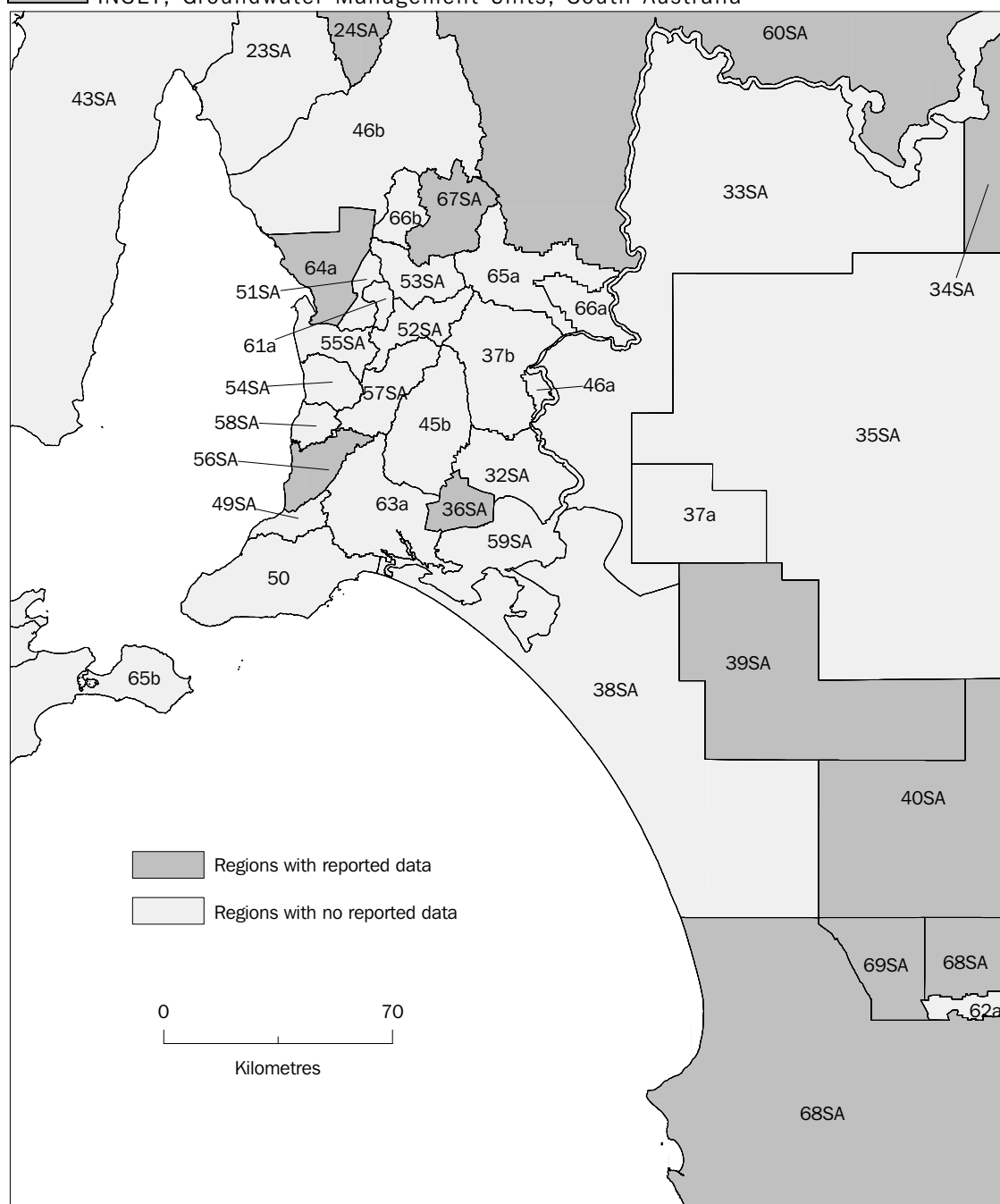
Southern Basins PWA (47SA)

Spencer Gulf (18SA)

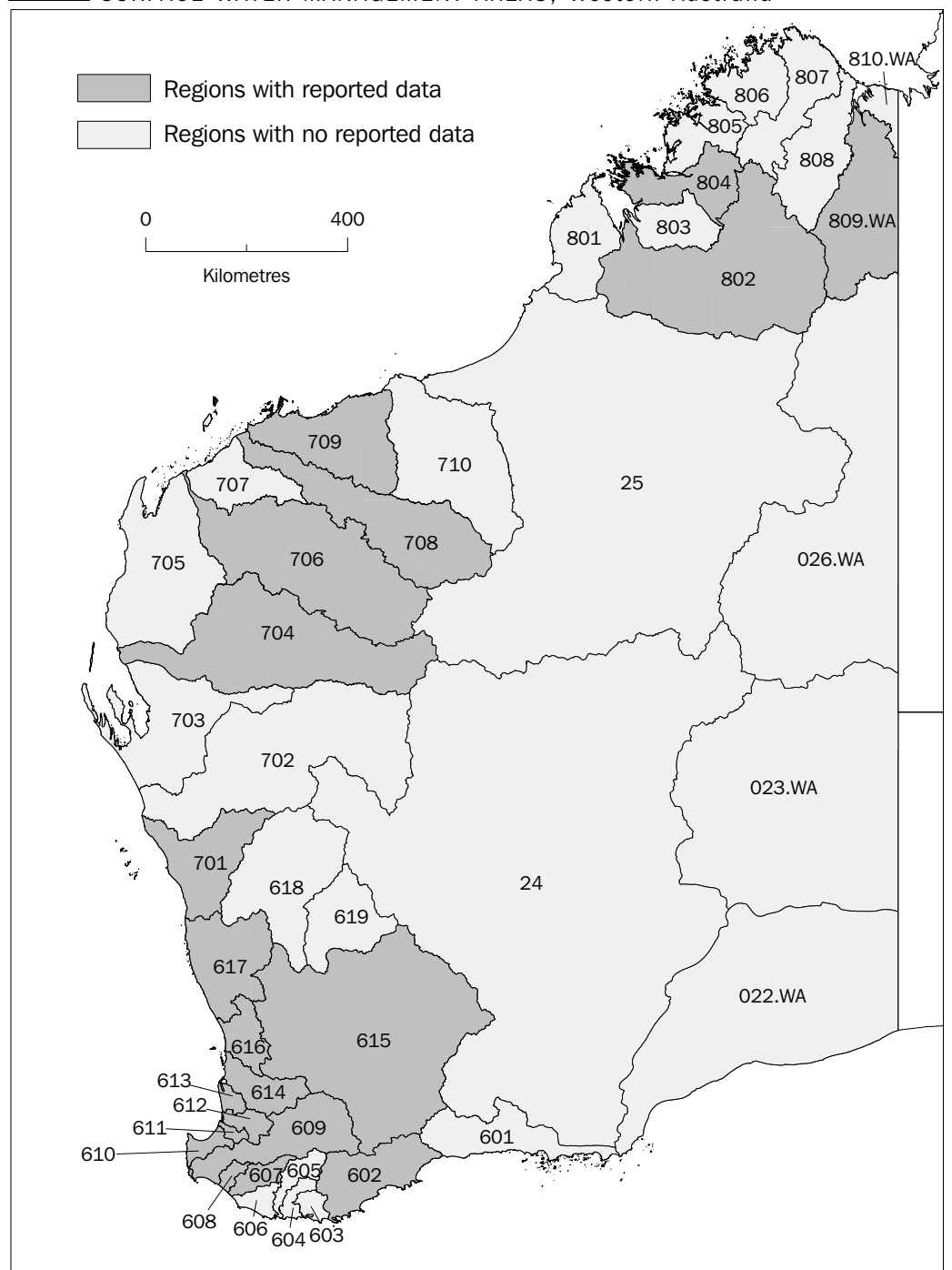
Warburton (7SA)

Willochra Creek (20SA)

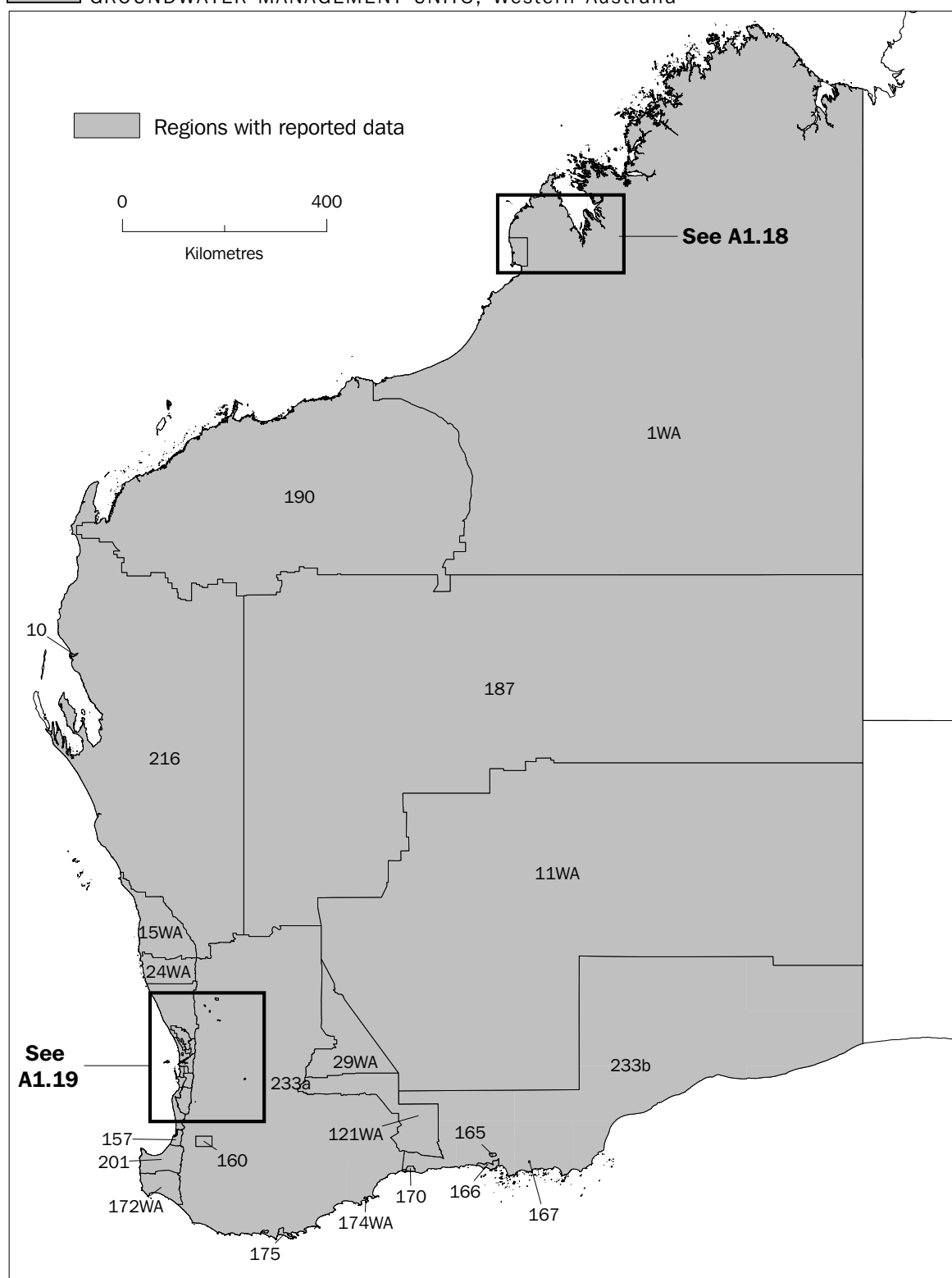
Far North PWA (70SA)

A1.15 INSET, Groundwater Management Units, South Australia

Adelaide (58SA)	Kangaroo Island (65b)	Murraylands (33SA)	Peake-Roby-Sherlock PWA (37a)
Angas-Bremer (45b)	Light (46b)	Mypolonga Flat (46a)	River Murray PWC (59SA)
Angas-Bremer PWA (36SA)	Little Para (61a)	Myponga (49SA)	Southern EMLR (63a)
Barossa PWRA (67SA)	Lower Limestone Coast PWA (68SA)	Noora (34SA)	Tatiara (40SA)
Clare Valley PWRA (24SA)	Lower Torrens (55SA)	Northern Adelaide Plains PWA (64a)	Tintinara-Coonalpyn PWA (39SA)
Coorong (38SA)	Mallee (60SA)	Northern EMLR (37b)	Upper Torrens (52SA)
Ferries-McDonald (32SA)	Mallee PWA (35SA)	Onkaparinga (57SA)	Wakefield (23SA)
Fleurieu Peninsula (50)	Marne-Saunders (65a)	Padthaway PWA (69SA)	Yatla (51SA)
Gawler (66b)	McLaren Vale PWA (56SA)	Parra Wirra (53SA)	Yorke Peninsula (43SA)
Kakoonie (66a)	Morambro Creek PSWA (62a)	Patawalonga (54SA)	

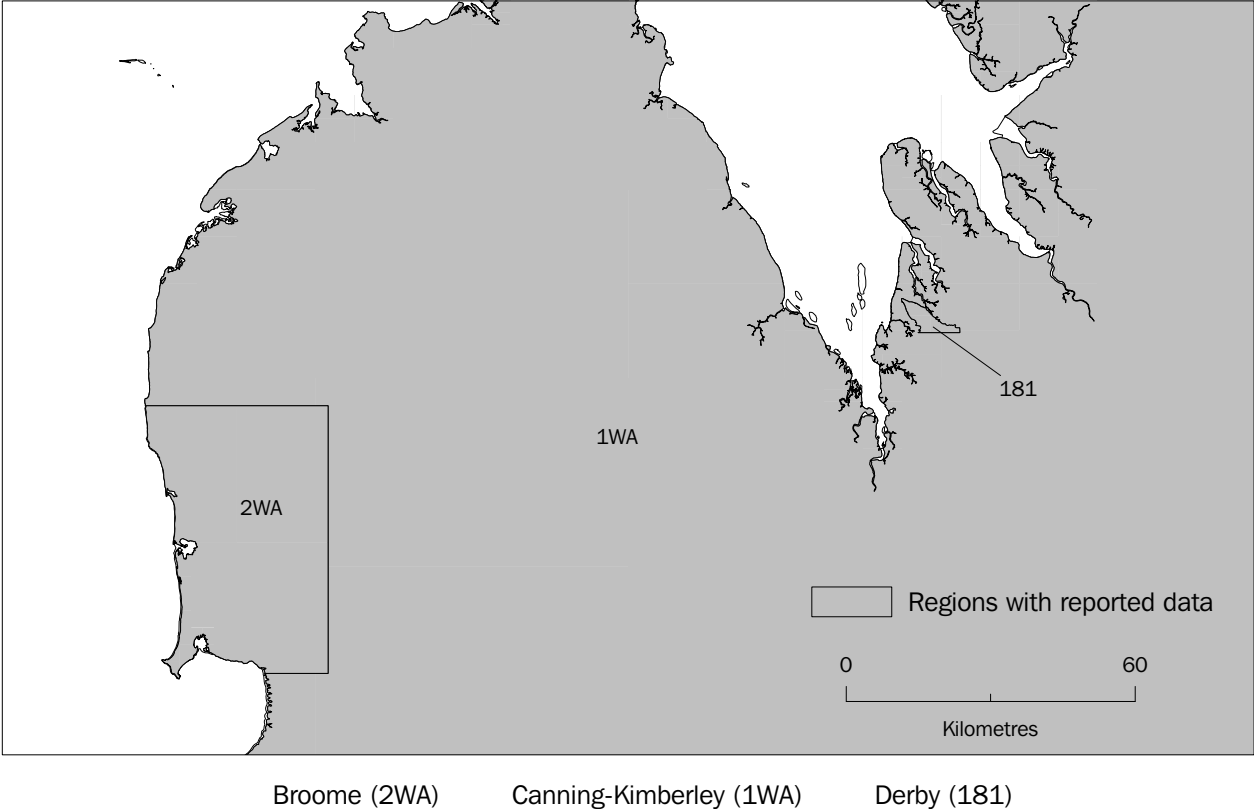
A1.16 SURFACE WATER MANAGEMENT AREAS, Western Australia

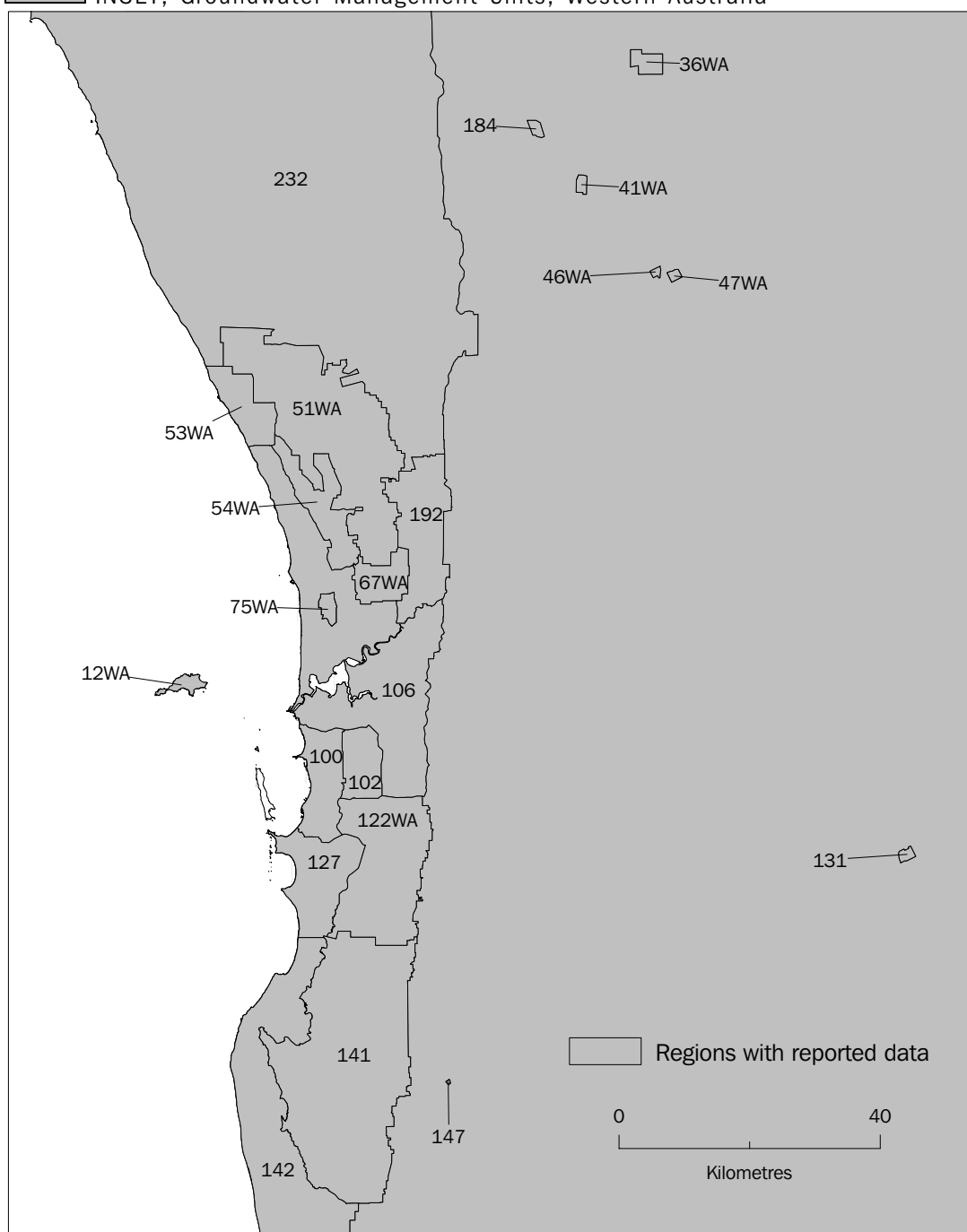
Albany Coast (602)	Esperance Coast (601)	Lennard River (803)	Port Hedland Coast (709)
Ashburton River (706)	Fitzroy River (802)	Lyndon-Minilya Rivers (705)	Preston River (611)
Avon River (615)	Fortescue River (708)	Mackay (026.WA)	Prince Regent River (805)
Blackwood River (609)	Frankland River (605)	Moore-Hill Rivers (617)	Salt Lake (24)
Busselton Coast (610)	Gascoyne River (704)	Murchison River (702)	Sandy Desert (25)
Cape Leveque Coast (801)	Greenough River (701)	Murray River (614)	Shannon River (606)
Collie River (612)	Harvey River (613)	Ninghan (619)	Swan Coast (616)
De Grey River (710)	Isdell River (804)	Nullarbor (022.WA)	Warburton (023.WA)
Denmark River (603)	Keep River (810.WA)	Onslow Coast (707)	Warren River (607)
Donnelly River (608)	Kent River (604)	Ord River (809.WA)	Wooramel River (703)
Drysdale River (807)	King Edward River (806)	Pentecost River (808)	Yarra Yarra Lakes (618)

A1.17 GROUNDWATER MANAGEMENT UNITS, Western Australia

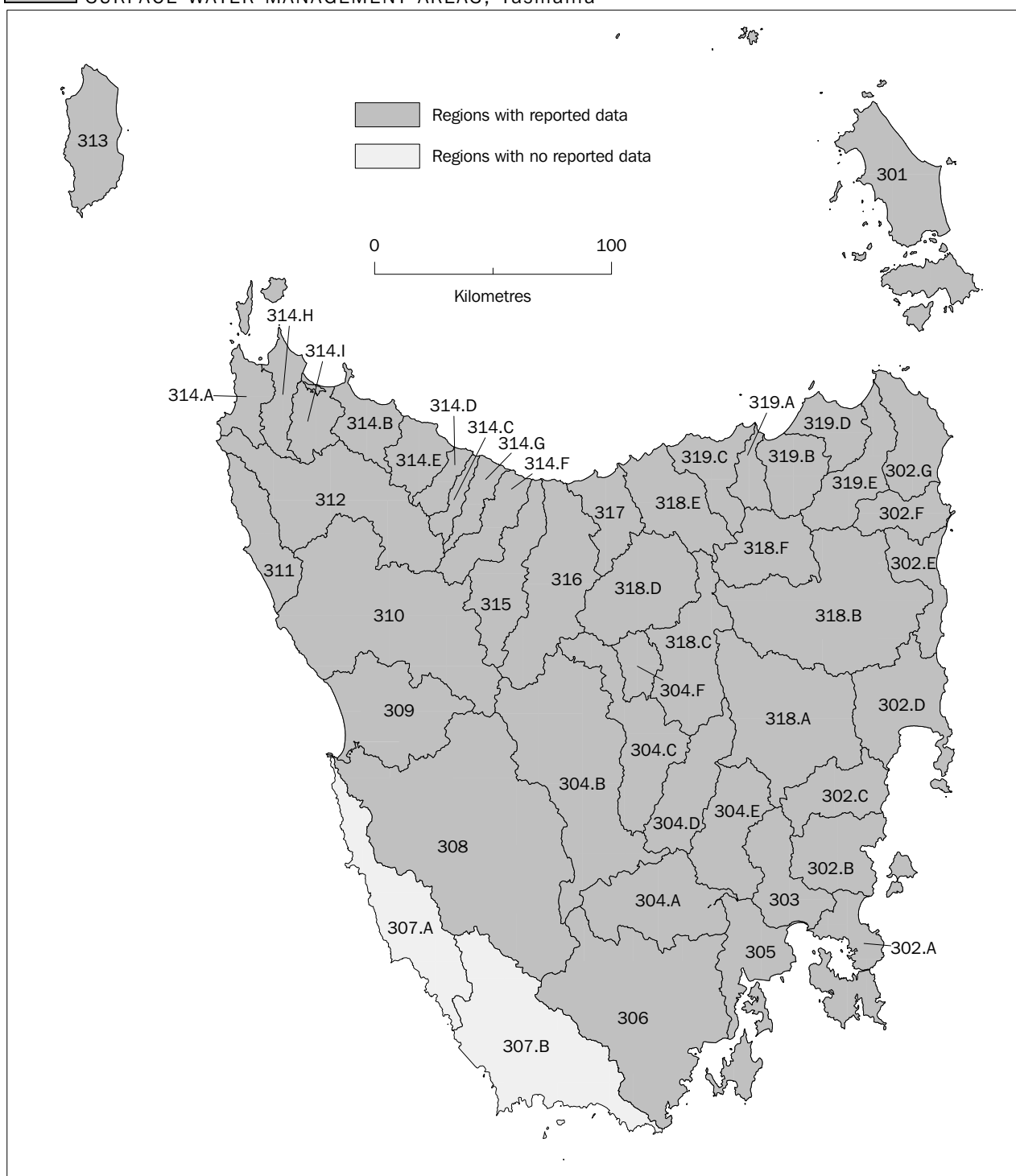
Albany (175)	Canning-Kimberley (1WA)	Gascoyne (216)	Karri (233a)
Arrowsmith (15WA)	Carnarvon (10)	Gibson (165)	Kondinin-Ravensthorpe (121WA)
Blackwood (172WA)	Collie (160)	Goldfields (11WA)	Nullabor (233b)
Bremer Bay (174WA)	Condingup (167)	Hopetoun (170)	Pilbara (190)
Bunbury (157)	East Murchison (187)	Jurien (24WA)	Westonia (29WA)
Busselton-Capel (201)	Esperance (166)		

A1.18 INSET, Groundwater Management Units, Western Australia

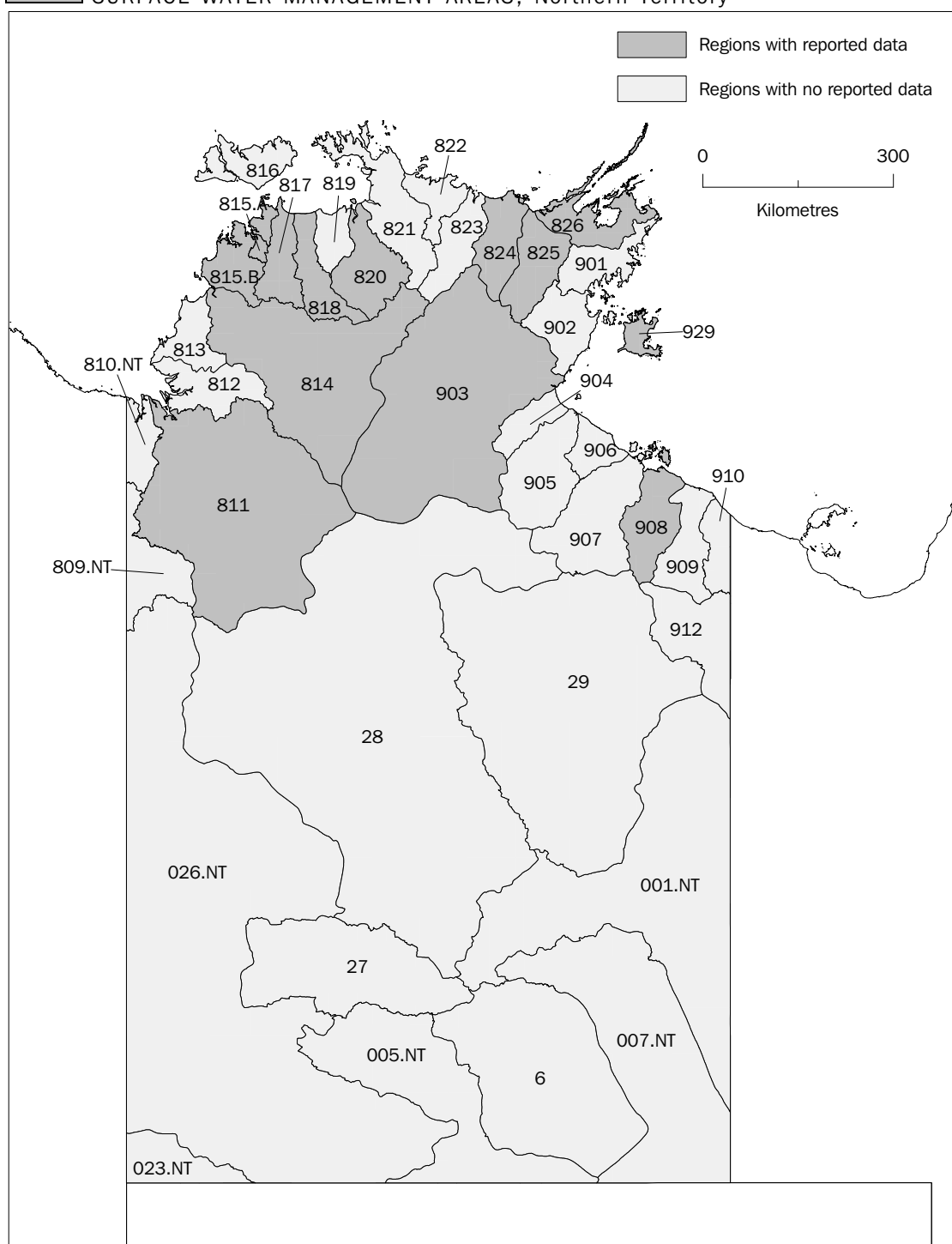


A1.19 INSET, Groundwater Management Units, Western Australia

Bolgart (46WA)	Jandakot (102)	Serpentine (122WA)
Bolgart East (47WA)	Mirraboooka (67WA)	South West Coastal (142)
Cockburn (100)	Murray (141)	Swan (192)
Dwellingup (147)	New Norcia (184)	Wanneroo (54WA)
Gingin (232)	Perth (106)	Yanchep (53WA)
Gnangara (51WA)	Rockingham (127)	Yenart (41WA)
Gwelup (75WA)	Rottnest (12WA)	Yerecoin (36WA)
Happy Valley (131)		

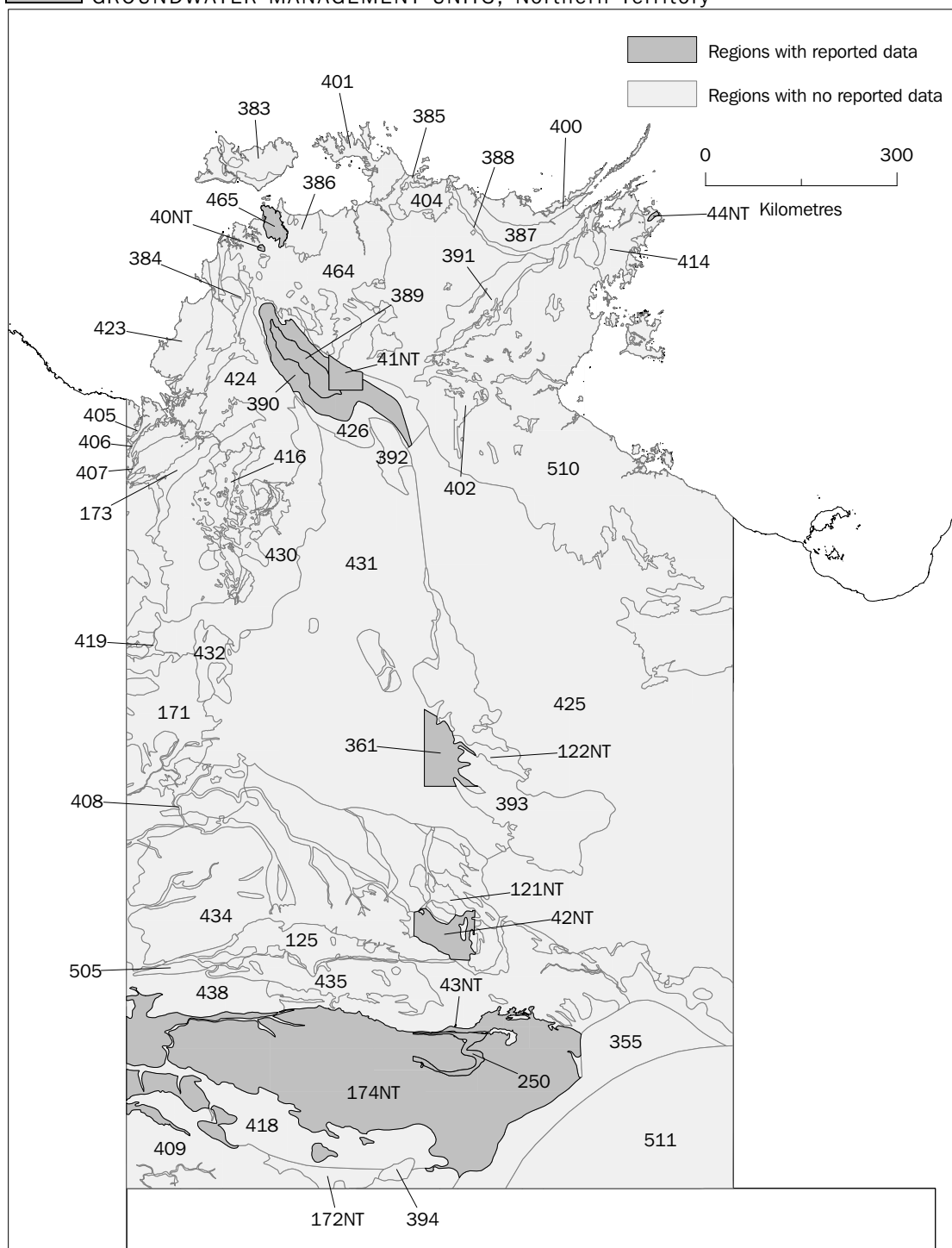
A1.20 SURFACE WATER MANAGEMENT AREAS, Tasmania

Arthur (312)	George (302.F)	Lower Derwent (304.A)	Port Davey (307.B)
Black-Detention (314.B)	Gordon-Franklin (308)	Macquarie (318.A)	Prosser (302.B)
Blythe (314.G)	Great Forester-Brid (319.B)	Meander (318.D)	Ringarooma (319.E)
Boobyalla-Tomahawk (319.D)	Great Lake (304.F)	Mersey (316)	Rubicon (317)
Brumbys-Lake (318.C)	Huon (306)	Montagu (314.H)	Scamander-Douglas (302.E)
Cam (314.D)	Inglis (314.E)	Musselroe-Ansons (302.G)	South Esk (318.B)
Clyde (304.D)	Jordan (304.E)	Nelson Bay (311)	Swan-Apsley (302.D)
Derwent Estuary-Bruny (305)	King Island (313)	North Esk (318.F)	Tamar Estuary (318.E)
Duck (314.I)	King-Henty (309)	Ouse (304.C)	Tasman (302.A)
Emu (314.C)	Leven (314.F)	Pieman (310)	Upper Derwent (304.B)
Forth-Wilmot (315)	Little Forester (319.A)	Pipers (319.C)	Wanderer-Giblin (307.A)
Furneaux (301)	Little Swanport (302.C)	Pitt Water-Coal (303)	Welcome (314.A)

A1.21 SURFACE WATER MANAGEMENT AREAS, Northern Territory

Adelaide River (817)	Finke River (005.NT)	Limmen Bight River (905)	Rosie River (906)
Barkly (29)	Finniss - Elizabeth - Howard Rivers (815.B)	Liverpool River (823)	Settlement Creek (910)
Bathurst and Melville Islands (816)	Fitzmaurice River (812)	Mackay (026.NT)	South Alligator River (820)
Blyth River (824)	Georgina River (001.NT)	Mary River (818)	Todd River (6)
Buckingham River (826)	Goomadeer River (822)	McArthur River (907)	Towns River (904)
Burt (27)	Goyder River (825)	Moyle River (813)	Victoria River (811)
Calvert River (909)	Groote Eylandt (929)	Nicholson River (912)	Walker River (902)
Daly River (814)	Hay River (007.NT)	Ord River (809.NT)	Warburton (023.NT)
Darwin - Blackmore Rivers (815.A)	Keep River (810.NT)	Robinson River (908)	Wildman River (819)
East Alligator River (821)	Koolatong River (901)	Roper River (903)	Wiso (28)

A1.22 GROUNDWATER MANAGEMENT UNITS, Northern Territory



Alice Springs Town Basin Water Control District (43NT)
 Berry Springs Dolomite (40NT)
 Gove Water Control District (44NT)
 Koolpinyah Dolomite (465)
 Mereenie Sandstone - Alice Water Control District (250)
 Tennant Creek Water Control District (361)

Ti Tree (42NT)
 Tindall-Katherine Water Control District (41NT)
 Unincorporated Area - Jinduckin Formation (390)
 Unincorporated Area - Ooloo Limestone (389)
 Unincorporated Area - Palaeozoic Sedimentary
 (Southern Northern Territory) (174NT)

* See A1.23 for a legend of the remaining regions with no reported data

A1.23 GROUNDWATER MANAGEMENT AREAS, Northern Territory**Legend of regions with no reported data (Ref. A1.22)**

Great Artesian Basin - Western (511)
 Great Artesian Basin - Western Recharge (355)
 Unincorporated Area - Alluvial Sands (405)
 Unincorporated Area - Buckingham Bay Sandstone (388)
 Unincorporated Area - Cretaceous Sedimentary (394)
 Unincorporated Area - Cretaceous Sedimentary Rock (Anura Bay) (385)
 Unincorporated Area - Cretaceous Sedimentary Rock (Camburinga) (414)
 Unincorporated Area - Cretaceous Sedimentary Rock (Murgarella) (401)
 Unincorporated Area - Granite (Goomadeer) (404)
 Unincorporated Area - Granite (Tennant Creek) (122NT)
 Unincorporated Area - Granite (The Granites) (432)
 Unincorporated Area - Marchinbar Sandstone (400)
 Unincorporated Area - Metamorphic Rock (Harts Range) (434)
 Unincorporated Area - Metamorphic Rock (Kunurra) (407)
 Unincorporated Area - Metamorphic Rock (Southwest Northern Territory) (409)
 Unincorporated Area - Palaeozoic Basalt (Lajamanu) (430)
 Unincorporated Area - Palaeozoic Limestone (Central Northern Territory) (431)
 Unincorporated Area - Palaeozoic Limestone (Daly River) (384)
 Unincorporated Area - Palaeozoic Limestone (Eastern Northern Territory) (425)
 Unincorporated Area - Palaeozoic Sandstone (Wadeye) (423)
 Unincorporated Area - Palaeozoic Shale (Kunurra) (406)
 Unincorporated Area - Proterozoic Dolomite (Bark Hut Inn) (386)
 Unincorporated Area - Proterozoic Dolomite (Bulman) (391)
 Unincorporated Area - Proterozoic Dolomite (Yarralin) (416)
 Unincorporated Area - Proterozoic Rocks Low Yielding (Bulman) (402)
 Unincorporated Area - Proterozoic Sedimentary (Adelaide River) (464)
 Unincorporated Area - Proterozoic Sedimentary Rock (Central West Northern Territory) (171)
 Unincorporated Area - Proterozoic Sedimentary Rock (Green Swamp Well) (392)
 Unincorporated Area - Proterozoic Sedimentary Rock (Kintore) (438)
 Unincorporated Area - Proterozoic Sedimentary Rock (Laramba) (505)
 Unincorporated Area - Proterozoic Sedimentary Rock (Northeast Northern Territory) (510)
 Unincorporated Area - Proterozoic Sedimentary Rock (Tennant Creek) (393)
 Unincorporated Area - Proterozoic Sedimentary Rock (Timber Creek) (424)
 Unincorporated Area - Proterozoic Sedimentary Rock, Low Yield (Kalkari) (173)
 Unincorporated Area - Raiwalla Shale (387)
 Unincorporated Area - Tertiary Sedimentary Rock (125)
 Unincorporated Area - Tertiary Sedimentary Rock (172NT)
 Unincorporated Area - Tertiary Sedimentary Rock (418)
 Unincorporated Area - Tertiary Sedimentary Rock (419)
 Unincorporated Area - Tertiary Sedimentary Rock (Didjidoonkuna Hills) (408)
 Unincorporated Area - Tertiary Sedimentary Rock (The Granites) (435)
 Unincorporated Area - Ti Tree (121NT)
 Unincorporated Area - Tindall Limestone (426)
 Unincorporated Area - Van Diemen Sandstone (383)

GLOSSARY

Allocated Volume	The specific volume of water allocated to water access entitlements as defined by the water allocation.
Allocation	See water allocation.
Allocation Assessments	Water allocation announcements for regulated water sources in those parts of New South Wales without an effective water sharing plan.
Announced Allocation	Water allocation announcements in Queensland.
Aquifer	A category of water access licence in New South Wales issued for groundwater sources in plan areas, which has a share component expressed in unit shares.
Available Water Determination (AWD)	Water allocation announcements in those parts of New South Wales with an effective water sharing plan.
Bulk Entitlement	A type of water access entitlement in Victoria, issued to rural and regional water authorities, who then distribute the water to their rural and urban customers, to some electricity generating companies and to the State Minister for Environment.
Consumptive Pool	The amount of water resource that can be made available for consumptive use in a given water system under the rules of the relevant water plan.
Consumptive Use	Use of water for private benefit consumptive purposes including irrigation, industry, urban and stock and domestic use.
Conveyance	A category of water access licence in New South Wales, which has a share component expressed in unit shares. This category of water access licence is issued to large irrigation water providers for water delivery losses in their supply areas.
Domestic and Stock	A category of water access licence in New South Wales issued for intensive stock raising purposes and for those landholders whose property does not front a river or creek. Domestic and stock water access licences are considered high priority access licences, such that their share component is expressed in megalitres per year and Available Water Determinations provide allocations equal to 100 per cent of the share component volume in all but the most exceptional drought years.
Entitlement	See water access entitlement.
Entitlement Volume	The share or base volume associated with a water access entitlement.
General Security	A category of water access licence in New South Wales, which has a share component expressed in unit shares. The reliability of full allocation per unit share for general security access licences is less assured than high security access licences and is much more variable between river systems.
Gigalitre (GL)	One thousand million litres.
Groundwater	Water occurring below the grounds surface.
High Security	A category of water access licence in New South Wales, which has a share component expressed in unit shares. The reliability of full allocation per unit share for high security access licences is assured in all but severe periods of drought and has priority over general security and supplementary water categories.
Interim Water Allocation	A type of water access entitlement in Queensland.
Inter-regional Trade	Water traded from one region to another.

Local Water Utility	A category of water access licence in New South Wales generally issued to local councils who supply water. Local water utility access licences are considered high priority access licences, such that their share component is expressed in megalitres per year and Available Water Determinations provide allocations equal to 100 per cent of the share component volume in all but the most exceptional drought years.
Major Utility – Power Generation	A category of water access licence in New South Wales, which has a share component expressed in megalitres per year. In 2004-05, only one major utility water access licence has been issued to an electricity generator in the Hunter Regulated River Water Sharing Plan area. Under this plan, the Available Water Determinations provide allocations equal to 100 per cent of the share component volume for this category in all but the most exceptional drought years.
Maximum Available Water	The maximum licensed volume of water that can be extracted in New South Wales in a year if river, climatic and economic conditions prevail to enable maximum extraction of unregulated and supplementary water, full utilisation of regulated water and the maximum usage of all other categories of available water. This figure accounts for account carryover water, end of year account balances for continuous accounting and adjustments for account spills.
Megalitre (ML)	One million litres.
National Water Initiative (NWI)	An intergovernmental agreement on water reform created in June 2004.
Permanent Water Trading	A transaction that permanently affects some aspect of a water access entitlement, such as changes to the ownership, water source, size of share, or reliability.
Plan Area	The area to which a water plan relates.
Prescribed Area	An area in South Australia where water resources are being sustainably managed through a water allocation plan.
Prescribed Surface Water Area (PSWA)	A prescribed area in South Australia, where the water resources being managed are water flowing over land.
Prescribed Watercourse (PWC)	A prescribed area in South Australia, where the water resources being managed are defined rivers with beds and banks.
Prescribed Water Resources Area (PWRA)	A prescribed area in South Australia, where the water resources being managed are surface water, watercourses and groundwater sources.
Prescribed Wells Area (PWA)	A prescribed area in South Australia, where the water resources being managed are groundwater sources.
Private Diversion Licence	A type of water access entitlement in Victoria issued to individuals who divert water from a water source themselves.
Proclaimed Management Area	A water management area in Western Australia where it is illegal to take water from a watercourse or groundwater aquifer without a water licence.
Regulated River	See regulated water source.
Regulated Water Source	A river system with flows controlled through the use of major storages, such as weirs, locks and dams. Also known as supplemented water sources.
Resource Operation Plan	A type of water plan in Queensland.
Sales Water	A type of water allocation in Victoria, available to holders of water rights or private diversion licences when storages have sufficient water to meet basic rights in the current year, and with minimum likely inflows, to meet basic rights in the following year.
Seasonal Irrigation Water Allocation	A water allocation announcement in Victoria.
Seasonal Water Assignment	A temporary water trade in Queensland.

Share Component	The entitlement volume for water access licences in New South Wales, which may be expressed as a volume or as unit shares.
Supplementary Water	A category of water access licence in New South Wales, which has a share component expressed in unit shares. Supplementary water is made available to licence holders on regulated rivers to supplement their normal regulated allocation when there are significant uncontrolled flows which exceed any immediate water needs and any specific environmental requirements. Supplementary water access licences have the lowest water access priority.
Supplemented Water Source	See regulated water source.
Surface Water	Water flowing or held in streams, rivers and other wetlands in the landscape.
Temporary Water Trading	A transaction that affects only the seasonal water allocation associated with a water access entitlement.
Unregulated River	(1) See unregulated water source. (2) A category of water access licence in New South Wales issued for unregulated water sources in plan areas, which has a share component expressed in unit shares.
Unregulated Water Source	A water source, such as a river system, where no major storages, such as dams or weirs, have been built to assist in the supply or extraction of water.
Unsupplemented Water Source	See unregulated water source.
Volume Taken	The volume of water diverted from waterways in Victoria, as estimated in the Victorian State Water Report 2004-05.
Water Access Entitlement	A perpetual or ongoing entitlement to exclusive access to a share of water from a specified consumptive pool as defined in the relevant water plan.
Water Access Licence	A type of water access entitlement in New South Wales.
Water Allocation	(1) The specific volume of water allocated to water access entitlements in a given season, defined according to rules established in the relevant water plan. (2) A type of water access entitlement in Queensland.
Water Allocation Announcement	An announcement made for a water source, specifying what percentage of the entitlement volume is available to water access entitlement holders for that water year.
Water Allocation Plan	A type of water plan in South Australia.
Water Licence	A type of water access entitlement.
Water Management Area	An area defined by a water management agency within a State or Territory for the purposes of reporting on water resources.
Water Made Available	Represents water made available as a percent of entitlement volume, after accounting for carryover water, end of year account balances and adjustments for account spills.
Water Plan	Statutory plans for surface and/or ground water systems, developed in consultation with all relevant stakeholders on the basis of best scientific and socio-economic assessment, to provide secure ecological outcomes and resource security for users.
Water Right	A type of water access entitlement in Victoria issued to individuals in rural water authority supplied irrigation districts.
Water Sharing Plan	A type of water plan in New South Wales.
Water Trading	Transactions involving water access entitlements or water allocations assigned to water access entitlements.
Water Year	1 July to 30 June.

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