Basin Plan 2012

made under subparagraph 44(3)(b)(i) of the

Water Act 2007

Compilation No. 9

Compilation date:	8 December 2023
Includes amendments:	Act No. 111, 2023
Registered:	2 February 2024

Prepared by the Office of Parliamentary Counsel, Canberra

About this compilation

This compilation

This is a compilation of the *Basin Plan 2012* that shows the text of the law as amended and in force on 8 December 2023 (the ***compilation date***).

The notes at the end of this compilation (the ***endnotes***) include information about amending laws and the amendment history of provisions of the compiled law.

Uncommenced amendments

The effect of uncommenced amendments is not shown in the text of the compiled law. Any uncommenced amendments affecting the law are accessible on the Register (www.legislation.gov.au). The details of amendments made up to, but not commenced at, the compilation date are underlined in the endnotes. For more information on any uncommenced amendments, see the Register for the compiled law.

Application, saving and transitional provisions for provisions and amendments

If the operation of a provision or amendment of the compiled law is affected by an application, saving or transitional provision that is not included in this compilation, details are included in the endnotes.

Editorial changes

For more information about any editorial changes made in this compilation, see the endnotes.

Modifications

If the compiled law is modified by another law, the compiled law operates as modified but the modification does not amend the text of the law. Accordingly, this compilation does not show the text of the compiled law as modified. For more information on any modifications, see the Register for the compiled law.

Self-repealing provisions

If a provision of the compiled law has been repealed in accordance with a provision of the law, details are included in the endnotes.

Acknowledgement of the Traditional Owners of the Murray-Darling Basin

The Murray-Darling Basin Authority acknowledges and pays its respect to the Traditional Owners and their Nations of the Murray-Darling Basin. The contributions of earlier generations, including the Elders, who have fought for their rights in natural resource management are also valued and respected.

The Authority recognises and acknowledges that the Traditional Owners and their Nations in the Murray-Darling Basin have a deep cultural, social, environmental, spiritual and economic connection to their lands and waters. The Authority understands the need for recognition of Traditional Owner knowledge and cultural values in natural resource management associated with the Basin. Further research is required to assist in understanding and providing for cultural flows. The Authority supports the belief of the Northern Murray-Darling Basin Aboriginal Nations and the Murray Lower Darling Rivers Indigenous Nations that cultural flows will provide beneficial outcomes for Traditional Owners.

The approach of Traditional Owners to caring for the natural landscape, including water, can be expressed in the words of Ngarrindjeri elder Tom Trevorrow: “our traditional management plan was don’t be greedy, don’t take any more than you need and respect everything around you. That’s the management plan—it’s such a simple management plan, but so hard for people to carry out.”[1]

This traditional philosophy is widely held by Traditional Owners and respected and supported by the Murray-Darling Basin Authority.

[1] Tom Trevorrow (2010) Murrundi Ruwe Pangari Ringbalin “River Country Spirit Ceremony: Aboriginal Perspectives on River Country”.

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Chapter 1—Introduction

Part 1—Preliminary

1.01 Name of instrument

This instrument is the *Basin Plan 2012*.

1.02 Making and effect of Basin Plan

(1) The Basin Plan is made under Part 2 of the Act.

(2) The Basin Plan has the effect provided for in sections 34, 35, 36, 37, 86G and 86H of the Act.

1.03 Application of Basin Plan

The Basin Plan applies to Basin water resources.

Note: See section 4 of the Act for the meaning of ***Basin water resources***.

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Part 2—Structure of the Basin Plan

1.05 Simplified outline

(1) The following table provides a summary of the Basin Plan:

SUMMARY OF THE BASIN PLAN		
	Title	**Subject matter**
Chapter 1	Introduction	The structure of the Basin Plan, definitions of terms used in the Plan as well as agreements with regard to jurisdictional implementation obligations.
Chapter 2	Basin water resources and the context for their use	The description of Basin water resources and the context in which those resources are used (item 1 of the table in subsection 22(1) of the Act). The details are set out in Schedule 1.
Chapter 3	Water resource plan areas and water accounting periods	The identification of the particular areas that are to be water resource plan areas and the periods that are to be the water accounting periods for each of those areas (item 2 of the table in subsection 22(1) of the Act).
Chapter 4	Identification and management of risks to Basin water resources	The identification of the risks to the condition, or continued availability, of the Basin water resources and the strategies to be adopted to manage, or address, those risks (items 3 and 5 of the table in subsection 22(1) of the Act).
Chapter 5	Management objectives and outcomes to be achieved by the Basin Plan	The management objectives and outcomes to be achieved by the Basin Plan (item 4 of the table to subsection 22(1) of the Act).
Chapter 6	Water that can be taken	The long-term average sustainable diversion limits, the temporary diversion provisions, and the method for determining whether the long-term annual diversion limit has been complied with and the extent of any failure to comply with that limit (items 6, 7 and 8 of the table in subsection 22(1) of the Act). This Chapter also includes matters required by Division 4 of Part 2 of the Act which relate to the allocation of risks in relation to reductions in water availability, and provisions for the Authority to conduct research and investigations.

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SUMMARY OF THE BASIN PLAN		
	Title	**Subject matter**
Chapter 7	Adjustment of SDLs	The Authority may propose adjustments to the long-term average sustainable diversion limits under section 23A of the Act. These may be made by amendment to the Basin Plan under section 23B of the Act. The Chapter also provides for a constraints management strategy.
Chapter 8	Environmental watering plan	The plan for the protection and restoration of the wetlands and other environmental assets of the Murray-Darling Basin; for the protection of biodiversity dependent on Basin water resources; and for achieving other environmental outcomes for the Murray-Darling Basin (item 9 of the table in subsection 22(1) of the Act).
Chapter 9	Water quality and salinity management plan	Water quality and salinity objectives, water quality targets for planning of water flows, water quality targets that apply to the preparation of the water resource plans, and water quality targets for the purposes of long-term salinity planning and management (item 10 of the table in subsection 22(1) of the Act). This Chapter also includes the key causes of water quality degradation in the Murray-Darling Basin.
Chapter 10	Water resource plan requirements	The requirements that a water resource plan must comply with for it to be accredited or adopted under Division 2 of Part 2 of the Act (item 11 of the table in subsection 22(1) of the Act).
Chapter 11	Critical human water needs	The arrangements for meeting critical human water needs (Part 2A of the Act).
Chapter 12	Water trading rules	The rules for the trading of tradeable water rights in relation to Basin water resources (item 12 of the table in subsection 22(1) of the Act).
Chapter 13	Program for monitoring and evaluating the effectiveness of the Basin Plan	The program that will be used to monitor and evaluate the effectiveness of the Basin Plan. Specific Commonwealth and Basin State reporting requirements are also included (item 13 of the table in subsection 22(1) of the Act).
Schedule 1	Basin water resources and the context for their use	The description of Basin water resources and the context in which those resources are used.

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SUMMARY OF THE BASIN PLAN		
	Title	**Subject matter**
Schedule 2	Matters relating to surface water SDL resource units	Surface water SDL resource units and long-term average sustainable diversion limits for those units.
Schedule 3	BDLs for surface water SDL resource units	The BDL for each surface water SDL resource unit.
Schedule 4	Matters relating to groundwater SDL resource units	Groundwater SDL resource units; groundwater covered by those units; BDLs for those units; and long-term average sustainable diversion limits for those units.
Schedule 5	Enhanced environmental outcomes referred to in paragraph 7.09(e)	Outcomes that will be pursued under the Commonwealth's program to increase the volume of water resources available for environmental use by 450 GL per year.
Schedule 6	Default method for calculation of supply contribution	Provisions for quantifying supply adjustments for Part 2 of Chapter 7.
Schedule 6A	Calculation of SDL adjustment amounts	Provisions for calculating SDL adjustment amounts for Part 2 of Chapter 6.
Schedule 7	Targets to measure progress towards objectives	Targets by which to measure progress towards achieving the environmental objectives specified in Part 2 of Chapter 8.
Schedule 8	Criteria for identifying an environmental asset	Criteria for identifying an environmental asset.
Schedule 9	Criteria for identifying an ecosystem function	Criteria for identifying an ecosystem function.
Schedule 10	Key causes of water quality degradation	Key causes of water quality degradation.
Schedule 11	Target values for target application zones	Water quality targets that apply for target application zones.
Schedule 12	Matters for evaluation and reporting requirements	Matters relating to the objectives and outcomes against which the effectiveness of the Basin Plan will be evaluated and on which the Authority, the Basin States, the Department and the Commonwealth Environmental Water Holder are required to report.

(2) Most Chapters are divided into Parts, Divisions and Subdivisions within the Chapter and these are made up of sections.

(3) Each section is numbered with the number before the decimal point referring to the Chapter number (for example, section 5.04 is the fourth section in Chapter 5).

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Part 3—Interpretation

1.06 Where terms are defined

Many terms used in the Basin Plan have special meanings. Some are defined in the Act, and have the same meaning in the Basin Plan unless it provides otherwise. See also the list of definitions in section 1.07.

Note: See section 13 of the *Legislative Instruments Act 2003*.

1.07 Definitions

(1) In the Basin Plan:

Act means the *Water Act 2007*.

adaptive management is taken to include the following steps:

(a) setting clear objectives;

(b) linking knowledge (including local knowledge), management, evaluation and feedback over a period of time;

(c) identifying and testing uncertainties;

(d) using management as a tool to learn about the relevant system and change its management;

(e) improving knowledge;

(f) having regard to the social, economic and technical aspects of management.

advance means an advance determined by the Authority in accordance with clause 102C of the Agreement or clause 7 of Schedule H to the Agreement.

Note: Some provisions of the Basin Plan refer explicitly to only one of these 2 kinds of advances.

ADWG means the *Australian Drinking Water Guidelines* published by the National Health and Medical Research Council and the Natural Resource Management Ministerial Council in 2011.

Agreement means the Murray-Darling Basin Agreement, as amended from time to time in accordance with that agreement and as set out in Schedule 1 to the Act.

Note: This is the same as the definition in section 18A of the Act. Other terms used in the Act have the same meaning in the Basin Plan unless the Basin Plan otherwise provides: see section 1.06.

allocation announcement means an announcement specifying the volume of water allocated to water access entitlements.

Note: An announcement could increase, decrease or leave unchanged the quantity of water allocated.

annual actual take:

(a) for a surface water SDL resource unit, has the meaning given by section 6.10; and

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(b) for a groundwater SDL resource unit, has the meaning given by section 6.12B.

annual environmental watering priorities has the meaning given by section 8.23.

annual permitted take:

(a) for a surface water SDL resource unit, has the meaning given by section 6.10; and

(b) for a groundwater SDL resource unit, has the meaning given by section 6.12B.

ANZECC Guidelines means the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* published by the Australian and New Zealand Environment and Conservation Council and the Agriculture and Resource Management Council of Australia and New Zealand in 2000.

apportioned supply contribution has the meaning given by subsection S6A.02(1) of Schedule 6A.

approval authority, in relation to the proposed trade of a water access right, means a person whose approval is required under State water management law for the trade to proceed.

asset class means a class of environmental asset.

Example: Floodplain, riparian forest or billabong.

basic right means any of the following:

(a) a right under State water management law to take water for domestic or stock purposes;

(b) a harvestable right under the *Water Management Act 2000* of New South Wales;

(c) a native title right.

Basin annual environmental watering priorities has the meaning given by section 8.27.

Basin-wide environmental watering strategy has the meaning given by section 8.13.

BDL (baseline diversion limit) means the baseline limit of take from an SDL resource unit. This baseline limit is:

(a) for a surface water SDL resource unit—the quantity of water calculated in accordance with column 2 of the table in Schedule 3 for that SDL resource unit; and

(b) for a groundwater SDL resource unit—the quantity of water specified in column 3 of the table in Schedule 4 for that SDL resource unit.

carryover announcement means an announcement made by a Basin State as to when water allocations covered by a carryover arrangement may be taken.

carryover arrangement means an arrangement which allows a water access right holder to retain water allocations not taken in a water accounting period for possible take in the next water accounting period.

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commercial plantation means an area of land on which perennial woody plants are planted primarily for commercial purposes (other than the production of food).

Note: Some examples of commercial purposes are the production of timber, woodchip, oil or biofuel, or the commercial exploitation of the carbon sequestration capacity of the plants.

conveyance reserve has the meaning given by clause 2 of the Agreement.

current efficiency contribution has the meaning given by subsection S6A.02(1) of Schedule 6A.

data includes metadata.

deep drainage means the volume of water that moves below the root zone, whether or not the water enters the saturated zone and becomes recharge to the groundwater system.

Department means the Commonwealth Department of Sustainability, Environment, Water, Population and Communities.

de-watering means controlling or lowering the level of groundwater within an aquifer.

EC means electrical conductivity, expressed in microsiemens per centimetre (μS/cm).

ecological objective means an objective for the protection, and if necessary restoration, of a priority environmental asset or priority ecosystem function.

ecological target means a target that must be met in order to achieve an ecological objective.

environmental assets and ecosystem functions database has the meaning given by section 8.48.

environmental water recovery recommendations has the meaning given by section 8.46.

environmental watering requirements means the environmental watering requirements of a priority environmental asset or priority ecosystem function, as the case may be, identified using the methods set out in Part 5 of Chapter 8.

floodplain harvesting means the taking of water from a floodplain, including after it leaves a watercourse during a flood.

form of take means any of the following forms of take:

(a) take from a watercourse;

(b) take from a regulated river;

(c) take by floodplain harvesting;

(d) take by runoff dams;

(e) net take by commercial plantations;

(f) take from groundwater;

(g) take under basic rights.

generally available: information is ***generally available*** if it has been published in a manner that will, or will be likely to, bring it to the attention of interested members of the public.

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groundwater means:

(a) water occurring naturally below ground level (whether in an aquifer or otherwise); or

(b) water occurring at a place below ground that has been pumped, diverted or released to that place for the purpose of being stored there;

but does not include water held in underground tanks, pipes or other works.

groundwater resource means a Basin water resource consisting of:

(a) groundwater; or

(b) an aquifer (whether or not it has water in it).

groundwater SDL resource unit has the meaning given by section 6.03.

Guidelines for Managing Risks in Recreational Water means the Guidelines for Managing Risks in Recreational Water published by the National Health and Medical Research Council in 2008.

historical climate conditions means the climatic conditions for the period July 1895 to June 2009 represented by the best available records of hydrological and meteorological information for that period.

hydraulic connectivity means the ease with which, or the rate at which, groundwater moves:

(a) within an aquifer; or

(b) between aquifers; or

(c) between aquifers and the adjacent or overlying surface water system.

hydrologic connections and water supply considerations has the meaning given by section 12.18.

Indigenous uses has the meaning given by section 10.52.

Indigenous values has the meaning given by section 10.52.

listed threatened ecological community has the meaning given by section 528 of the *Environment Protection and Biodiversity Conservation Act 1999*.

listed threatened species has the meaning given by section 528 of the *Environment Protection and Biodiversity Conservation Act 1999*.

local reduction amount, for an SDL resource unit, means:

(a) the quantity of water identified in column 2 of Schedule 2 as the local reduction amount for the unit; or

(b) if no quantity is identified—zero.

location-related right has the meaning given by section 12.06.

long-term watering plan has the meaning given by section 8.18.

major storages has the meaning given by clause 2 of the Agreement.

MDBA Technical Report 2010/20 means the Murray-Darling Basin Authority Technical Report 2010/20 titled *Water Resource Assessments for Without Development and Baseline Conditions* Version 2 published by the Authority in November 2011.

MDBA Technical Report 2011/01 means the Murray-Darling Basin Authority Technical Report 2011/01 titled *Comparison of Watercourse*

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Diversion Estimates in the Proposed Basin Plan with other Published Estimates Version 2 published by the Authority in November 2011.

native title right has the meaning given by section 223 of the *Native Title Act 1993*.

natural monthly water temperature means the natural monthly water temperature that is estimated either through modelling or through the actual measurement of temperature at representative undisturbed locations.

net effect has the meaning given by subsection S6A.04(2) of Schedule 6A.

net take, in the context of a commercial plantation, means the difference between the take by a commercial plantation and the take by the vegetation existing at the site of the plantation before the plantation commenced.

NTU means a nephelometric turbidity unit.

overturn means the remixing of a stratified water body.

physical constraint means a natural formation or a physical structure (for example, a pipe or channel) that limits the volume of water that can pass a given location.

priority ecosystem function has the meaning given by section 8.50.

priority environmental asset has the meaning given by section 8.49.

raw water means water in its natural state prior to any treatment.

recharge means the inflow of water, including precipitation, to a groundwater resource.

reconfiguration or decommissioning work has the meaning given by section 12.29.

recovery of environmental water means the acquisition of a water access right for the purpose of achieving an environmental outcome.

reduced supply contribution has the meaning given by subsection S6A.05(3) of Schedule 6A.

register of take means the register of take referred to in section 6.08.

regulated river means:

(a) in New South Wales—a river that has been declared in accordance with the *Water Management Act 2000* of New South Wales to be a regulated river before the commencement of the Basin Plan;

(b) in Victoria—a river where the flow is regulated through the operation of large dams or large weirs.

regulated system means a surface water system in which water in a watercourse can be stored or flow levels can be controlled, through the use of structures such as large dams or large weirs.

related party, in relation to an approval authority, means:

(a) an entity in which the approval authority has a controlling interest; or

(b) a natural person who is acting on behalf of the approval authority in return for a commission or fee.

relevant water accounting period, in Division 1A of Part 4 of Chapter 6, has the meaning given by subsection 6.08E(4).

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resource availability scenario has the meaning given by section 8.61.

restrict, in relation to trade, includes refuse, prevent, deter, delay or impose a condition or a barrier (including a volumetric limit) on, and ***restriction*** has a corresponding meaning.

runoff dam means a dam or reservoir that collects surface water flowing over land.

Note: In New South Wales, a runoff dam may also collect water from a first- or second-order stream.

SDL means the long-term average sustainable diversion limit.

SDL adjustment amount, for a particular surface water SDL resource unit and for a particular water accounting period, has the meaning given by section 6.05A.

Note: See section 7.10 of the Basin Plan.

SDL resource unit means the water resources, or particular parts of the water resources, of a water resource plan area that is either a surface water SDL resource unit or groundwater SDL resource unit.

SDL resource unit shared reduction amount has the meaning given by section 6.05.

shortfall in conveyance water means the shortfall calculated in accordance with subsection 86D(2) of the Act.

soil degradation, for the purposes of the objective for irrigation water in section 9.06 and the targets for irrigation water in section 9.17, means reduced permeability and soil structure breakdown caused by the level of sodium in the irrigation water, assessed using the sodium adsorption ratio.

surface water resource means a Basin water resource consisting of:

(a) surface water; or

(b) a watercourse, lake or wetland (whether or not it has water in it).

surface water SDL resource unit has the meaning given by section 6.02.

tagged water access entitlement has the meaning given by section 12.23.

target application zone has the meaning given by section 9.16.

tier of water sharing arrangements means either Tier 1 water sharing arrangements, Tier 2 water sharing arrangements or Tier 3 water sharing arrangements, within the meaning of the Agreement.

total current efficiency contribution has the meaning given by subsection S6A.02(1) of Schedule 6A.

transformation means the transformation of the whole, or a part, of an irrigation right into a water access entitlement in accordance with transformation arrangements.

transformation arrangements means arrangements of the kind referred to in paragraph 97(1)(a) of the Act.

unregulated system means a surface water system that is not a regulated system.

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volumetric limit means a limit whose purpose or effect is to cap the total volume of water that may be traded into or out of an area. ***water accounting period***:

(a) other than in Chapter 11—has the meaning given by section 3.08; and

(b) in Chapter 11—has the meaning given by section 11.02.

water announcement has the meaning given by section 12.49.

Water for Rivers means the Joint Government Enterprise Limited, a public company limited by guarantee with the registered business name 'Water for Rivers'.

water market intermediary means any of the following:

(a) a person who trades tradeable water rights on behalf of another person in exchange for a commission or fee;

(b) a person who investigates tradeable water right trading possibilities on behalf of a potential water market participant for a commission or fee;

(c) a person who prepares documents necessary for the trade of a tradeable water right on behalf of a potential water market participant for a commission or fee;

(d) a person who provides a trading platform or water exchange for tradeable water rights.

water quality includes salinity.

water quality characteristic:

(a) other than in Chapter 11—means a characteristic of water quality for which Part 4 of Chapter 9 sets a target value; and

(b) in Chapter 11—has the meaning given by section 11.02.

water register means a record of water access rights in a Basin State.

water resource assessment means an assessment (including one for the purpose of a determination under clause 102(c) of the Agreement) of the amount of water that will be available:

(a) for distribution to New South Wales, Victoria and South Australia during a particular period; and

(b) for holding in reserve at the end of the period;

taking into account matters including:

(c) the volume of water held in the major storages; and

(d) estimated water use during the period; and

(e) assumed or forecast inflows during the period.

water supply authority means an infrastructure operator that treats and supplies water for human consumption.

water use approval means an authority to use water on specified land or in a specified watercourse.

Wimmera-Mallee Pipeline Project means the joint water infrastructure project with the name 'The Wimmera-Mallee Pipeline Project' undertaken by

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Grampians Wimmera Mallee Water Corporation and funded by the Commonwealth and Victoria.

works approval means an authority to construct and use water supply works (including pumps, bores and dams).

worst case planning water resource assessment means a water resource assessment taking into account the minimum inflow sequence to the River Murray System.

WQM Plan means a water quality management plan for a water resource plan area made in accordance with Part 7 of Chapter 10.

(2) In the Basin Plan, a reference to ***trade*** includes a reference to ***transfer***.

(3) To avoid doubt, ***trade*** includes:

(a) a trade that does not involve the payment of consideration; and

(b) a trade between places under which ownership of the right being traded does not change; and

(c) the establishment of a leasing arrangement; and

(d) the establishment of a tagged water access entitlement.

(4) To avoid doubt:

(a) a reference to the commencement of the Basin Plan is a reference to commencement under subsection 1.04(1); and

(b) a reference to the commencement of Chapter 12 is a reference to commencement under subsection 1.04(2).

Note: A number of provisions of the Basin Plan require decision-makers to 'have regard to' certain matters when performing functions and making decisions. The phrases 'have regard to' and similar phrases are intended to be interpreted consistent with case law, as it develops from time to time and as applied with appropriate regard to the circumstances. This note is intended to reflect the case law and not to limit its application or development. When a decision-maker is required to 'have regard to' particular matters, it is expected that the decision-maker will give those matters proper, genuine and realistic consideration, even if not ultimately bound to act in accordance with those matters. A requirement to 'have regard to' a particular matter or matters does not mean that the decision-maker cannot have regard to other relevant matters, for example, the benefits and costs of taking a particular action. See section 1.07 of the explanatory statement in relation to the Basin Plan for further information about the phrases 'have regard to', 'having regard to' and 'regard must be had'.

1.08 Basin Plan not to be inconsistent with Snowy Water Licence

A provision of the Basin Plan has no effect to the extent to which the provision is inconsistent with the provisions of the licence issued under section 22 of the *Snowy Hydro Corporatisation Act 1997* of New South Wales.

Note: The Basin Plan applies to all Basin waters, including the Upper Murrumbidgee River, except to the extent that the Basin Plan is inconsistent with the licence mentioned in this section.

1.09 Construction of provisions imposing obligations on States

If:

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(a) the Basin Plan purports to impose an obligation on a Basin State to do a particular thing; and

(b) the imposition of that obligation would contravene a constitutional doctrine restricting the obligations that the Commonwealth may impose on a State;

the Basin Plan is taken, instead of imposing the obligation, to confer a discretion on the Basin State to do the thing.

1.10 Reasonable excuse for not producing or providing information etc

If the Basin Plan requires a person or body to produce or provide information, a notice or a document, the person or body need not comply with the requirement if the person or body has a reasonable excuse for non-compliance.

1.11 Avoidance of double counting of forms of take

For the purposes of the Basin Plan, in ascribing a particular quantity of water that is taken to a form of take, the quantity of water must be ascribed to one, and only one, form of take.

Note: It will often be possible to ascribe a quantity of water that is taken under basic rights either to take under basic rights, or to another form of take. In such a case, this section does not stipulate to which form of take the quantity of water should be ascribed. However, some other provisions of the Basin Plan do stipulate this. See for example Schedule 3.

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Part 4—Agreements with regard to jurisdictional implementation obligations

1.12 Agreements with regard to jurisdictional implementation obligations

(1) The Authority may enter into an agreement with a Basin State with respect to any implementation obligation the Basin Plan purports to impose onto that Basin State.

(2) The Authority must consult the Commonwealth and other Basin States in relation to such an agreement.

(3) The Authority and a Basin State must use their best endeavours to enter into any such agreement within 2 years after the commencement of the Basin Plan.

(4) Any agreement must be developed having regard to:

(a) any relevant agreement made, or in the process of being made, with another Basin State; and

(b) any relevant circumstances of the Basin State; and

(c) any relevant Commonwealth-State agreements, including funding agreements.

(5) The Authority must publish an agreement under this section on its website.

Note: Entry into an agreement, or a failure to enter into an agreement, does not affect the commencement or operation of the Basin Plan.

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Chapter 2—Basin water resources and the context for their use

2.01 Description located in Schedule 1

The description of the Basin water resources and the context in which those resources are used (item 1 of the table in subsection 22(1) of the Act) is set out in Schedule 1.

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Chapter 3—Water resource plan areas and water accounting periods

Part 1—Preliminary

3.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) Part 2 identifies the particular areas that are to be water resource plan areas (item 2 of the table in subsection 22(1) of the Act).

Note: A map of the water resource plan areas can be obtained from the Authority's website.

(3) Part 3 identifies the periods that are to be the water accounting periods for each of those water resource plan areas (item 2 of the table in subsection 22(1) of the Act).

3.02 Time at which area becomes water resource plan area

An area identified in Part 2 as a water resource plan area becomes a water resource plan area on the commencement of the Basin Plan.

3.03 Datasets for identification of water resource plan areas

(1) A reference in section 3.05 to an area of a particular name is a reference to the area within the polygon of that name specified in the dataset that:

(a) is titled *Murray-Darling Basin Water Resource Plan Areas—Surface Water*; and

(b) has a dataset scale of 1:250,000; and

(c) is held by the Authority on 14 November 2017.

(2) A reference in section 3.06 to an area of a particular name is a reference to the area within the polygon of that name specified in the dataset that:

(a) is titled *Murray-Darling Basin Water Resource Plan Areas—Groundwater*; and

(b) has a dataset scale of 1:250,000; and

(c) is held by the Authority on 14 November 2017.

(3) A reference in section 3.07 to an area of a particular name is a reference to the area within the polygon of that name specified in both the datasets mentioned in subsections (1) and (2).

(4) The Authority must publish on its website a map that:

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(a) identifies each water resource plan area; and

(b) is prepared using the relevant dataset mentioned in this section.

3.04 Flexibility relating to boundaries of water resource plans

If a segment of the boundary of a water resource plan area, as specified in a dataset mentioned in section 3.03, is also the boundary of the Murray-Darling Basin, the water resource plan for the area may specify a different course for that segment within the Murray-Darling Basin, provided that the changed boundary:

(a) meets the requirements of item 2 of the table in subsection 22(1) of the Act; and

(b) does not result in a material change in the water resources to which the water resource plan area applies.

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Part 2—Water resource plan areas

3.05 Water resource plan areas—surface water

Note: See section 1.07 for the meaning of ***surface water resource***.

Each of the following named areas is a water resource plan area that applies to the surface water resources indicated:

(a) ***Australian Capital Territory (surface water)***—all surface water resources in the area;

(b) ***Barwon-Darling Watercourse***—all surface water resources in the area;

(c) ***New South Wales Border Rivers***—all surface water resources in the area;

(d) ***Northern Victoria***—all surface water resources in the area;

(e) ***Gwydir***—all surface water resources in the area;

(f) ***Intersecting Streams***—all surface water resources in the area;

(g) ***Lachlan***—all surface water resources in the area;

(h) ***Macquarie-Castlereagh***—all surface water resources in the area;

(i) ***Murrumbidgee***—all surface water resources in the area;

(j) ***New South Wales Murray and Lower Darling***—all surface water resources in the area;

(k) ***Namoi***—all surface water resources in the area;

(l) ***South Australian River Murray***—all surface water resources in the area;

(m) ***Victorian Murray***—all surface water resources in the area;

(n) ***Wimmera-Mallee (surface water)***—all surface water resources in the area.

3.06 Water resource plan areas—groundwater

Note: See section 1.07 for the meaning of ***groundwater resource***.

Each of the following named areas is a water resource plan area that applies to the groundwater resources indicated:

(a) **Australian Capital Territory (groundwater)**—all groundwater resources beneath the area;

(b) **NSW Border Rivers Alluvium**—all groundwater resources beneath the area, excluding those referred to in paragraphs (f) and (i);

(c) **Darling Alluvium**—all groundwater resources beneath the area, excluding those referred to in paragraphs (d), (f) and (i);

(d) **NSW Murray-Darling Basin Porous Rock**—all groundwater resources beneath the area, excluding those referred to in paragraphs (c), (f), (g), (i), (j), (k), (l) and (m);

(e) **Goulburn-Murray**—all groundwater resources beneath the area;

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(f) **NSW Great Artesian Basin Shallow**—all groundwater resources beneath the area, excluding those referred to in paragraphs (b), (c), (d), (g), (i), (j) and (m);

(g) **Gwydir Alluvium**—all groundwater resources beneath the area, excluding those referred to in paragraphs (d), (f) and (i);

(h) **Lachlan Alluvium**—all groundwater resources beneath the area, excluding those referred to in paragraph (i);

(i) **NSW Murray-Darling Basin Fractured Rock**—all groundwater resources beneath the area, excluding those referred to in paragraphs (b), (c), (d), (f), (g), (h), (j), (k), (l) and (m);

(j) **Macquarie-Castlereagh Alluvium**—all groundwater resources beneath the area, excluding those referred to in paragraphs (d), (f) and (i);

(k) **Murray Alluvium**—all groundwater resources beneath the area, excluding those referred to in paragraphs (d) and (i);

(l) **Murrumbidgee Alluvium**—all groundwater resources beneath the area, excluding those referred to in paragraphs (d) and (i);

(m) **Namoi Alluvium**—all groundwater resources beneath the area, excluding those referred to in paragraphs (d), (f) and (i);

(n) **Wimmera-Mallee (groundwater)**—all groundwater resources beneath the area.

Note: Schedule 4 lists the groundwater SDL resource units in each water resource plan area.

3.07 Water resource plan areas—surface water and groundwater

Each of the following named areas is a water resource plan area that applies to the surface water resources and groundwater resources indicated:

(a) ***Warrego-Paroo-Nebine***—the following:

(i) all surface water resources in the area;

(ii) all groundwater resources beneath the area that are above the Great Artesian Basin;

(b) ***Condamine-Balonne***—the following:

(i) all surface water resources in the area;

(ii) all groundwater resources beneath the area that are above the Great Artesian Basin;

(iii) all groundwater resources in the Queensland Murray-Darling Basin below the Great Artesian Basin;

(c) ***Queensland Border Rivers-Moonie***—the following:

(i) all surface water resources in the area;

(ii) all groundwater resources beneath the area that are above the Great Artesian Basin;

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(e) ***South Australian Murray Region***—the following:

(i) all surface water resources in the area, excluding those in the South Australian River Murray (paragraph 3.05(l));

(ii) all groundwater resources beneath the area;

(f) ***Eastern Mount Lofty Ranges***—the following:

(i) all surface water resources in the area;

(ii) all groundwater resources beneath the area.

Note: Schedule 4 lists the groundwater SDL resource units in each water resource plan area.

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Part 3—Water accounting periods

3.08 Water accounting period for each water resource plan area

The ***water accounting period*** for each water resource plan area is a financial year.

Note: In Chapter 11, ***water accounting period*** means a period of 12 months beginning on 1 June of any year (see section 11.02).

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Chapter 4—Identification and management of risks to Basin water resources

Part 1—Preliminary

4.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter identifies:

(a) risks to the condition, or continued availability, of Basin water resources (item 3 of the table in subsection 22(1) of the Act); and

(b) strategies to manage, or address, those risks (item 5 of the table in subsection 22(1) of the Act).

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Part 2—Risks and strategies to address risks

4.02 Risks to condition, or continued availability, of Basin water resources, and consequential risks

(1) The risks to the condition, or continued availability, of Basin water resources, including the risks to the availability of Basin water resources that arise from the matters specified in item 3 of the table in subsection 22(1) of the Act are:

(a) insufficient water available for the environment; and

(b) water being of a quality unsuitable for use; and

(c) poor health of water-dependent ecosystems.

(2) The consequences of the materialisation of the risks identified in subsection (1) include:

(a) that insufficient water is available, or water is not suitable for consumptive and other economic uses of Basin water resources; and

(b) that insufficient water is available, or water is not suitable to maintain social, cultural, Indigenous and other public benefit values.

4.03 Strategies to manage, or address, identified risks

(1) This section sets out the strategies to manage, or address, the risks identified in section 4.02.

Note: Water resource plans must be prepared having regard to the strategies (see subsection 10.43(3)).

(2) The Authority must have regard to the strategies when undertaking its functions.

(3) The strategies are the following:

(a) to implement the Basin Plan, including its following key elements:

(i) the environmental watering plan;

(ii) the water quality and salinity management plan;

(iii) the water trading rules;

(iv) water resource planning;

(b) to develop water resource plans and amendments to the Basin Plan based on best available knowledge and in consultation with relevant stakeholders;

(c) to promote a risk-based approach to water resource planning and management;

(d) to manage flows to optimise outcomes across the range of water uses in the Murray-Darling Basin;

(e) to ensure effective monitoring and evaluation of the implementation of the Basin Plan;

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(f) to promote and enforce compliance with the Basin Plan and water resource plans;

(g) to improve knowledge of water requirements within the Murray-Darling Basin, including the following:

(i) environmental watering requirements;

(ii) requirements relating to the social, spiritual and cultural uses of Basin water resources by Indigenous people;

(iii) the impact of climate change on water requirements;

(iv) the water required to deliver social and economic benefits to Basin communities;

(h) to improve knowledge of the impact on Basin water resources of the following:

(i) interception activities and land use change;

(ii) floodplain harvesting and peri-urban and industrial take;

(iii) climate change;

(i) to improve knowledge of:

(i) groundwater and surface water resources, including through improved measurement; and

(ii) the causes of water quality degradation and the effects of water quality on environmental assets and ecosystem functions.

4.04 Authority may publish guidelines

(1) The Authority may publish guidelines setting out specific actions that may be taken in relation to the implementation of the strategies listed in subsection 4.03(3).

(2) The guidelines may be reviewed and, if necessary, updated at any time.

(3) The guidelines must be made having regard to AS/NZS ISO 31000:2009 *Risk Management—Principles and Guidelines*.

Note: Water resource plans must be prepared having regard to any guidelines published in accordance with this section (see subsection 10.43(3)).

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Chapter 5—Management objectives and outcomes to be achieved by Basin Plan

5.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter sets out the management objectives and outcomes to be achieved by the Basin Plan (item 4 of the table in subsection 22(1) of the Act).

(3) The management objectives and outcomes include objectives and outcomes:

(a) for the Basin Plan as a whole; and

(b) in relation to environmental outcomes; and

(c) in relation to water quality and salinity; and

(d) in relation to the long-term average sustainable diversion limits; and

(e) in relation to trading in the water market.

Note: The temporary diversion provision for each SDL resource unit is zero—see section 6.07. Accordingly, there are no objectives or outcomes in relation to the temporary diversion provision.

5.02 Objectives and outcome for Basin Plan as a whole

(1) The objectives for the Basin Plan as a whole are:

(a) to give effect to relevant international agreements through the integrated management of Basin water resources; and

(b) to establish a sustainable and long-term adaptive management framework for the Basin water resources, that takes into account the broader management of natural resources in the Murray-Darling Basin; and

(c) to optimise social, economic and environmental outcomes arising from the use of Basin water resources in the national interest; and

(d) to improve water security for all uses of Basin water resources.

(2) The outcome for the Basin Plan as a whole is a healthy and working Murray-Darling Basin that includes:

(a) communities with sufficient and reliable water supplies that are fit for a range of intended purposes, including domestic, recreational and cultural use; and

(b) productive and resilient water-dependent industries, and communities with confidence in their long-term future; and

(c) healthy and resilient ecosystems with rivers and creeks regularly connected to their floodplains and, ultimately, the ocean.

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5.03 Objectives and outcome in relation to environmental outcomes

(1) The objectives in relation to environmental outcomes are, within the context of a working Murray-Darling Basin:

(a) to protect and restore water-dependent ecosystems of the Murray-Darling Basin; and

(b) to protect and restore the ecosystem functions of water-dependent ecosystems; and

(c) to ensure that water-dependent ecosystems are resilient to climate change and other risks and threats; and

(d) to ensure that environmental watering is co-ordinated between managers of planned environmental water, owners and managers of environmental assets, and holders of held environmental water.

Note 1: The fact that water storages and property (including floodplains) are under the control of various persons currently restricts the capacity to actively manage all water-dependent ecosystems.

Note 2: Particular objectives relating to each of the objectives in paragraphs (1)(a) to (c) are specified in Part 2 of Chapter 8.

(2) The outcome in relation to subsection (1) is the restoration and protection of water-dependent ecosystems and ecosystem functions in the Murray-Darling Basin with strengthened resilience to a changing climate.

5.04 Objective and outcome in relation to water quality and salinity

(1) The objective in relation to water quality and salinity is to maintain appropriate water quality, including salinity levels, for environmental, social, cultural and economic activity in the Murray-Darling Basin.

Note: See also the water quality objectives for Basin water resources in Part 3 of Chapter 9.

(2) The outcome in relation to water quality and salinity is that Basin water resources remain fit for purpose.

5.05 Objective and outcomes in relation to long-term average sustainable diversion limits

(1) The objective in relation to long-term average sustainable diversion limits is to establish environmentally sustainable limits on the quantities of surface water and groundwater that can be taken for consumptive use from Basin water resources, having regard to social and economic impacts, and in doing so:

(a) inform environmental water recovery measures, including water purchasing and infrastructure that improves water use efficiency; and

(b) provide greater certainty for all water users, including in times of drought and low water availability; and

(c) provide time for water access entitlement holders and communities to transition and adjust to long-term average sustainable diversion limits.

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(2) The outcomes in relation to the establishment of long-term average sustainable diversion limits are:

(a) the restoration and protection of water-dependent ecosystems and ecosystem functions in the Murray-Darling Basin; and

(b) well-informed water recovery measures, including water purchasing and infrastructure, enable a transition to long-term average sustainable diversion limits; and

(c) greater certainty of access to Basin water resources; and

(d) water access entitlement holders and communities of the Murray-Darling Basin are better adapted to reduced quantities of available water.

5.06 Objective and outcome for operation of the SDL adjustment mechanism

(1) The objective in relation to the operation of the SDL adjustment mechanism is to adjust SDLs in a way that increases environmental outcomes while maintaining or improving social and economic outcomes.

Note Particular objectives relating to different kinds of measures are specified in Part 2 of Chapter 7.

(2) The outcome in relation to the operation of the SDL adjustment mechanism is a healthy and working Murray-Darling Basin that includes the outcomes specified in subsection 5.02(2).

5.07 Objectives and outcome in relation to trading in the water market

(1) The objectives for trading in the water market are:

(a) to facilitate the operation of efficient water markets and the opportunities for trading, within and between Basin States, where water resources are physically shared or hydrologic connections and water supply considerations will permit water trading; and

(b) to minimise transaction cost on water trades, including through good information flows in the market and compatible entitlement, registry, regulatory and other arrangements across jurisdictions; and

(c) to enable the appropriate mix of water products to develop based on water access entitlements which can be traded either in whole or in part, and either temporarily or permanently, or through lease arrangements or other trading options that may evolve over time; and

(d) to recognise and protect the needs of the environment; and

(e) to provide appropriate protection of third-party interests.

(2) The outcome for trading in the water market is the creation of a more efficient and effective market that:

(a) facilitates water reaching its most productive use; and

(b) enhances the productivity and growth of water-dependent industries; and

(c) enables water-dependent industries to:

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(i) better manage through extreme events under current climate variability; and

(ii) strengthen their capacity to adapt to future climate change.

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Chapter 6—Water that can be taken

Part 1—Preliminary

6.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter deals with the matters set out in items 6, 7 and 8 of the table in subsection 22(1) and Division 4 of Part 2 of the Act. Those matters are:

(a) the long-term average sustainable diversion limits (SDLs) (Part 2); and

(b) the temporary diversion provision (Part 3); and

(c) the method for determining compliance with the long-term annual diversion limit (Part 4); and

(d) allocation of risks in relation to reductions in diversion limits (Part 5); and

(e) risks arising from other changes to the Basin Plan (Part 5).

Note: See Chapter 7 for adjustments to the long-term average sustainable diversion limits.

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Part 2—Long-term average sustainable diversion limits

Division 1—Identification of SDL resource units

6.02 Identification of surface water SDL resource units

(1) A ***surface water SDL resource unit*** referred to in column 1 of the table in Schedule 2 consists of all surface water resources within the area described by the polygon of the same name contained in the dataset that:

(a) is titled *Surface Water SDL Resource Units*; and

(b) has a dataset scale of 1:250,000; and

(c) is held by the Authority on 14 November 2017.

Note: See subsection 6.04(3) for the long-term average sustainable diversion limits that apply to each surface water SDL resource unit.

(2) The Authority must publish on its website a map that:

(a) identifies each surface water SDL resource unit; and

(b) is prepared using the dataset referred to in subsection (1).

6.03 Identification of groundwater SDL resource units

(1) A ***groundwater SDL resource unit*** referred to in column 1 of the table in Schedule 4 consists of all groundwater resources described by column 2 of the table in Schedule 4 that lie beneath the area described by the polygon of the same name in the dataset that:

(a) is titled *Groundwater SDL Resource Units*; and

(b) has a dataset scale of 1:250,000; and

(c) is held by the Authority on 14 November 2017.

Note: See subsection 6.04(4) for the long-term average sustainable diversion limits that apply to each groundwater SDL resource unit.

(2) The Authority must publish on its website a map that:

(a) identifies each groundwater SDL resource unit; and

(b) is prepared using the dataset referred to in subsection (1).

Division 2—Long-term average sustainable diversion limits

6.04 Long-term average sustainable diversion limits

(1) The long-term average sustainable diversion limits set out in this section take effect on 1 July 2019.

(2) The long-term average sustainable diversion limit for the Basin water resources as a whole is the sum of the long-term average sustainable diversion limits for all SDL resource units.

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Note: As at 14 November 2017, the Authority had estimated the long-term average sustainable diversion limit for all surface water SDL resource units to be 10,945 GL per year. This reflects a reduction of 2,680 GL per year from the Authority's estimate of the BDL for all surface water SDL resource units. Current estimates of amounts of water that have been recovered for the environment were, in 2018, available on the Authority's website (www.mdba.gov.au) and on the Department's website (www.agriculture.gov.au).

(3) The long-term average sustainable diversion limit for each surface water SDL resource unit is set out in column 2 of the table in Schedule 2.

Note: The long-term average sustainable diversion limits in the northern Basin Queensland zone and the northern Basin New South Wales zone were changed following the Northern Basin Review (completed in 2016).

The Authority estimates the long-term average sustainable diversion limit for all surface water SDL resource units in these zones to be 3,538 GL per year. This represents a reduction of 320 GL per year from the Authority's estimate of the BDL for the northern Basin.

The northern Basin SDL was based on:

(a) the economic, social and environmental outcomes of the Northern Basin Review; and

(b) commitments from the Commonwealth, Queensland and New South Wales Governments to implement 'toolkit' measures that will deliver improved environmental outcomes in the northern Basin.

(4) The long-term average sustainable diversion limit for each groundwater SDL resource unit is set out in column 4 of the table in Schedule 4.

Note: This section sets environmentally sustainable limits on the quantity of surface water and groundwater that may be taken from an SDL resource unit. However, a water resource plan may provide for less water to be taken: see subsection 10.11(2).

6.05 SDL resource unit shared reduction amount

(1) For column 2 of the table in Schedule 2, the ***SDL resource unit shared reduction amount*** for an SDL resource unit in one of the zones mentioned in subsection (2) is the amount, in GL per year, determined in accordance with this section.

Note: Subsection (4) provides a default distribution of shared reduction amounts within zones. Subsections (5)-(14) deal with requests for different distributions made by the Basin States.

(2) For this section, there are 6 ***zones***:

(a) the ***northern Basin Queensland zone***, made up of the following SDL resource units:

(i) Condamine-Balonne (SS26);
(ii) Moonie (SS25);
(iii) Nebine (SS27);
(iv) Paroo (SS29);
(v) Queensland Border Rivers (SS24);

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(vi) Warrego (SS28); and

(b) the ***northern Basin New South Wales zone***, made up of the following SDL resource units:

(i) Barwon-Darling Watercourse (SS19);
(ii) Gwydir (SS22);
(iii) Intersecting Streams (SS17);
(iv) Macquarie-Castlereagh (SS20);
(v) Namoi (SS21);
(vi) NSW Border Rivers (SS23); and

(c) the ***southern Basin Victoria zone***, made up of the following SDL resource units:

(i) Broken (SS5);
(ii) Campaspe (SS7);
(iii) Goulburn (SS6);
(iv) Kiewa (SS3);
(v) Loddon (SS8);
(vi) Ovens (SS4);
(vii) Victorian Murray (SS2); and

(d) the ***southern Basin New South Wales zone***, made up of the following SDL resource units:

(i) Lower Darling (SS18);
(ii) Murrumbidgee (SS15);
(iii) New South Wales Murray (SS14); and

(e) the ***southern Basin South Australia zone***, made up of the following SDL resource units:

(i) Eastern Mount Lofty Ranges (SS13);
(ii) South Australian Murray (SS11); and

(f) the ***southern Basin Australian Capital Territory zone***, made up of the Australian Capital Territory (surface water) SDL resource unit (SS1).

(3) For this section, the reduction targets for the zones are as follows:

(a) northern Basin Queensland zone—17 GL per year;
(b) northern Basin New South Wales zone—24 GL per year;
(c) southern Basin Victoria zone—425.3 GL per year;
(d) southern Basin New South Wales zone—458 GL per year;
(e) southern Basin South Australia zone—82.8 GL per year;
(f) southern Basin Australian Capital Territory zone—4.9 GL per year.

Default distribution of shared reduction amounts

(4) Subject to subsections (5) to (14), the SDL resource unit shared reduction amount for SDL resource units in a zone is calculated, as at 31 December 2016, by allocating the reduction target for the zone among the SDL resource units in proportion to the amount, for each SDL resource unit, of its BDL, including any component of water diverted for urban water use, but excluding any component due to interception activities.

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Redistribution of shared reduction amounts at request of Basin State

(5) A Basin State may make a re-allocation adjustment request.

(6) For this section:

re-allocation adjustment request means a request by a Basin State to the Authority to adjust the SDL resource unit shared reduction amounts for SDL resource units that are within a zone mentioned in subsection (2), being a request that:

(a) is made for the purposes of this section:

(i) before 1 July 2018; and

(ii) before any water resource plan is submitted by the State for a water resource plan area in the zone (excluding any water resource plan submitted before 14 November 2017); and

(b) if made before the substitution of this section by the *Basin Plan 2012*—is expressed to be made in anticipation of the substitution of this section by that instrument; and

(c) has the effect that:

(i) the total of the SDLs for each zone remains the same; and

(ii) no SDL resource unit has an SDL that is larger than would result from replacing its shared reduction amount with zero; and

(d) takes into account the amount of water already recovered by the Commonwealth at the time of the request (and does not, for example, request an SDL resource unit shared reduction amount for a unit that is lower than the amount of water already recovered by the Commonwealth at the time of the request).

Note: An earlier request referred to in section 7.14A is not a re-allocation adjustment request for the purposes of this section. A Basin State may, if it has made such an earlier request, confirm it (provided it satisfies paragraphs (c) and (d)) or vary it by making a re-allocation adjustment request for the purposes of this section. Otherwise, the default shared reduction amounts under subsection (4) will apply.

(7) A re-allocation adjustment request may not be varied or replaced once made.

(8) If the Authority receives a re-allocation adjustment request, the Authority must, as soon as practicable, publish the requested SDL resource unit shared reduction amounts for SDL resource units in the relevant zone on its website.

Variations due to changes in water recovery

(9) A Basin State may:

(a) after making a re-allocation adjustment request and by 31 December 2018; or

(b) if no re-allocation adjustment request has been made—between 1 July 2018 and 31 December 2018;

make a request to the Authority for variations to the SDL resource unit shared reduction amounts for SDL resource units in a zone.

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(10) A request under subsection (9):

(a) must comply with paragraph (c) of the definition of ***re-allocation adjustment request*** in subsection (6); and

(b) must take into account the amount of water already recovered by the Commonwealth at the time of the request (and must not, for example, request an SDL resource unit shared reduction amount for a unit that is lower than the amount of water already recovered by the Commonwealth at the time of the request); and

(c) must not change the SDL resource unit shared reduction amounts for SDL resource units in a water resource plan area for which a water resource plan has already been submitted.

(11) The Authority must consult with the Department upon receiving a request under subsection (9) that complies with subsection (10).

(12) The Authority may agree to the requested variations if both the Authority and the Department consider that it is appropriate for the Authority to do so in order to accommodate changes in the expected amount of water recovery in relevant SDL resource units.

(13) If the Authority agrees to the requested variations, the Authority must:

(a) update any relevant amounts that have been published under subsection (8) to reflect the variations; or

(b) if no such amounts have been published under subsection (8)—publish the variations to the SDL resource unit shared reduction amounts for SDL resource units in the relevant zone on its website.

Effect of publishing shared reduction amounts

(14) If the Authority publishes an SDL resource unit shared reduction amount for an SDL resource unit on its website under this section, that amount is the SDL resource unit shared reduction amount for the relevant unit.

6.05A SDL adjustment amount

For column 2 of the table in Schedule 2, the ***SDL adjustment amount*** for a surface water SDL resource unit for a water accounting period is the amount, in GL per year, calculated in accordance with Schedule 6A for the water accounting period.

Note: See section 7.10 of the Basin Plan.

6.06 Reviews of the Basin Plan

Reviews generally

(1) The Authority may, in consultation with Basin States and other interested persons, conduct research and investigations into the long-term average sustainable diversion limits or any other aspects of the Basin Plan, for the purpose of informing any reviews of the Basin Plan or aspects of the Basin

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Plan including in relation to whether there should be changes to the long-term average sustainable diversion limits.

(2) A review may be undertaken at the request of the Murray-Darling Basin Ministerial Council.

Note: See also subsection 50(2) of the Act.

(3) A review must be undertaken having regard to the management of climate change risks and include an up-to-date assessment of those risks, and consider all relevant knowledge about the connectivity of surface and groundwater, the outcomes of environmental watering and the effectiveness of environmental works and measures.

(4) The Authority must publish on its website any reports produced as a result of research or investigations conducted under this section.

(5) Nothing in this section limits the powers of the Authority or the Murray-Darling Basin Ministerial Council.

Note: For example, the Authority has other powers under the Act and the Basin Plan to conduct reviews, research and investigations: see sections 50 and 172 of the Act and Chapter 13 of the Basin Plan.

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Part 3—Temporary diversion provision

6.07 Temporary diversion provision

The temporary diversion provision for each SDL resource unit is zero.

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Part 4—Method for determining compliance with long-term annual diversion limit

Division 1—Preliminary

6.08 Register of take

(1) The Authority must establish and maintain a ***register of take*** for each SDL resource unit in accordance with this Part.

(2) The purpose of the register of take is to assist with determining, for each water accounting period, whether there has been compliance with the long-term annual diversion limit for an SDL resource unit and the extent of any failure to comply with that limit.

Note: See section 4 of the Act for the meaning of ***long-term annual diversion limit***. Under the Basin Plan, the long-term annual diversion limit is the same as the long-term average sustainable diversion limit because the temporary diversion provision for each SDL resource unit is zero: see section 6.07.

(3) For each surface water SDL resource unit, the register of take must include:

(a) a debit column to record the amounts referred to in subsections 6.11(1) and (3); and

(b) a credit column to record the amounts referred to in subsections 6.11(2) and (3); and

(c) a cumulative balance column to record the amounts referred to in subsection 6.11(4).

(3A) For each groundwater SDL resource unit, the register of take must include a record of amounts for determining compliance, as set out in Division 3.

(4) The register may also include any other matters the Authority considers relevant to determining whether there has been compliance with the long-term annual diversion limit.

(5) The register of take commences in the first water accounting period after 30 June 2019 following the commencement of a water resource plan.

(6) When the register of take commences for a surface water SDL resource unit, it must record a cumulative balance of zero.

(7) The Authority must publish the register of take on its website.

6.08A Content of action plan

(1) This section applies in relation to an action plan for the purposes of the following provisions:

(a) subsection 71(1A) of the Act;

(b) subsection 6.12(5);

(c) subsection 6.12C(5).

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(2) The Inspector-General may issue and publish guidelines under subsection 215V(1) in relation to the action plans, and the Basin States must have regard to the guidelines in preparing action plans.

Note: The Inspector-General must consult the Basin States, and have regard to any submissions made by the Basin States, in preparing guidelines under section 215V: see section 215VB.

Amendment or replacement of action plan

(3) An amendment or replacement of an action plan must explain the reasons for the amendment or replacement.

6.08B Reporting on action plan under the Basin Plan

After the end of a water accounting period, a Basin State must, at the same time as it provides the Authority with a report under section 71 in relation to the period, provide the Authority and the Inspector-General with a report that includes details of progress during the period in taking the proposed set of actions specified in an action plan provided by the Basin State as required by subsection 6.12(5) or 6.12C(5).

6.08C Content of report

(1) This section applies in relation to a report on the progress of an action plan for the purposes of:

(a) subsection 71(1B) of the Act; or

(b) section 6.08B.

(2) The Inspector-General may issue and publish guidelines under subsection 215V(1) in relation to the reports, and the Basin States must have regard to the guidelines in preparing the reports.

Note: The Inspector-General must consult the Basin States, and have regard to any submissions made by the Basin States, in preparing guidelines under section 215V: see section 215VB.

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Division 1A—One-off adjustment to cumulative balances for surface water SDL resource units

6.08D Determining one-off adjustment to cumulative balances from 1 July 2019

(1) The Authority must make a one-off adjustment, in accordance with this Division, to the cumulative balance for each surface water SDL resource unit, unless the register of take for the surface water SDL resource unit had already commenced as at 1 July 2019.

Register of take has already commenced

(2) If the register of take for a surface water SDL resource unit for which the Authority must make a one-off adjustment has already commenced as at the commencement of this section, the Authority must make a one-off adjustment in relation to the surface water SDL resource unit as soon as practicable after the beginning of the first water accounting period after that commencement.

Register of take has not already commenced

(3) If the register of take for a surface water SDL resource unit for which the Authority must make a one-off adjustment has not already commenced as at the commencement of this section, the Authority must make a one-off adjustment in relation to the surface water SDL resource unit as soon as practicable after the end of the water accounting period in which the register of take commences.

6.08E Step 1—Calculation of annual permitted take and annual actual take for one-off adjustment

(1) This section and sections 6.08F and 6.08G set out how to calculate the one-off adjustment to the cumulative balance of a surface water SDL resource unit.

(2) For each relevant water accounting period for the surface water SDL resource unit, sum the maximum quantity of water permitted to be taken by each form of take for consumptive use from the surface water SDL resource unit (***annual permitted take***) in accordance with section 6.08G.

(3) For the same relevant water accounting period, sum the quantity of water actually taken by each form of take for consumptive use from the surface water SDL resource unit (***annual actual take***) in accordance with section 6.08G.

(4) For the purposes of calculating the one-off adjustment to the cumulative balance of a surface water SDL unit, a ***relevant water accounting period***, for the surface water SDL resource unit, means a water accounting period that begins on or after 1 July 2019, other than the water accounting period in which the register of take for the surface water SDL resource unit commences or any later water accounting period.

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6.08F Step 2—Calculate and record the one-off adjustment

(1) For each relevant water accounting period, if the annual actual take is greater than the annual permitted take, the difference is a debit.

(2) For each relevant water accounting period, if the annual actual take is less than the annual permitted take, the difference is a credit.

(3) For each relevant water accounting period, if there is no difference between the annual actual take and the annual permitted take, the difference is zero.

(4) As a result of the calculations made under subsections (1) to (3), determine the one-off adjustment to the cumulative balance by summing the total differences between annual permitted take and annual actual take for each relevant water accounting period for the surface water SDL resource unit.

(5) If, in a relevant water accounting period, the circumstances mentioned in the example in paragraph 6.12(4)(b) apply, the one-off adjustment for the surface water SDL resource unit is to be adjusted by including the amount attributable to those circumstances as a credit, and subsection 6.11(5) does not apply to the relevant water accounting period.

(6) The one-off adjustment for the surface water SDL resource unit is to be adjusted to account for any disposal or acquisition of held environmental water for each relevant water accounting period.

(7) Record the one-off adjustment on the register of take as either a debit, a credit or zero.

(8) For the water accounting period in which the one-off adjustment is recorded, the cumulative balance determined under subsection 6.11(4) is to include the effect of the one-off adjustment.

6.08G How to calculate the annual permitted take and the annual actual take

(1) Subject to this section, the annual permitted take and the annual actual take are to be worked out using the method set out in the water resource plan for the surface water SDL resource unit for the purposes of sections 10.10 and 10.15.

Note 1: Section 10.10 requires a water resource plan to set out a method for determining the maximum quantity of water permitted to be taken by each form of take for consumptive use from the surface water SDL resource unit in each water accounting period.

Note 2: Section 10.15 requires a water resource plan to set out how the quantity of water actually taken for consumptive use by each form of take from each SDL resource unit will be determined after the end of a water accounting period using the best information available at the time.

(2) If the annual permitted take or the annual actual take cannot be worked out in accordance with subsection (1) because the data is not available for a form of take, the annual permitted take and the annual actual take are to be:

(a) the long-term annual average take for that form of take; or

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(b) worked out in accordance with an alternative method determined by the Authority in consultation with the relevant Basin State before whichever of the following applies:

(i) if the water resource plan for the surface water SDL resource unit is accredited as at the commencement of this section—on or before the first 30 June after that commencement;

(ii) if the water resource plan for the surface water SDL resource unit is not accredited as at the commencement of this section—on or before 30 June of the water accounting period in which the register of take commences.

(3) The Authority must publish the method used on its website.

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Division 2—Method for determining compliance—surface water

6.09 Method for determining compliance with long-term annual diversion limit—surface water

(1) The method for determining compliance with the long-term annual diversion limit for a surface water SDL resource unit in a water accounting period is to follow the steps set out in this Division.

(2) The method applies to each water accounting period after 30 June 2019 following the commencement of a water resource plan relating to the SDL resource unit.

6.10 Step 1—Calculation of annual permitted take and annual actual take

(1) For a water accounting period, sum the maximum quantity of water permitted to be taken by each form of take for consumptive use from the SDL resource unit, determined in accordance with the method for section 10.10 (***annual permitted take***).

Note: Section 10.10 requires a water resource plan to set out a method for determining the maximum quantity of water permitted to be taken by each form of take for consumptive use from the SDL resource unit in each water accounting period.

(2) For the same water accounting period, sum the quantity of water actually taken by each form of take for consumptive use from the SDL resource unit (***annual actual take***).

Note: See section 10.15.

6.11 Step 2—Record difference between annual actual take and annual permitted take

(1) If the annual actual take is greater than the annual permitted take, the difference must be recorded on the register of take for the SDL resource unit as a debit.

(2) If the annual actual take is less than the annual permitted take, the difference must be recorded on the register of take as a credit.

(3) If there is no difference between the annual actual take and the annual permitted take, a zero must be recorded on the register of take in both the debit column and the credit column.

(4) As a result of the record made under subsections (1) to (3):

(a) determine the new cumulative balance of the difference between annual permitted take and annual actual take for the SDL resource unit; and

(b) record this balance on the register of take as either a cumulative debit, cumulative credit, or a zero.

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(5) If, in the previous water accounting period, the circumstances mentioned in the example in paragraph 6.12(4)(b) applied, the cumulative balance for the SDL resource unit is to be adjusted by crediting to that balance the amount attributable to those circumstances.

6.12 Step 3—Determine whether there is non-compliance

Note: See paragraphs 71(1)(g) and (h) of the Act.

(1) There is non-compliance with a long-term annual diversion limit for a surface water SDL resource unit in a water accounting period if:

(a) the cumulative balance for the SDL resource unit, adjusted to account for any disposal or acquisition of held environmental water, is a debit amount equal to or greater than 20% of the long-term annual diversion limit for the SDL resource unit; and

(b) the Basin State does not have a reasonable excuse for the excess.

(2) For subsection (1):

(a) the Victorian Murray, Kiewa and Ovens SDL resource units may be treated as a single SDL resource unit; and

(b) the Goulburn, Broken, Campaspe and Loddon SDL resource units may be treated as a single SDL resource unit.

(3) A Basin State may not rely on a claim that there is a reasonable excuse for an excess unless:

(a) it has provided a report to the Authority and to the Inspector-General setting out the reasons for the excess, with evidence for the claim; and

(b) the Inspector-General is satisfied that the Basin State has a reasonable excuse as claimed.

Note 1: If the Inspector-General is not satisfied that there is a reasonable excuse, there will be non-compliance on the part of the Basin State requiring an action plan under subsection 71(1A) of the Act.

Note 2: It is open to the Inspector-General to consult with the Authority and other bodies as appropriate.

(4) A Basin State is taken to have a reasonable excuse for an excess if the excess arises as the result of:

(a) the operation of the water resource plan for the SDL resource unit; or

(b) circumstances beyond the Basin State's control (for example where, for reasons beyond the Basin State's control, the Commonwealth has not achieved the water recovery target that it has set for itself in relation to the SDL resource unit).

(5) A Basin State that relies on a claim it has made in accordance with subsection (3) must provide the Authority and the Inspector-General, in writing, with a proposed set of actions (an ***action plan***) that the State will take to reduce the cumulative balance of the register to zero or less.

Note 1: The Basin State will not need to take steps to reduce the cumulative balance to the extent it will be adjusted under subsection 6.11(5).

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Note 2: The Inspector-General may conduct, or appoint or establish a person or body to conduct, an audit in relation to compliance using the Inspector-General's powers under the Act. The Inspector-General must publish a copy of a report of the audit on the Inspector-General's website or the Department's website. The findings of such an audit may also lead to further action being taken by the Inspector-General to ensure compliance with sections 34, 35, 58 and 59 of the Act.

Division 3—Method for determining compliance—groundwater

6.12A Method for determining compliance with long-term annual diversion limit—groundwater

(1) The method for determining compliance with the long-term annual diversion limit for a groundwater SDL resource unit in a water accounting period is to follow the steps set out in this Division.

(2) The method applies to each water accounting period after 30 June 2019 following the commencement of a water resource plan relating to the SDL resource unit.

6.12B Step 1—Calculation of annual permitted take and annual actual take

(1) For a water accounting period, sum the maximum quantity of water permitted to be taken by each form of take for consumptive use from the SDL resource unit, determined in accordance with the method for section 10.10 (***annual permitted take***).

Note: Section 10.10 requires a water resource plan to set out a method for determining the maximum quantity of water permitted to be taken by each form of take for consumptive use from the SDL resource unit in each water accounting period.

(2) For the same water accounting period, sum the quantity of water actually taken by each form of take for consumptive use from the SDL resource unit (***annual actual take***).

Note: See section 10.15.

6.12C Step 2—Determine whether there is non-compliance

Note: See paragraphs 71(1)(g) and (h) of the Act.

Water accounting periods up to 2028

(1) There is non-compliance with a long-term annual diversion limit for the groundwater SDL resource unit in a water accounting period ending on or before 30 June 2028, if:

(a) the sum of annual actual take in the water accounting periods since 1 July 2019 is greater than the sum of annual permitted take for those water accounting periods plus 20% of the long-term annual diversion limit for the SDL resource unit, after adjusting, for any previous water accounting period in which the circumstances mentioned in the

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example in paragraph (4)(b) applied, by the amount attributable to those circumstances; and

(b) the Basin State does not have a reasonable excuse for the excess.

Note: The effect of the subsection above is the same as the effect of section 6.12 which applies in relation to surface water SDL resource units.

Water accounting periods after 2028

(2) There is non-compliance with a long-term annual diversion limit for the groundwater SDL resource unit in a water accounting period ending after 30 June 2028, if:

(a) the average annual actual take over the 10 year period ending with that water accounting period is greater than the average annual permitted take over the 10 year period, after adjusting, for any previous water accounting period in which the circumstances mentioned in the example in paragraph (4)(b) applied, by the amount attributable to those circumstances; and

(b) the Basin State does not have a reasonable excuse for the excess.

(3) A Basin State may not rely on a claim that there is a reasonable excuse for an excess unless:

(a) it has provided a report to the Authority and to the Inspector-General setting out the reasons for the excess, with evidence for the claim; and

(b) the Inspector-General is satisfied that the Basin State has a reasonable excuse as claimed.

Note 1: If the Inspector-General is not satisfied that there is a reasonable excuse, there will be non-compliance on the part of the Basin State requiring an action plan under subsection 71(1A) of the Act.

Note 2: It is open to the Inspector-General to consult with the Authority and other bodies as appropriate.

(4) A Basin State is taken to have a reasonable excuse for an excess if the excess arises as the result of:

(a) the operation of the water resource plan for the SDL resource unit; or

(b) circumstances beyond the Basin State's control (for example where, for reasons beyond the Basin State's control, the Commonwealth has not achieved the water recovery target that it has set for itself in relation to the SDL resource unit).

(5) A Basin State that relies on a claim it has made in accordance with subsection (3) must provide the Authority and the Inspector-General, in writing, with a proposed set of actions (an ***action plan***) that the State will take to reach the point where there is no excess under whichever of paragraphs (1)(a) and (2)(a) is then relevant.

Note 1: The Basin State will not need to take steps to the extent there will be an adjustment under paragraph (1)(a) or (2)(a).

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Note 2: The Inspector-General may conduct, or appoint or establish a person or body to conduct, an audit in relation to compliance using the Inspector-General's powers under the Act. The Inspector-General must publish a copy of a report of the audit on the Inspector-General's website or the Department's website. The findings of such an audit may also lead to further action being taken by the Inspector-General to ensure compliance with sections 34, 35, 58 and 59 of the Act.

Part 5—Allocation of risks in relation to reductions in water availability

6.13 Risks arising from reduction in diversion limits

Note: If the SDL for an SDL resource unit is reduced, section 75 of the Act requires the Basin Plan to specify the reduction, and the proportions of the reduction attributable to various categories.

Section 78 of the Act required the original Basin Plan to specify the limits that applied, immediately before the SDLs imposed by the Basin Plan took effect, to the long-term average amount of water that could be taken for each SDL resource unit under the applicable transitional or interim water resource plans. This is done in subsection (2) below, and the specified limit is used as the baseline from which the reductions are measured.

(1) This section sets out the matters required by Subdivision A of Division 4 of Part 2 of the Act.

(2) For subsection 78(2) of the Act, the long-term average limit on the quantity of water that can be taken from an SDL resource unit that the Authority is satisfied will be applicable immediately before a transitional water resource plan, or interim water resource plan, ceases to have effect is the BDL for the SDL resource unit.

Note: See section 1.07 for the meaning of ***BDL***.

(2A) For subsection 75(1) of the Act, the reduction is any reduction in the SDL for a SDL resource unit, compared with the limit specified for subsection (2), that results from the application of the SDL set by the Basin Plan from time to time.

(3) For paragraph 75(1)(a) of the Act, the amount of the reduction is the amount by which the BDL for the SDL resource unit exceeds the long-term annual diversion limit for the SDL resource unit.

(4) For paragraph 75(1)(b) of the Act, the Commonwealth Government policy component of the reduction is 100% of the reduction.

(5) For paragraph 75(1)(c) of the Act, the new knowledge component of the reduction is zero.

(6) For paragraph 75(1)(d) of the Act, the Commonwealth's share of the reduction is 100% of the reduction.

6.14 Risks arising from other changes to the Basin Plan

Nothing in the Basin Plan requires a change in the reliability of water allocations of a kind that would trigger Subdivision B of Division 4 of Part 2 of the Act.

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Chapter 7—Adjustment of SDLs

Note: The SDLs will constitute limits from 1 July 2019. The surface water SDLs set out in Schedule 2 on the commencement of the Basin Plan in 2012 were based on:

- infrastructure and other measures that were in operation or expected to be in operation by 2019, including as a result of investments that the Commonwealth is committed to funding, that would recover at least 600 GL of water per year ('anticipated measures' in this Chapter); and
- the level of scientific understanding of the Basin hydrology and ecology at that time.

This Chapter provides for the Authority to propose adjustments to the SDLs under section 23A of the Act. These will be made by amendment of the Basin Plan under section 23B of the Act.

Under Part 2, the Authority can propose adjustments to surface water SDLs to take account of:

(a) supply measures and efficiency measures that are notified by a process set out in section 7.12 and will come into operation by 31 December 2026; and

(b) additional HEW entitlements that are acquired from time to time and specified by the Minister under section 7.08B.

In this Chapter a 'supply measure' is a measure that increases the quantity of water available before take for consumptive use. The measure may do this either by making water available for environmental management without reducing consumptive take (e.g. through reducing evaporation losses at suitable storages) or by allowing environmental managers to achieve equivalent outcomes more efficiently, thus reducing the amount of water needed for the environment. Supply measures allow equivalent environmental outcomes to be achieved without needing to reduce consumptive take as much as originally anticipated in the Basin Plan.

The additional water provided by supply measures will be made available for consumptive use (as it will no longer need to be recovered from such use). An adjustment made because of supply measures will increase the SDL (decrease the reduction amount).

An 'efficiency measure' is one that makes savings in the amount of water required for consumptive purposes. Examples include investment in more efficient irrigation infrastructure. The water saved by efficiency measures will be allocated to environmental use but, due to the nature of efficiency measures, this will achieve neutral or improved social and economic impacts. An adjustment made because of efficiency measures will decrease the SDL (increase the reduction amount).

An 'additional HEW entitlement' is a water access right, water delivery right or irrigation right that was previously used for consumptive purposes, but will now be used for environmental purposes. An adjustment made because of an additional HEW entitlement will decrease the SDL (increase the reduction amount).

Part 1—Preliminary

7.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter provides a mechanism for the Authority to propose adjustments to the SDLs under section 23A of the Act on the basis of:

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(a) new measures that will increase the supply of water or the efficiency of water use (Part 2); or

(b) new acquisitions of held environmental water that was previously used for consumptive purposes (Part 2); or

(c) new or improved information relating to groundwater SDL resource units (Part 4).

7.02 Interpretation

(1) In this Chapter:

additional efficiency entitlement, for a surface water SDL resource unit, is a water access entitlement that:

(a) is sourced from the unit; and

(b) is held environmental water; and

(c) is acquired before 1 January 2027 by the Commonwealth or another person in conjunction with, or to take advantage of the water savings achieved by, an additional efficiency measure.

additional efficiency measure means an efficiency measure that has been notified under subsection 7.12(2).

additional HEW contribution has the meaning given by Division 4 of Part 2 (in particular section 7.16A).

additional HEW entitlement means a water access right, a water delivery right or an irrigation right, or part of such a right, specified by the Minister under section 7.08B to be an additional HEW entitlement.

additional supply measure means a supply measure that has been notified under subsection 7.12(2A).

affected unit means a surface water SDL resource unit that is an affected unit for a notified measure or additional efficiency measure under paragraph 7.12(4)(b).

anticipated measure means a measure that is part of the benchmark conditions of development.

Note: This includes various measures expected to be in operation by 2019, including as a result of investments that the Commonwealth is committed to funding, that are expected to recover the equivalent of at least 600 GL of water per year.

benchmark conditions of development means the conditions of development that were assumed in the benchmark model described in Schedule 6 when the model was used to set the unadjusted SDLs for the Basin Plan.

Note 1: These conditions include the infrastructure, rules and practices that were assumed in the benchmark model, including certain measures that were not yet in effect but were expected to be in place by 2019, including as a result of investments that the Commonwealth is committed to funding and are expected to recover the equivalent of at least 600 GL of water per year.

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Note 2: The Authority will, in consultation with the Basin Officials Committee, prepare and publish a report detailing the benchmark conditions of development as soon as practicable after the Basin Plan is made.

benchmark environmental outcomes has the meaning given in subsection 7.15(2).

constraint measure means a measure that removes or eases a physical or other constraint on the capacity to deliver environmental water to the environmental assets of the Murray-Darling Basin.

Note: Examples include:

raising of bridges to allow higher regulated flows in watercourses and floodplains;

acquisition of easements to allow inundation of private land in conjunction with making regulated releases of environmental water.

efficiency contribution has the meaning given by Division 4 of Part 2 (in particular section 7.16).

efficiency entitlement, for a surface water SDL resource unit, means a water access entitlement that:

(a) is sourced from the unit; and

(b) is held environmental water; and

(c) is acquired before 1 January 2027 by the Commonwealth or another person in conjunction with, or to take advantage of the water savings achieved by, a notified efficiency measure.

efficiency measure has the meaning given by section 7.04.

measure means a set of works or measures undertaken or funded by the Commonwealth or a Basin State, including but not limited to the following:

(a) changes to water infrastructure;

(b) changes to other infrastructure that affect the hydrology of the Basin;

(c) changes to legal requirements, including to Commonwealth or State laws, that affect the way water is used;

(d) changes in river management and river operational practices;

(e) changes in methods of delivering water.

notified measure means a measure that has been notified under subsection 7.12(1) or (1A), and ***notified efficiency measure*** and ***notified supply measure*** have corresponding meanings.

reference time has the meaning given by subsection 23A(5) of the Act.

supply contribution has the meaning given by Division 4 of Part 2 (in particular section 7.15).

supply measure has the meaning given by section 7.03.

varying HEW contribution has the meaning given by section 7.21.

(2) A reference in this Chapter and in Schedule 6A to a water access right, a water delivery right, an irrigation right or a water access entitlement includes a reference to a part of such a right or entitlement.

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7.03 Meaning of supply measure

A ***supply measure*** is a measure that operates to increase the quantity of water available to be taken in a set of surface water SDL resource units compared with the quantity available under the benchmark conditions of development.

Note: Examples include:

re-configuring suitable lakes or storage systems to reduce evaporation;

reducing the quantity of water required to deliver water at a particular place, whether for purposes of consumptive use or for environmental use;

changing the methods of environmental watering in such a way that equivalent environmental outcomes can be achieved with a smaller quantity of water than was required under the benchmark conditions of development.

7.04 Meaning of efficiency measure

An ***efficiency measure*** is a measure that operates to decrease the quantity of water required for one or more consumptive uses in a set of surface water SDL resource units, compared with the quantity required under the benchmark conditions of development.

Note: Examples include:

lining channels to reduce water losses within an irrigation network;

replacement of less efficient irrigation methods with drip irrigation.

7.05 Consultation with Basin Officials Committee

(1) In determining the amounts of proposed adjustments in accordance with this Chapter, the Authority must seek and consider advice from the Basin Officials Committee.

(2) The Authority must seek the advice of the Basin Officials Committee at least 1 month before proposing adjustments in accordance with this Chapter.

7.06 Public consultation

Before finalising a determination of the amounts of proposed adjustments in accordance with this Chapter, the Authority must:

(a) publish a draft determination of the amounts of the proposed adjustments on its website, with an account of how they were arrived at and the reasons for decisions made in arriving at the draft determination; and

(b) invite the public to make submissions about the draft determination within a period of not less than 1 month.

7.07 Combined proposals

(1) The Authority may make proposals under Parts 2 and 4 at the same time.

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(2) Where this is done, the Authority may, for the purpose of section 23B of the Act, treat the proposals as a single proposal and prepare a set of amendments that gives effect to the net effect of the proposals.

7.08 Constraints management strategy

(1) Within 12 months after the commencement of the Basin Plan, the Authority must prepare a constraints management strategy that:

(a) identifies and describes the physical, operational and management constraints that are affecting, or have the potential to affect, environmental water delivery; and

(b) assists all jurisdictions to participate in constraint measures in order to allow environmental water to be used to maximum effect and to maximise the benefits of any increase in held environmental water; and

(c) evaluates options, opportunities and risks to water users, communities and the environment, associated with addressing key constraints, including through constraint measures that are relevant to measures that might be notified under section 7.12; and

(d) assesses the impacts of modifications of constraints on environmental water delivery and third parties, as well as downstream impacts, and assesses options to address those impacts; and

(e) identifies mechanisms by which impacts on third parties can be addressed.

(2) The strategy, and any substantive amendments to the strategy, must be prepared in consultation with the Basin States and the public.

(4) The Authority must publish the strategy on its website.

7.08A Constraints relaxation implementation roadmap

(1) The object of this section is to assist the Commonwealth and Basin States to identify measures to relax constraints, and develop and implement them in a way that:

(a) maximises the benefits of the constraint measures to deliver environmental outcomes, including but not limited to enhanced environmental outcomes and outcomes identified by the Constraints Management Strategy; and

(b) provides, as far as practicable, a common approach across river systems and jurisdictions including, but not limited to, in relation to:

(i) reporting, transparency and public accountability; and

(ii) program implementation and governance including regulatory approvals; and

(iii) supporting the acceleration of constraint measures by 31 December 2026; and

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(iv) managing impacts on third parties.

(2) The Authority must prepare a roadmap for the purpose of achieving the object of this section by 31 December 2024.

(3) The roadmap, and any substantive amendments to the roadmap, must be prepared in consultation with the Basin States, the Commonwealth and the public.

(4) The Authority must publish the roadmap on its website.

7.08B Minister may specify additional HEW entitlements

(1) The Minister may specify in a written instrument given to the Authority, in accordance with this section, that a water access right, a water delivery right, or an irrigation right, for a surface water SDL resource unit, or part of such a right, is an additional HEW entitlement.

Note: Under subsection 33(3) of the *Acts Interpretation Act 1901*, such a specification may be revoked, amended or varied in the same way.

(2) The right, or the part of the right, must:

(a) be sourced from the unit; and

(b) be held environmental water; and

(c) if specified after 31 December 2027—have become, or been contracted to become, held environmental water before that date; and

(d) not have become held environmental water as a result of notified efficiency measures or additional efficiency measures, except as provided in subsection (4).

Note: Water access rights, water delivery rights and irrigation rights are types of rights that fall within the definition of ***held environmental water*** (see subsection 4(1) of the Act).

(3) The Minister must be satisfied that the right or the part of the right:

(a) decreases the amount of water taken for consumptive use relative to the benchmark conditions of development; and

(b) increases the volume of the Basin water resources that is available for environmental use; and

(c) will contribute to enhancing environmental outcomes as mentioned in subsection 86AA(1) of the Act, including the outcomes set out in Schedule 5 to the Basin Plan.

(4) For paragraph (2)(d), the exception is that:

(a) the right, or the part of the right, is specified after 31 December 2026; and

(b) it was not included in the determination for paragraph 7.21(2)(a) (whether or not it was on the register mentioned in section 7.13 on 31 December 2026).

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(5) If a right, or a part of a right, specified in reliance on subsection (4) was an efficiency entitlement or additional efficiency entitlement, it ceases to be an entitlement of that kind.

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Part 2—Adjustment of surface water SDLs

Division 1—Objective

7.09 Objective

The objective for this Part is to allow surface water SDLs to be adjusted to reflect the effects of:

(aa) measures that increase the supply of water or the efficiency of water use, and are notified under this Part; and

(ab) additional HEW entitlements specified under section 7.08B;

so that:

(a) for efficiency measures—environmental outcomes are increased while maintaining or improving social and economic outcomes; and

(b) for supply measures—equivalent environmental outcomes are achieved with a lower volume of held environmental water than would otherwise be required; and

Note: Some jurisdictions anticipate that such measures may be able to provide the equivalent of 650 GL per year of water, reducing the quantity of water access rights the Commonwealth will need to acquire to 'bridge the gap'.

(c) where constraints on the capacity to deliver environmental water are removed or eased—available environmental water can be used to maximum effect; and

(d) enhanced economic, social and environmental outcomes compared with the benchmark environmental outcomes and benchmark conditions of development can be achieved for the Murray-Darling Basin, including through more efficient water use, improved river operations, improved outcomes for the River Murray floodplain, River Murray river water quality, estuarine health, Murray Mouth opening, higher average lake levels and increased in-stream flows and variability; and

(e) the easing or removal of constraints and the addition of 450 GL per year of environmental water above the 2750 GL benchmark conditions of development, under the Commonwealth's program, allow the enhanced environmental outcomes as set out in Schedule 5 to be pursued as compared to the benchmark environmental outcomes.

Note 1: The Commonwealth program to ease or remove capacity constraints and deliver 450 GL of additional environmental water is to improve the environmental outcomes beyond those achievable under the 2750 GL benchmark by a further 450 GL and thus pursue the environmental outcomes set out in Schedule 5 that reflect the results of the 3200 GL per year modelling with relaxed constraints scenario reported in: MDBA (Murray-Darling Basin Authority) 2012, *Hydrologic modelling of the relaxation of operational constraints in the southern connected system: Methods*

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and results, MDBA publication no: 76/12, Murray-Darling Basin Authority, Canberra. http://download.mdba.gov.au/altered-PBP/Hydrologic-modelling-relaxed-constraints-October-2012.pdf

Note 2: The Commonwealth's program referred to in paragraph (e) includes the program that is expected to spend $1.77 billion by 31 December 2027 under the Water for the Environment Special Account.

Division 2—When Authority must propose appropriate adjustments

7.10 Initial adjustments to be proposed in 2017

(1) If the Authority has received a notification of measures under subsection 7.12(1) or (1A), it must, as soon as practicable after 30 June 2017 and no later than 15 December 2017:

(a) for each affected unit, determine the amounts of proposed adjustments resulting from the notified measures in accordance with Division 4; and

(b) propose accordingly, under section 23A of the Act:

(i) an adjustment of the SDL for each affected unit; and

(ii) an adjustment of the SDL for the Basin water resources equal to the net effect of the adjustments for all the affected units.

Note: Under section 23B of the Act, the Authority is then required to prepare appropriate amendments of the Basin Plan, for adoption by the Minister.

(2) The Authority must advise the Minister on the implications of a proposal for any declared Ramsar wetland.

7.11 Reconciliation adjustments to be proposed in 2026

(1) If it appears to the Authority that a new determination of the appropriate adjustment amounts, made in accordance with Division 4, resulting from the effects, as at 31 December 2026, of the following:

(a) notified measures;

(b) additional supply measures;

(c) additional efficiency measures;

(d) additional HEW entitlements;

would produce adjusted SDLs for one or more SDL resource units different from those that resulted from the determination made for the purpose of section 7.10, the Authority must, by that date:

(e) determine those adjustment amounts for each affected unit; and

(f) propose accordingly, under section 23A of the Act:

(i) an adjustment of the SDL for each affected unit; and

(ii) an adjustment of the SDL for the Basin water resources equal to the net effect of the adjustments for all the affected units.

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Note 1: Since the adjustments to the SDLs proposed under section 7.10 were made to the Basin Plan, there has been a further set of adjustments made by the *Water Amendment (Restoring Our Rivers) Act 2023*, as well as changes to Division 4.

Note 2: Under section 23B of the Act, the Authority is then required to prepare appropriate amendments of the Basin Plan, for adoption by the Minister.

Note 3: This section might apply if, for example, a notified measure has been withdrawn or an additional supply or efficiency measure has been notified, or an additional HEW entitlement has been registered.

(2) The Authority must advise the Minister on the implications of a proposal for any declared Ramsar wetland.

Division 3—Notification and recording of relevant matters

7.12 Notification of measures relevant to adjustment of SDLs

First notification of supply measures or efficiency measures

(1) The Basin Officials Committee may, by 30 June 2016, notify the Authority of 1 or more supply measures or efficiency measures that, in the view of the Committee, should be taken into account in proposing adjustments under section 7.10 or 7.11.

Second notification of supply measures or efficiency measures

(1A) The Basin Officials Committee may, after 30 June 2016 but on or before 30 June 2017, notify the Authority of 1 or more supply measures or efficiency measures that, in the view of the Committee, should be taken into account in proposing adjustments under section 7.10 or 7.11.

Notification of additional efficiency measures

(2) The person (the Basin State or Commonwealth) funding or undertaking an efficiency measure may, after 30 June 2017 but on or before 30 June 2025, notify the Authority of 1 or more efficiency measures that, in the view of the person, should be taken into account in proposing adjustments under section 7.11.

Notification of additional supply measures

(2A) The Basin Officials Committee may, on or before 30 June 2025, notify the Authority of 1 or more supply measures that, in the view of the Committee, should be taken into account in proposing adjustments under section 7.11.

Requirements for all notifications

(3) A measure may be notified only if:

(a) it will enter operation by 31 December 2026; and

(b) it is not an anticipated measure; and

(c) the person (the Basin State or Commonwealth) funding or undertaking the measure agrees with the notification.

(4) A notification must include, for each measure:

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(a) details of the measure; and

(b) the surface water SDL resource units affected by the measure (the ***affected units*** for the measure); and

(c) details of any constraint measure that may be relevant; and

(d) the date on which the measure entered into operation, or by which it will enter into operation.

(5) A notification must be amended by 30 June 2026 if any information under subsection (4) has changed.

(6) A notification must be amended by 30 June 2026 to withdraw a measure if it appears that the measure will not enter into operation by 31 December 2026.

(6A) A notification may be amended to withdraw the measure under subsection (6) by the person who notified the measure or by the Commonwealth.

(7) Subsections (5), (6) and (6A) do not apply after 30 June 2026.

7.13 Register of measures

(1) The Authority must maintain a register that includes the following:

(a) each measure of the following kinds, with the information mentioned in section 7.12:

(i) the notified efficiency measures;

(ii) the notified supply measures;

(iii) the additional efficiency measures;

(iv) the additional supply measures;

(b) for each surface water SDL resource unit—each entitlement of the following kinds as it applies from time to time:

(i) the efficiency entitlements;

(ii) the additional efficiency entitlements;

(iii) the additional HEW entitlements;

(c) for each kind of entitlement for a surface water SDL resource unit—the long-term average quantity of water, in GL per year, that is available under the entitlements of that kind from time to time.

(2) Until an adjustment is proposed under section 7.11, the register must include, for each surface water SDL resource unit, estimates of the likely:

(a) efficiency contribution; and

(b) supply contribution; and

(c) additional HEW contribution;

as at 31 December 2026, and

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(d) to the extent practicable, the likely SDL adjustment amount for the unit for the purposes of section 7.21.

(3) The Authority must publish the register on its website.

(4) Subparagraphs (1)(b)(i) and (ii) apply to a water access entitlement whether it became held environmental water before or after the relevant measure was notified.

Division 4—Determining amounts of adjustments

7.14 Preliminary

This Division sets out the steps the Authority must take to determine the amounts of adjustments to SDLs that it will propose because of the notified measures, the additional efficiency measures, the additional supply measures and the additional HEW entitlements.

7.14A Shared reduction amounts to be applied in determining adjustments

(1) Subject to subsection (2), the Authority must determine the amounts of adjustments under this Division to the SDL for an SDL resource unit on the basis that the SDL resource unit shared reduction amount for the unit is the amount calculated under subsection 6.05(4).

(2) If a Basin State has made a re-allocation adjustment request for this section, the Authority must determine the amounts of adjustments under this Division to the SDL for an SDL resource unit applying the SDL resource unit shared reduction amount requested by the State for that unit.

(3) For this section:

re-allocation adjustment request means a request made by a Basin State to the Authority to adjust the SDL resource unit shared reduction amounts for SDL resource units that are within a zone mentioned in subsection 6.05(2), being a request that:

(a) either:

(i) was made before 1 July 2016, for the purposes of section 7.23 as it stood before the repeal of that section by the *Basin Plan Amendment Instrument 2017 (No. 1)*, and has not been withdrawn or replaced by a request referred to in subparagraph (ii); or

(ii) was made between 1 July 2016 and 30 June 2017, and expressed to be made in anticipation of the insertion of this section by the *Basin Plan Amendment Instrument 2017 (No. 1)*; and

(b) has the effect that:

(i) the total of the SDLs for each zone remains the same; and

(ii) no SDL resource unit has an SDL that is larger than would result from replacing its shared reduction amount with zero.

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Note 1: The same SDL resource unit shared reduction amounts were used for the purpose of calculating the initial adjustments proposed in 2017 and will be used in any reconciliation adjustments in 2026.

Note 2: A request for this section is not a re-allocation adjustment request for the purposes of section 6.05.

7.15 Contribution to adjustments from supply measures

(1) Subject to this Division, the total ***supply contribution*** of the notified measures is the total increase in the SDLs for all the units affected by notified supply measures or additional supply measures that will ensure that, calculated in accordance with the applicable method on the basis of:

(a) a repeat of the historical climate conditions; and

(b) the benchmark conditions of development modified by:

(i) the addition of the notified supply measures and additional supply measures; and

(ii) the removal of any unimplemented policy measures;

the following results occur, as compared with the benchmark environmental outcomes:

(c) there are equivalent environmental outcomes; and

(d) there are no detrimental impacts on reliability of supply of water to the holders of water access rights that are not offset or negated.

Note: The determination is based on the effect that the supply measures will have when they come into operation, whether or not they have done so by the time the measures are notified under section 7.12. The additional supply measures were not included in this provision at the time adjustments were proposed under section 7.10.

(2) In this section:

applicable method means:

(a) the default method set out in Schedule 6; or

(b) if the Authority, having consulted the Basin Officials Committee, decides that another method is preferable—that method.

benchmark environmental outcomes means the environmental outcomes in the model that, in accordance with the applicable method, would be achieved if:

(a) the SDLs were at the levels set in the Basin Plan when it commenced; and

(b) the benchmark conditions of development applied in the Murray-Darling Basin.

unimplemented policy measure means an anticipated measure consisting of a policy to:

(a) credit environmental return flows for downstream environmental use; or

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(b) allow the call of held environmental water from storage during un-regulated flow events;

to the extent, if any, that the measure, at the time of the determination, is not expected to, or did not, come into effect by 30 June 2019.

7.16 Contribution to adjustments from efficiency measures

Efficiency contribution for 2017 determination

(1) For a determination for the purpose of section 7.10, and subject to this Division, the ***efficiency contribution*** of the notified measures for each affected unit at a particular time is a decrease in the SDL for the unit equal to the quantity of water, in GL per year, that is registered as being available under the efficiency entitlements for the unit.

Note 1: The efficiency contributions are expected to vary over time as relevant water access entitlements are acquired.

Note 2: The Authority will use long-term diversion limit equivalent factors to convert water access entitlements into a common unit for the purpose of the determinations.

Efficiency contribution for 2026 determination

(2) For a determination for the purpose of section 7.11, and subject to this Division, the efficiency contribution of the notified measures and additional efficiency measures for each affected unit at a particular time is a decrease in the SDL for the unit equal to the quantity of water, in GL per year, that is registered as being available under the efficiency entitlements and additional efficiency entitlements for the unit.

Note: Efficiency contributions will end on 31 December 2026. Under section 7.08B, the Minister may specify efficiency entitlements and additional efficiency entitlements acquired after 31 December 2026 as additional HEW entitlements.

(3) In this section, ***registered*** means shown on the register maintained under section 7.13.

7.16A Contribution to adjustments from additional HEW entitlements

(1) For a determination for the purpose of section 7.11, and subject to this Division, the additional HEW contribution of the additional HEW entitlements for each affected unit at a particular time is a decrease in the SDL for the unit equal to the quantity of water, in GL per year, that is registered as being available under additional HEW entitlements for the unit.

Note 1: The additional HEW contributions are expected to vary over time as relevant water access rights, water delivery rights or irrigation rights are acquired.

Note 2: The Authority will use long-term diversion limit equivalent factors to convert water access rights, water delivery rights and irrigation rights into a common unit for the purpose of the determinations.

(2) In this section, ***registered*** means shown on the register maintained under section 7.13.

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7.17 Ensuring that criteria for amounts of adjustments are satisfied

(1) If, after calculating the total supply and efficiency contributions under sections 7.15 and 7.16, the Authority is not satisfied that a determination of proposed adjustments based on those amounts, disregarding the additional HEW entitlements mentioned in paragraph 7.11(1)(d), could be made under this Division that satisfies the criteria below, the Authority may reduce the total supply contribution, or the efficiency contribution for any affected unit, to a level at which such a determination could be made.

(2) The applicable criteria are the following:

Equivalent environmental outcomes

(a) The supply contributions to the proposed adjustments achieve equivalent environmental outcomes compared with the benchmark environmental outcomes.

Neutral or improved socio-economic outcomes

(b) The efficiency contributions to the proposed adjustments achieve neutral or improved socio-economic outcomes compared with the outcomes under benchmark conditions of development as evidenced by:

(i) the participation of consumptive water users in projects that recover water through works to improve irrigation water use efficiency on their farms; or

(ia) the participation of consumptive water users in projects that recover water through works to improve water use efficiency off-farm; or

(ii) alternative arrangements proposed by a Basin State, assessed by that State as achieving water recovery with neutral or improved socio-economic outcomes.

Use of approval process

(c) Any processes approved by the Murray-Darling Basin Ministerial Council for developing initiatives for satisfying these criteria, including opportunities for public consultation, have been observed.

7.18 Apportionment of supply contribution to affected units

The Authority must apportion the total supply contribution for the notified supply measures and additional supply measures to give each affected unit a supply contribution in a way that:

(a) ensures that the sum of the supply contributions is the total supply contribution; and

(b) complies with any agreement relating to the apportionment of supply contributions that has been reached by the Commonwealth and States.

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7.19 Overall limitation on size of adjustment amounts

If, at a particular time before the commencement of any adjustments proposed under section 7.11, the net effect of the total supply contribution, the total efficiency contribution and the total additional HEW contribution under sections 7.15 to 7.17 is an increase or decrease of more than 5% of the total surface water SDL for the Basin water resources as it stood at the reference time, the size of the supply contribution, the efficiency contribution and the additional HEW contribution for each affected unit are reduced in proportion so that the net effect is equal to that amount.

Note: This section allows a supply contribution, an efficiency contribution or an additional HEW contribution of more than 5% of total surface water SDL to each be given full effect in an adjustment, provided that the net effect across the Basin is within the 5% limit.

7.20 Final determination of amounts in 2017

(1) For the purpose of section 7.10, the Authority may make a determination to propose adjustments only if:

(a) it has considered any advice from the Basin Officials Committee and submissions from members of the public; and

(b) it is satisfied that the proposed adjustments meet the criteria under section 7.17.

(2) The Authority must determine supply contributions as at 30 June 2017.

Note: Some of the supply measures may not be operating by that date. The determination is based on the effect that they will have when they have come into operation by 2024.

(3) The Authority must determine the amounts of the proposed adjustments as:

(a) an adjustment of the SDL for each affected unit equal to the net effect of supply and efficiency contributions for the unit; and

(b) an adjustment of the SDL for the Basin water resources equal to the net effect of the adjustments for all the affected units.

(4) A proposed adjustment must be in the form of a formula as a function of time, either varying continuously or changing at specified times, that reflects the changes up until 30 June 2024 of:

(a) the relevant efficiency contributions; and

(b) the operation of the overall limit on adjustments in section 7.19.

7.21 Final determination of amounts in 2026

(1) For the purpose of section 7.11, the Authority may make a determination of the proposed adjustments only if:

(a) it has considered any advice from the Basin Officials Committee and submissions from members of the public; and

(b) it is satisfied that the proposed adjustments meet the criteria under section 7.17.

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(2) The Authority must determine the following as they are expected to be on 31 December 2026:

(a) the efficiency contributions;

(b) the supply contributions;

(c) the additional HEW contributions.

(3) The Authority must:

(a) determine the adjustments (***the overall adjustments***) that would be appropriate to:

(i) reflect:

(A) the notified measures, the additional supply measures, the additional efficiency measures and the additional HEW entitlements as determined for subsection (2); and

(B) the varying HEW contribution; and

(ii) comply with the limit on the size of proposed adjustments under subsection 23A(4) of the Act;

(b) calculate, for each affected unit, the difference between the 2017 SDLs as they would be if adjusted by the overall adjustments, and the current SDLs (the ***difference for the unit***); and

(c) determine the amounts of the proposed adjustments as:

(i) an adjustment of the SDL for each affected unit equal to the difference for the unit; and

(ii) an adjustment of the SDL for the Basin water resources equal to the net effect of the adjustments for all the affected units.

(4) An amendment to give effect to the proposed adjustments must be in the form of an amendment to the Basin Plan that would result in the SDL for each affected unit being expressed as:

(a) a fixed element; and

(b) the varying HEW contribution, in the form of a formula as a function of time, either varying continuously or changing at specified times from 31 December 2026 onward.

(5) In this section:

2017 SDL, for a SDL resource unit, means the SDL that applied immediately before the adjustments made as a result of a proposal under section 7.10.

Note: Those adjustments commenced on 13 January 2018.

current SDLs means the SDLs in the Basin Plan as amended by the *Water Amendment (Restoring Our Rivers) Act 2023*.

register means the register maintained under section 7.13.

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varying HEW contribution for an SDL resource unit, at any time after 31 December 2026, is the difference between the additional HEW contributions shown on the register as being available for the unit at that time, and the additional HEW contributions determined for paragraph (2)(c).

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Part 4—Adjustments relating to groundwater

7.24 Objective

The objective for this Part is to allow SDLs for groundwater SDL resource units to be adjusted to reflect new or improved information about their groundwater resources.

7.25 Adjustments relating to groundwater

(1) The Authority may propose, under section 23A of the Act, an adjustment of the SDL for a groundwater SDL resource unit if better information becomes available about the groundwater resources of the unit and the factors relevant to setting the SDL, in particular information about:

(a) recharge rates; or

(b) connectivity with surface water; or

(c) usage patterns; or

(d) Basin State policy and planning settings.

(2) In determining the amount of the proposed adjustment, the Authority must be satisfied that, in the light of the better information, the SDL for the unit:

(a) may be increased by the amount of the proposed adjustment and still represent an environmentally sustainable level of take; or

(b) should be decreased by the amount of the proposed adjustment to represent an environmentally sustainable level of take.

Note: Under section 23B of the Act, the Authority is then required to prepare appropriate amendments of the Basin Plan, for adoption by the Minister.

(3) A proposal in accordance with this section may be made as soon as practicable after 30 June 2016, or at any time after 30 June 2019.

7.26 Overall limitation on size of groundwater adjustment amounts

The Authority may not propose an adjustment under this Part if the result would be that the net effect of all adjustments proposed under this Part since the reference time would represent an increase or decrease of more than 5% of the total groundwater SDL for the Basin water resources as it stood at the reference time.

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Part 5—Independent audit of calculations

7.27 Independent audit of Authority's calculations

(1) The Authority may appoint or establish a person or body that is independent of the Authority to audit calculations made by the Authority for the purpose of Parts 2 and 4.

(1A) The Inspector-General may:

(a) audit calculations made by the Authority for the purposes of Parts 2 and 4; or

(b) appoint or establish a person or body that is independent of the Authority to audit calculations made by the Authority for the purposes of Parts 2 and 4.

(2) The person or body conducting any audit must:

(a) produce a report setting out the findings of the audit; and

(b) before the report is finalised, provide the Authority, the Inspector-General (unless the Inspector-General is conducting the audit), the Commonwealth and each Basin State with an opportunity to comment on the proposed findings.

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Chapter 8—Environmental watering plan

Part 1—Preliminary

8.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter sets out the environmental watering plan (item 9 of the table in subsection 22(1) and section 28 of the Act).

(3) The environmental watering plan specifies:

(a) the overall environmental objectives for the water-dependent ecosystems of the Murray-Darling Basin (Part 2); and

(b) targets by which to measure progress towards achieving those objectives (Part 3); and

(c) an environmental management framework for planned environmental water and held environmental water (Part 4); and

Note 1: See section 8.10 for a detailed outline of the elements of the environmental management framework.

Note 2: The principles to be applied in environmental watering are specified in Division 6 of Part 4.

(d) the methods to be used to identify environmental assets in the Murray-Darling Basin that will require environmental watering (Part 5); and

(e) the principles to be applied, and the method to be used, to determine the priorities for applying environmental water (including applying that water to environmental assets that are identified using the methods in paragraph (d)) (Part 6).

8.02 Purpose of Chapter

(1) The purpose of the environmental watering plan is to achieve the objectives in Part 2 and give effect to the principles in Division 6 of Part 4 by:

(a) co-ordinating the planning, prioritisation and use of environmental water on both a long-term and an annual basis; and

(b) enabling adaptive management to be applied to the planning, prioritisation and use of environmental water; and

(c) facilitating consultation, co-ordination and co-operative arrangements, where possible, between the Authority, the Commonwealth Environmental Water Holder and Basin States; and

(d) enabling information to be shared between the Authority, the Commonwealth, Basin States, holders of held environmental water and managers of planned environmental water to ensure efficient and effective use of environmental water.

(2) This section does not limit the operation of this Chapter.

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Note: Subsection 1.02(2) states that the Basin Plan has the effect provided for in sections 34, 35, 36, 37, 86G and 86H of the Act.

8.03 Effect of environmental watering plan on Commonwealth Environmental Water Holder

(1) The Commonwealth Environmental Water Holder must perform its functions and exercise its powers in a way that is consistent with:

(a) the environmental watering plan; and

(b) the Basin-wide environmental watering strategy.

(2) When performing its functions and exercising its powers, the Commonwealth Environmental Water Holder must have regard to the Basin annual environmental watering priorities.

Note: The Act imposes other obligations onto the Commonwealth Environmental Water Holder that relate to the environmental watering plan. See sections 105, 106 and 114 of the Act.

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Part 2—Overall environmental objectives for water-dependent ecosystems

Note: This Part sets out overall environmental objectives and particular objectives for each of those objectives.

These objectives will be met in part by the provision of environmental water, but will also be supported by other management actions. See also subsections 22(9) to (12) of the Act.

8.04 Overall environmental objectives

The overall environmental objectives for the water-dependent ecosystems of the Murray-Darling Basin are, within the context of a working Murray-Darling Basin:

(a) to protect and restore water-dependent ecosystems of the Murray-Darling Basin; and

(b) to protect and restore the ecosystem functions of water-dependent ecosystems; and

(c) to ensure that water-dependent ecosystems are resilient to climate change and other risks and threats.

Note: The fact that water storages and properties (including floodplains) are under the control of various persons currently restricts the capacity to actively manage all water-dependent ecosystems.

8.05 Protection and restoration of water-dependent ecosystems

(1) This section sets out particular objectives relating to the protection and restoration of the water-dependent ecosystems of the Murray-Darling Basin.

(2) An objective is to protect and restore a subset of all water-dependent ecosystems of the Murray-Darling Basin, including by ensuring that:

(a) declared Ramsar wetlands that depend on Basin water resources maintain their ecological character; and

Note: See paragraph 21(3)(c) of the Act.

(b) water-dependent ecosystems that depend on Basin water resources and support the life cycles of species listed under the Bonn Convention, CAMBA, JAMBA or ROKAMBA continue to support those species; and

(c) water-dependent ecosystems are able to support episodically high ecological productivity and its ecological dispersal.

(3) An objective is to protect and restore biodiversity that is dependent on Basin water resources by ensuring that:

(a) water-dependent ecosystems that support the life cycles of a listed threatened species or listed threatened ecological community, or species treated as threatened or endangered (however described) in State law, are protected and, if necessary, restored so that they continue to support those life cycles; and

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(b) representative populations and communities of native biota are protected and, if necessary, restored.

8.06 Protection and restoration of ecosystem functions of water-dependent ecosystems

(1) This section sets out particular objectives relating to the protection and restoration of the ecosystem functions of water-dependent ecosystems.

(2) An objective is that the water quality of Basin water resources does not adversely affect water-dependent ecosystems and is consistent with the water quality and salinity management plan.

(3) An objective is to protect and restore connectivity within and between water-dependent ecosystems, including by ensuring that:

(a) the diversity and dynamics of geomorphic structures, habitats, species and genes are protected and restored; and

(b) ecological processes dependent on hydrologic connectivity:

(i) longitudinally along watercourses; and

(ii) laterally between watercourses and their floodplains (and associated wetlands); and

(iii) vertically between the surface and subsurface;

are protected and restored; and

(c) the Murray Mouth remains open at frequencies, for durations, and with passing flows, sufficient to enable the conveyance of salt, nutrients and sediment from the Murray-Darling Basin to the ocean; and

(d) the Murray Mouth remains open at frequencies, and for durations, sufficient to ensure that the tidal exchanges maintain the Coorong's water quality (in particular salinity levels) within the tolerance of the Coorong ecosystem's resilience; and

Note: This is to ensure that water quality is maintained at a level that does not compromise the ecosystem and that hydrologic connectivity is restored and maintained.

(e) the levels of the Lower Lakes are managed to ensure sufficient discharge to the Coorong and Murray Mouth and help prevent river bank collapse and acidification of wetlands below Lock 1, and to avoid acidification and allow connection between Lakes Alexandrina and Albert, by:

(i) maintaining levels above 0.4 metres Australian Height Datum for 95% of the time, as far as practicable; and

(ii) maintaining levels above 0.0 metres Australian Height Datum all of the time; and

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(f) barriers to the passage of biological resources (including biota, carbon and nutrients) through the Murray-Darling Basin are overcome or mitigated.

(4) An objective is that natural in-stream and floodplain processes that shape landforms (for example, the formation and maintenance of soils) are protected and restored.

(5) An objective is to support habitat diversity for biota at a range of scales (including, for example, the Murray-Darling Basin, riverine landscape, river reach and asset class).

(6) An objective is to protect and restore ecosystem functions of water-dependent ecosystems that maintain populations (for example recruitment, regeneration, dispersal, immigration and emigration) including by ensuring that:

(a) flow sequences, and inundation and recession events, meet ecological requirements (for example, cues for migration, germination and breeding); and

(b) habitat diversity, extent, condition and connectivity that supports the life cycles of biota of water-dependent ecosystems (for example, habitats that protect juveniles from predation) is maintained.

(7) An objective is to protect and restore ecological community structure, species interactions and food webs that sustain water-dependent ecosystems, including by protecting and restoring energy, carbon and nutrient dynamics, primary production and respiration.

8.07 Ensuring water-dependent ecosystems are resilient to climate change and other risks and threats

(1) This section sets out particular objectives relating to ensuring that water-dependent ecosystems are resilient to climate change and other risks and threats.

(2) An objective is that water-dependent ecosystems are resilient to climate change, climate variability and disturbances (for example, drought and fire).

(3) An objective is to protect refugia in order to support the long-term survival and resilience of water-dependent populations of native flora and fauna, including during drought to allow for subsequent re-colonisation beyond the refugia.

(4) An objective is to provide wetting and drying cycles and inundation intervals that do not exceed the tolerance of ecosystem resilience or the threshold of irreversible change.

(5) An objective is to mitigate human-induced threats (for example, the impact of alien species, water management activities and degraded water quality).

(6) An objective is to minimise habitat fragmentation.

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Part 3—Targets by which to measure progress towards objectives

Note: Section 13.09 requires the Authority to conduct a review of the environmental watering plan every 5 years. This review will include a review of the targets.

8.08 Targets by which to measure progress towards achieving objectives

(1) The targets by which to measure progress towards achieving the objectives in Part 2 are set out in Schedule 7.

(2) As the targets will be used to measure progress towards achieving the objectives in Part 2:

(a) the achievement of the objectives in Part 2 should be given priority over the achievement of the targets; and

(b) the failure to achieve a target does not in itself mean that a person has acted inconsistently with the environmental watering plan.

8.09 Assessment of progress towards objectives in Part 2

The Authority must measure progress towards achieving the objectives in Part 2 by using the targets in Schedule 7 having regard to the following:

(a) progress towards achieving the long-term average sustainable diversion limits;

(b) ecological objectives and ecological targets set out in long-term watering plans;

(c) climatic conditions;

(d) the Basin-wide environmental watering strategy;

(e) Basin annual environmental watering priorities;

(f) any information collected, or analysis undertaken, under Chapter 13;

(g) the outcomes of any review of the environmental watering plan.

Note: See section 13.09.

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Part 4—Environmental management framework

Division 1—Preliminary

8.10 Outline of this Part

This Part sets out the environmental management framework, which includes:

(a) processes to co-ordinate the planning, prioritisation and use of planned environmental water and held environmental water, under which:

(i) the Authority is obliged to prepare a Basin-wide environmental watering strategy (Division 2); and

(ii) each Basin State is obliged to prepare long-term watering plans for water resource plan areas (Division 3); and

(iii) each Basin State is obliged to identify annual environmental watering priorities for water resource plan areas (Division 4); and

(iv) the Authority is obliged to identify Basin annual environmental watering priorities (Division 5); and

(b) the principles to be applied in environmental watering (Division 6); and

(c) a mechanism to enable the Authority to co-ordinate the recovery of additional environmental water (Division 7).

8.11 Objectives of environmental management framework

The environmental management framework is intended to:

(a) co-ordinate the planning, prioritisation and use of environmental water on both a long-term and an annual basis; and

(b) enable adaptive management to be applied to the planning, prioritisation and use of environmental water; and

(c) facilitate consultation, co-ordination and co-operative arrangements between the Authority, the Commonwealth Environmental Water Holder and Basin States;

in order to achieve the objectives in Part 2.

Note: The application of adaptive management will enable various triggers to be responded to, including any adjustment that might be made to the SDL.

8.12 Interpretation

In this Part:

updated: a plan is taken to have been ***updated*** if it is reviewed and re-made, whether or not the plan was amended as a result of the review.

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Division 2—Basin-wide environmental watering strategy

8.13 Obligation to prepare Basin-wide environmental watering strategy

(1) The Authority must prepare a Basin-wide environmental watering strategy for the Murray-Darling Basin (***Basin-wide environmental watering strategy***).

(2) The purpose of the Basin-wide environmental watering strategy is to:

(a) explain the context within which the Basin annual environmental watering priorities will be set; and

(b) identify particular Basin-wide environmental watering priorities over the long term; and

(c) help co-ordinate the management of environmental water, including guiding the development of consistent long-term watering plans.

8.14 Content of the Basin-wide environmental watering strategy

(1) The Basin-wide environmental watering strategy must include an explanation as to how the Authority will identify the Basin annual environmental watering priorities (Division 5).

(2) The Basin-wide environmental watering strategy may also do any or all of the following:

(a) identify:

(i) particular priority environmental assets or priority ecosystem functions, and their environmental watering requirements, using the methods in Part 5; or

Note: See also subsection 8.15(2).

(ii) multi-site watering objectives and associated flow regimes, including for the northern connected system and the southern connected system; or

(iii) end-of-system targets for environmental outcomes;

(b) provide guidance about:

(i) how Basin annual environmental watering priorities should be integrated with broader natural resource management strategies; or

(ii) how the Authority will identify synergies in environmental watering activities or resolve conflicting demands for available environmental water in the course of preparing the Basin annual environmental watering priorities;

(c) make recommendations:

(i) relating to what constitutes best practice in planning, prioritisation and use of environmental water, including decision-making and priority-setting; or

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(ii) about periodic environmental watering schedules;

Note: See also sections 29 to 31 of the Act.

(d) include any other matter the Authority considers appropriate.

8.15 Preparation of Basin-wide environmental watering strategy

Consultation requirements

(1) The Authority must prepare the Basin-wide environmental watering strategy in consultation with:

(a) Basin States; and

(b) the Commonwealth Environmental Water Holder.

(2) The identification of particular assets or functions, and their requirements, under subparagraph 8.14(2)(a)(i) must be done in collaboration with:

(a) relevant land owners or managers and relevant river operators; and

(b) any holders of held environmental water or managers of planned environmental water that may be called upon to provide water to meet those environmental watering requirements.

(3) If any disagreement arises during the consultation or collaboration referred to in subsection (1) or (2), the view of the Authority prevails.

Matters to which Authority must have regard

(4) When preparing the Basin-wide environmental watering strategy, the Authority must have regard to each of the following, where these relate to achieving objectives in Part 2:

(a) any advice prepared by a committee established under section 203 of the Act for the purpose of advising the Authority on issues relating to environmental watering;

(b) the advice of river operators;

(c) the water quality and salinity objectives and targets specified in the water quality and salinity management plan in Chapter 9;

(d) the views of:

(i) local communities, including bodies established by a Basin State that express community views in relation to environmental watering; and

(ii) persons materially affected by the management of environmental water;

(e) Indigenous values and Indigenous uses;

(f) optimising social, economic and environmental outcomes;

(g) any other consultation or information the Authority considers relevant.

(5) The Basin-wide environmental watering strategy must be developed consistently with the principles to be applied in environmental watering (Division 6).

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8.16 Publication of Basin-wide environmental watering strategy

(1) The Authority must publish the Basin-wide environmental watering strategy within 24 months after the commencement of the Basin Plan.

(2) The Authority must publish the Basin-wide environmental watering strategy as soon as practicable after it is updated.

8.17 Review and update of Basin-wide environmental watering strategy

(1) The Authority must review and update the Basin-wide environmental watering strategy no later than 5 years after:

(a) the strategy is first made; or

(b) the strategy was last reviewed and updated.

(2) The Authority may review and update the Basin-wide environmental watering strategy at any time.

Note: The Authority may review and update the Basin-wide environmental watering strategy in response to various triggers, including any adjustment that might be made to the SDL.

Division 3—Long-term watering plans

8.18 Obligation to prepare long-term watering plans

A Basin State must prepare a long-term environmental watering plan for each water resource plan area that contains surface water (***long-term watering plan***).

8.19 Content of long-term watering plans

Note: The level of detail in a long-term watering plan may vary according to local conditions, and statutory and other arrangements prevailing in the water resource plan area.

Identification of environmental watering requirements

(1) A long-term watering plan must identify:

(a) priority environmental assets in the water resource plan area; and

(b) ecological objectives and ecological targets for those assets; and

(c) environmental watering requirements needed to meet those targets in order to achieve those objectives;

using the method in section 8.49.

Note: See section 8.49 for the meaning of the term ***priority environmental assets***.

(2) A long-term watering plan must identify:

(a) priority ecosystem functions in the water resource plan area; and

(b) ecological objectives and ecological targets for those functions; and

(c) environmental watering requirements needed to meet those targets in order to achieve those objectives;

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using the method in section 8.50.

Note: See section 8.50 for the meaning of the term ***priority ecosystem functions***.

(3) If the Basin-wide environmental watering strategy has identified particular assets or functions, and their requirements, under subparagraph 8.14(2)(a)(i), a long-term watering plan must be consistent with that part of the Basin-wide environmental watering strategy.

Identification of possible co-operative arrangements

(4) A long-term watering plan must identify possible co-operative arrangements (for example, possible co-operative watering regimes) between holders of held environmental water, managers of planned environmental water, and owners or managers of environmental assets for the delivery of environmental water:

(a) within the water resource plan area; and

(b) between that area and upstream and downstream water resource plan areas;

that will ensure that environmental water meets the environmental watering requirements identified in accordance with subsections (1), (2) and (3).

Identification of long-term risks

(5) A long-term watering plan must identify:

(a) long-term risks to providing for the environmental watering requirements of priority environmental assets and priority ecosystem functions; and

(b) the strategies to manage those risks having regard to the strategies in Chapter 4.

Operational constraints

(6) A long-term watering plan must:

(a) identify any operational constraints in relation to environmental watering in the water resource plan area; and

(b) include strategies to manage or overcome those constraints.

Supporting information

(7) A long-term watering plan must include references to the information that informed its preparation.

Incorporation of other material

(8) A long-term watering plan may provide that a specified instrument or text, or specified part of an instrument or text, is part of the plan.

8.20 Preparation of long-term watering plans

Consultation requirements

(1) A Basin State must prepare a long-term watering plan in consultation with:

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(a) holders of held environmental water; and

(b) managers of planned environmental water; and

(c) river operators; and

(d) local communities, including bodies established by a Basin State that express community views in relation to environmental watering; and

(e) persons materially affected by the management of environmental water.

Note: Under paragraphs (a) and (b), a Basin State may consult with any holder or manager whose environmental water could contribute to environmental watering in the water resource plan area, regardless of the location of the holder or manager, or of the location of the water.

Matters to which Basin State is to have regard

(2) When preparing a long-term watering plan, a Basin State must have regard to the Basin-wide environmental watering strategy (Division 2).

Note: Paragraph 8.13(2)(c) provides that one of the purposes of the Basin-wide environmental watering strategy is to help co-ordinate the management of environmental water, including guiding the development of consistent long-term watering plans.

(3) A long-term watering plan must be developed consistently with the principles to be applied in environmental watering (Division 6).

Advice from the Authority

(4) The Authority may advise, or assist, a Basin State in preparing a long-term watering plan, or an updated long-term watering plan.

Consistency with international agreements

(5) A long-term watering plan must not be inconsistent with relevant international agreements.

Note: A purpose of the Basin Plan, including Chapter 8, is to give effect to relevant international agreements (see paragraph 20(a) and subsections 21(1), (2) and (3) of the Act). This provision is a further check to ensure that this purpose is achieved.

8.21 Provision and publication of long-term watering plans

(1) A Basin State must give a long-term watering plan for a water resource plan area to the Authority:

(a) no later than 12 months after the Basin-wide environmental watering strategy is first published; or

(b) if the long-term watering plan is reviewed and updated in accordance with subsection 8.22(1)—no later than 3 months after the relevant event mentioned in that subsection; or

(c) if the long-term watering plan is reviewed and updated other than in accordance with subsection 8.22(1)—as soon as practicable after it is updated; or

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(d) within another timeframe agreed to by the Authority and the Basin State.

Note: Subsection 8.16(1) provides that the Authority has 24 months from commencement of the Basin Plan to publish the Basin-wide environmental watering strategy. The 12-month timeframe referred to in paragraph (a) commences when the Authority actually publishes the strategy, and not 24 months after commencement of the Basin Plan.

(2) The Authority or Basin State may publish a long-term watering plan or part of that plan.

Note: To ensure transparency, it is expected that Basin States will publish long-term watering plans as soon as is practicable.

8.22 Review and update of long-term watering plans

(1) A Basin State must review and update a long-term watering plan if:

(a) the water resource plan for the water resource plan area is accredited by the Minister under section 63 of the Act; or

(b) an amendment of the water resource plan for the water resource plan area is accredited by the Minister under section 65 of the Act; or

(c) the water resource plan for the water resource plan area is adopted by the Minister under section 69 of the Act; or

(d) the Authority publishes an updated Basin-wide environmental watering strategy, the updates of which materially affect the long-term watering plan; or

(e) it is 5 years after the last time the plan was reviewed under this section.

(2) A Basin State may review and update a long-term watering plan at any time.

Division 4—Annual environmental watering priorities

8.23 Obligation to identify annual environmental watering priorities

(1) A Basin State must, in relation to each water accounting period, identify annual environmental watering priorities for surface water in each water resource plan area (***annual environmental watering priorities***).

(2) A single instrument may identify:

(a) the annual priorities for one year; or

(b) the annual priorities for 2 or more years.

8.24 Content of annual environmental watering priorities

Identification of priorities

(1) Annual environmental watering priorities must identify priorities for the watering of priority environmental assets and priority ecosystem functions in the water resource plan area.

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(2) Annual environmental watering priorities must identify, to the extent possible, the assumptions upon which the priorities were based, including:

(a) expected holdings of held environmental water, including quantities, reliability, security class, licence type, limitations, and other characteristics of that water (including who holds that water); and

(b) expected quantities of planned environmental water and the associated rules and arrangements relating to that water (including who manages that water).

Identification of possible co-operative arrangements

(3) Annual environmental watering priorities must identify possible co-operative arrangements (including possible co-operative watering regimes) that:

(a) may be made among any of the following:

(i) holders of held environmental water;

(ii) managers of planned environmental water;

(iii) owners or managers of environmental assets; and

(b) may deal with either or both of:

(i) the delivery of environmental water within the water resource plan area;

(ii) the delivery of environmental water between that area and upstream and downstream water resource plan areas; and

(c) support the delivery of environmental water in accordance with the priorities identified in the Basin State's annual environmental watering priorities.

Incorporation of other material

(4) The annual environmental watering priorities may provide that a specified instrument or text, or specified part of an instrument or text, is part of the priorities.

Note: The level of detail in annual watering priorities may vary according to local conditions, and statutory and other arrangements prevailing in the water resource plan area.

8.25 Preparation of annual environmental watering priorities

Basin State must apply principles and use method in Part 6

(1) When identifying annual environmental watering priorities, a Basin State must apply the principles and use the method in Part 6.

Matters to which Basin State must have regard

(2) When identifying annual environmental watering priorities, a Basin State must have regard to:

(a) the Basin-wide environmental watering strategy (Division 2); and

(b) any register of held environmental water maintained under the rules of the water resource plan for the water resource plan area; and

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(c) any register of held environmental water maintained by the Director of Meteorology; and

(d) any environmental watering schedules to which the Authority is a party; and

(e) any rules relating to planned environmental water in the transitional water resource plan, interim water resource plan or water resource plan for the water resource plan area, as applicable.

Note: See section 10.09, which requires water resource plans to identify planned environmental water and to maintain a register of held environmental water in certain circumstances.

(3) To avoid doubt, the requirements in paragraphs (2)(b) and (2)(e) apply only if a water resource plan has been accredited or adopted for the water resource plan area.

Information to be provided to Basin States to prepare annual environmental watering priorities

(4) To enable a Basin State to identify annual environmental watering priorities, a holder of held environmental water in the water resource plan area:

(a) must give a Basin State information relating to the matters referred to in paragraph 8.24(2)(a); and

(b) may give a Basin State views on environmental watering priorities for priority environmental assets and priority ecosystem functions for the water accounting period.

(5) To enable a Basin State to identify annual environmental watering priorities, a manager of planned environmental water in the water resource plan area:

(a) must give the Basin State information relating to the matters referred to in paragraph 8.24(2)(b); and

(b) if planned environmental water may be used in another water resource plan area—must give the Basin State:

(i) details of the water that will be made available; and

(ii) the manager's preferred priorities for that water, both inside and outside of the water resource plan area.

Consistency with long-term watering plans

(6) Annual environmental watering priorities for the water resource plan area must be consistent with the long-term watering plan for that water resource plan area.

8.26 Provision of annual environmental watering priorities

A Basin State must give its annual environmental watering priorities for a water accounting period to the Authority:

(a) by the 31 May before the commencement of that water accounting period; or

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(b) within a different timeframe agreed to by the Authority and the Basin State.

Division 5—Basin annual environmental watering priorities

8.27 Obligation to prepare Basin annual environmental watering priorities

(1) The Authority must, for each water accounting period, prepare annual environmental watering priorities for the Murray-Darling Basin (***Basin annual environmental watering priorities***).

(2) The purpose of the Basin annual environmental watering priorities is to identify watering priorities that give effect to the Basin-wide environmental watering strategy.

Note: For the application of Basin annual environmental watering priorities, see Division 6.

8.28 Content of Basin annual environmental watering priorities

The Basin annual environmental watering priorities may identify any of the following:

(a) priority environmental assets and priority ecosystem functions that have Basin-scale significance for environmental watering during that water accounting period;

(b) priority environmental assets and priority ecosystem functions whose environmental watering during the period will require complex arrangements;

Example: Complex arrangements could include multiple water sources, multiple sites, the involvement of multiple parties, the achievement of multiple benefits, or trade-offs.

(c) any potential for synergies in environmental watering activities (including at a scale that involves multiple water resource plan areas).

Note: Synergies could be identified in order to maximise environmental benefits in the way described in section 8.35.

8.29 Preparation of Basin annual environmental watering priorities

Consultation requirements

(1) The Authority must prepare the Basin annual environmental watering priorities in consultation with:

(a) Basin States; and

(b) the Commonwealth Environmental Water Holder.

(2) If any disagreement arises during the consultation referred to in subsection (1), the view of the Authority prevails.

Matters to which Authority must have regard

(3) When preparing the Basin annual environmental watering priorities, the Authority must have regard to the following, where these relate to achieving objectives in Part 2:

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(a) any advice prepared by a committee established under section 203 of the Act for the purpose of advising the Authority on issues relating to environmental watering;

(b) any advice provided by river operators;

(c) the long-term watering plans for all water resource plan areas;

(d) annual environmental watering priorities for all water resource plan areas;

(e) the water quality and salinity objectives and targets specified in the water quality and salinity management plan in Chapter 9;

(f) the views of:

(i) local communities, including bodies established by a Basin State that express community views in relation to environmental watering; and

(ii) persons materially affected by the management of environmental water;

(g) Indigenous values and Indigenous uses;

(h) optimising social, economic and environmental outcomes;

(i) any consultation or other information the Authority considers relevant to the co-ordination of environmental watering.

Example: The Authority may engage an individual scientist or scientific advisory committee to provide advice on aspects of Basin annual environmental watering priorities.

How Authority identifies Basin annual environmental watering priorities

(4) The Authority may identify priority environmental assets and priority ecosystem functions, and their environmental watering requirements, from:

(a) any that are identified in the Basin-wide environmental watering strategy in accordance with subparagraph 8.14(2)(a)(i); or

(b) any that:

(i) are identified in a long-term watering plan; and

(ii) were identified using the methods in Part 5.

(5) The Authority may determine Basin annual environmental watering priorities by:

(a) adopting priorities that:

(i) are identified by Basin States in their annual environmental watering priorities; and

(ii) were identified by applying the principles and using the method in Part 6; or

(b) determining priorities for applying environmental water by applying the principles and using the method in Part 6; or

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(c) if there is likely to be insufficient water to provide for all priorities determined in accordance with paragraph (a) or paragraph (b)—determining what should be considered a priority for watering by applying the principles and using the method in Part 6.

Consistency requirements

(6) The Basin annual environmental watering priorities must be consistent with:

(a) the objectives in Part 2 of this Chapter; and

(b) the Basin-wide environmental watering strategy; and

(c) any environmental watering schedule to which the Authority is a party.

8.30 Publication of Basin annual environmental watering priorities

The Authority must publish on its website the Basin annual environmental watering priorities:

(a) before the commencement of the water accounting period to which they relate; and

(b) if the priorities are reviewed and updated in accordance with section 8.31—as soon as practicable after they are updated.

8.31 Review and update of Basin annual environmental watering priorities

The Authority may review and update the Basin annual environmental watering priorities at any time, including during the water accounting period.

Division 6—Principles to be applied in environmental watering

Subdivision A—Principles to be applied in environmental watering

8.32 Outline of Subdivision

This Subdivision sets out the principles to be applied in environmental watering.

Note: See the definition of ***environmental watering*** in section 4 of the Act.

8.33 Principle 1—Basin annual environmental watering priorities

Environmental watering is to be undertaken having regard to the Basin annual environmental watering priorities.

Note: There may be reasons why it is not possible in particular circumstances to undertake watering in accordance with these priorities. Section 8.44 then applies.

8.34 Principle 2—Consistency with the objectives in Part 2

Environmental watering is to be undertaken consistently with the objectives in Part 2.

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8.35 Principle 3—Maximising environmental benefits

Subject to the principles in sections 8.33 and 8.34, environmental watering is to be undertaken in a way that:

(a) maximises multiple environmental benefits of environmental watering; and

Example: Ensuring that the water achieves the best environmental outcomes including through multi-site watering *en route* to an intended priority environmental asset.

(b) maximises its benefits and effectiveness by:

(i) co-ordinating environmental watering between all holders of held environmental water and managers of planned environmental water; and

(ii) co-ordinating environmental watering with flows regulated for consumptive use; and

(iii) utilising local knowledge and experience; and

(iv) having regard to Indigenous values; and

(v) having regard to social and economic outcomes; and

(c) enhances existing flow events, where possible, so as to ensure improvement in the delivery of a full range of flow conditions, including high flow events; and

(d) takes into consideration the relative ecological benefits of applying environmental water to achieve one environmental outcome over another environmental outcome; and

(e) takes into consideration the variability of the natural flow regime, for example, by mitigating or avoiding seasonal inversion of flows; and

(f) incorporates strategies to deal with a variable and changing climate; and

(g) enables information to be shared between the Authority, the Commonwealth, Basin States, holders of held environmental water and managers of planned environmental water to ensure efficient and effective use of environmental water.

8.36 Principle 4—Risks

Environmental watering is to be undertaken having regard to:

(a) potential risks, including downstream risks, that may result from applying environmental water and measures that may be taken to minimise the risks; and

(b) risks arising from impediments to the delivery of water to water-dependent ecosystems, including risks of extraction of that water for other uses, and inadequate accounting of water flows.

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8.37 Principle 5—Cost of environmental watering

Environmental watering is to be undertaken having regard to the quantity of water and other resources required relative to the expected environmental benefits.

8.38 Principle 6—Apply the precautionary principle

A lack of full scientific certainty as to whether there are threats of serious or irreversible environmental damage should not be used as a reason for postponing measures to prevent environmental degradation.

8.39 Principle 7—Working effectively with local communities

Environmental watering should be undertaken having regard to the views of:

(a) local communities, including bodies established by a Basin State that express community views in relation to environmental watering; and

(b) persons materially affected by the management of environmental water.

8.40 Principle 8—Adaptive management

Adaptive management should be applied in the planning, prioritisation and use of environmental water.

Note: See section 1.07 for the meaning of ***adaptive management***.

8.41 Principle 9—Relevant international agreements

Environmental watering should be undertaken in a way that is not inconsistent with relevant international agreements.

Note: A purpose of the Basin Plan, including Chapter 8, is to give effect to relevant international agreements (see paragraph 20(a) and subsections 21(1), (2) and (3) of the Act). This provision is a further check to ensure that this purpose is achieved.

8.42 Principle 10—Other management and operational practices

River management and operational practices should be reviewed, and if necessary altered, to ensure that rivers can be managed to achieve multiple objectives, including the objectives in Part 2.

8.43 Principle 11—Management of water for consumptive use

Management of water for consumptive use should, where possible, be undertaken in a way that is consistent with achieving the objectives in Part 2.

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Subdivision B—Reporting in relation to Basin annual environmental watering priorities

8.44 Reporting required where Basin annual environmental watering priorities not followed

(1) If a person undertakes environmental watering other than in accordance with the Basin annual environmental watering priorities, that person must give to the Authority a statement of reasons why environmental watering has not been undertaken in accordance with the Basin annual environmental watering priorities.

Note: See section 25D of the *Acts Interpretation Act 1901* for content required in a statement of reasons.

(2) The person must give the statement to the Authority as soon as practicable, but in any event within 4 months after the end of the water accounting period in which the environmental watering was undertaken.

Note: This aligns with the period by which an annual report must be produced on the implementation of the environmental management framework. See section 13.14 and item 10 of the table in Schedule 12.

(3) The Authority may publish on its website a statement of reasons given under subsection (1).

Division 7—Planning for recovery of additional environmental water

8.45 Outline of Division

This section sets out the Authority's role in planning for the recovery of additional environmental water.

8.46 Planning for the recovery of additional environmental water

(1) The Authority may prepare, and publish on its website, recommendations about where in the Murray-Darling Basin additional environmental water should be recovered (***environmental water recovery recommendations***).

(2) Without limiting subsection (1), environmental water recovery recommendations may include the following:

(a) priority areas for the recovery of environmental water;

Note: See section 1.07 for the meaning of ***recovery of environmental water***.

(b) priorities for the recovery of certain types of water access rights;

(c) the reasoning on which those priorities are based.

Note: The reasoning may include models used by the Authority to identify priorities for the recovery of environmental water.

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8.47 Reporting required where Authority's recommendations not followed

(1) If a person:

(a) acquires a water access right for the purpose of undertaking environmental watering; and

(b) does not acquire that right consistently with the environmental water recovery recommendations;

then that person must, within 8 weeks of the acquisition, give to the Authority a statement of reasons for not doing so.

Note: See section 25D of the *Acts Interpretation Act 1901* for content required in a statement of reasons.

(2) The Authority may publish on its website a statement of reasons given to it under subsection (1).

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Part 5—Methods for identifying environmental assets and ecosystem functions and their environmental watering requirements

8.48 Environmental assets and ecosystem functions database

(1) The Authority must establish and maintain a database identifying information about environmental assets and ecosystem functions that require environmental watering (***environmental assets and ecosystem functions database***).

Note: This database is expected to include information used in the development of the Basin Plan which will be added to on an ongoing basis.

(2) The Authority may publish the database on its website.

8.49 Method for identifying environmental assets and their environmental watering requirements

(1) An environmental asset that requires environmental watering, and its environmental watering requirements, must be identified having regard to the information on the environmental assets and ecosystem functions database, using the following method:

(a) identify any environmental asset that meets one or more of the assessment indicators for any of the 5 criteria specified in the table in Schedule 8; and

(b) identify the environmental assets that can be managed with environmental water (***priority environmental assets***); and

(c) for priority environmental assets, identify ecological objectives that are consistent with the criteria used to identify those assets; and

Example: If the environmental asset falls within the assessment indicator for Criterion 1 because it is a declared Ramsar wetland, the objectives must be directed towards maintaining the ecological character of the wetland.

(d) identify ecological targets to achieve those objectives; and

(e) in accordance with section 8.51 determine the environmental watering requirements needed to meet the targets in order to achieve the objectives.

(2) This method may be applied in a flexible manner, having regard to the particular circumstances.

Example: If new information came to light, the step in paragraph (1)(e) could be re-applied without needing to re-apply the entire method.

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8.50 Method for identifying ecosystem functions that require environmental watering and their environmental watering requirements

(1) An ecosystem function that requires environmental watering to sustain it, and its environmental watering requirements, must be identified having regard to the information on the environmental assets and ecosystem functions database, using the following method:

(a) identify any ecosystem function that meets one or more of the assessment indicators for any of the 4 criteria specified in the table in Schedule 9; and

(b) identify the ecosystem functions that can be managed with environmental water (***priority ecosystem functions***); and

(c) for priority ecosystem functions, identify ecological objectives that are consistent with the criteria used to identify those ecosystem functions; and

(d) identify ecological targets to achieve those objectives; and

(e) in accordance with section 8.51, determine the environmental watering requirements needed to meet the targets in order to achieve the objectives.

(2) This method may be applied in a flexible manner, having regard to the particular circumstances.

Example: If new information came to light, the step in paragraph (1)(e) could be re-applied without needing to re-apply the entire method.

8.51 Determination of the environmental watering requirements of environmental assets and ecosystem functions

(1) The environmental watering requirements referred to in paragraphs 8.49(1)(e) and 8.50(1)(e) must:

(a) be supported by relevant information relating to the underlying physical geomorphic processes driving the flow-ecological relationship; and

Example: This may include a conceptual model.

(b) include the following flow components that are relevant to the watering requirements:

(i) cease-to-flow events;

(ii) low-flow-season base flows;

(iii) high-flow-season base flows;

(iv) low-flow-season freshes;

(v) high-flow-season freshes;

(vi) bank-full flows;

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(vii) over-bank flows; and

(c) be determined having regard to:

(i) groundwater-derived base flows; and

(ii) groundwater recharge associated with groundwater resources that are highly connected to surface water resources; and

(d) be within the range of natural flow variability and seasonality.

(2) The environmental watering requirements must be expressed, where relevant, in the following terms:

(a) a flow threshold or total flow volume;

(b) the required duration for that flow threshold, or the duration over which the volume should be delivered (as the case requires);

(c) the required timing of the flow event;

(d) the required frequency of the flow event;

(e) the maximum period between flow events;

(f) the extent and thresholds for any groundwater dependency;

(g) the required inundation depth at the site.

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Part 6—Principles and method to determine priorities for applying environmental water

Division 1—Principles to be applied to determine priorities

8.52 Outline of Division

This Division sets out the principles to be applied to determine the priorities for applying environmental water.

8.53 Principle 1—Consistency with principles of ecologically sustainable development and international agreements

Priorities for applying environmental water are:

(a) to reflect the principles of ecologically sustainable development; and

(b) not to be inconsistent with relevant international agreements; and

Note: A purpose of the Basin Plan, including Chapter 8, is to give effect to relevant international agreements (see paragraph 20(a) and subsections 21(1), (2) and (3) of the Act). This provision is a further check to ensure that this purpose is achieved.

(c) to be based on the best available knowledge of what is necessary to maintain the long-term resilience of the water-dependent ecosystem to risks and threats.

Note: Best available knowledge may change over time, especially as a result of monitoring undertaken pursuant to Chapter 13 of the Basin Plan.

8.54 Principle 2—Consistency with objectives

Priorities for applying environmental water are to be consistent with the objectives in Part 2.

8.55 Principle 3—Flexibility and responsiveness

Priorities for applying environmental water are to be flexible and responsive so as to:

(a) ensure that regard is had to the views of:

(i) local communities, including bodies established by a Basin State that express community views in relation to environmental watering; and

(ii) persons materially affected by the management of environmental water; and

(b) ensure that wherever possible water meets multiple objectives in order to maximise system-wide benefits; and

(c) encourage innovative approaches to water management.

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8.56 Principle 4—Condition of environmental assets and ecosystem functions

Priorities for applying environmental water are to be determined having regard to matters relating to the condition of priority environmental assets and priority ecosystem functions, including:

(a) the condition of the asset or function to be watered; and

(b) relevant past conditions (for example, climate, drought, rainfall, flow history and fire); and

(c) the urgency of the need to provide water to the asset or to sustain the function; and

(d) the likely response of an asset or function to environmental watering, and the certainty of the change in condition based on previous experience or best available knowledge; and

(e) the long-term sustainability of an asset or water-dependent ecosystem that supports a function; and

(f) the existence of management plans relating to broader natural resource management matters; and

(g) the effect on an asset or water-dependent ecosystem that supports a function if environmental water is not applied.

8.57 Principle 5—Likely effectiveness and related matters

Priorities for applying environmental water are to be determined having regard to matters relating to the likely effectiveness of applying environmental water, including:

(a) limitations on the effectiveness of environmental water; and

(b) cost effectiveness; and

(c) the opportunity to take advantage of consumptive water flows (including flows in unregulated systems and releases of water from storage) to realise multiple benefits; and

Example: The ability to use environmental water in concert with stock and domestic releases, or other releases for consumptive use.

(d) the quantity of water and other resources needed to achieve the objectives in Part 2 relative to other options for applying that environmental water in order to meet those objectives; and

(e) the extent and effectiveness of integration with other related natural resource management plans; and

(f) optimising economic, social and environmental outcomes.

8.58 Principle 6—Risks and related matters

Priorities for applying environmental water are to be determined having regard to matters relating to risk including:

(a) potential risks, including downstream risks, that may result from the application of environmental water (for example, flooding private land

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with water released from a storage without prior agreement, fish kills or salinity impacts) and measures that may be taken to minimise the risks; and

(b) ecological opportunity costs of using water for a particular environmental outcome instead of another environmental outcome; and

Example: This involves the identification of water-dependent ecosystems that will not receive water as a result of a particular watering decision.

(c) impediments to the delivery of water to priority environmental assets and priority ecosystem functions, including risks of extraction of that water for other uses.

8.59 Principle 7—Robust and transparent decisions

Priorities for applying environmental water are to be determined using robust, transparent and documented decision-making processes.

Division 2—Method to be used to determine priorities

8.60 How to determine priorities for applying environmental water

(1) This section sets out the method to be used to determine priorities for applying environmental water.

(2) The method to determine priorities for applying environmental water is to:

(a) determine the resource availability scenario; and

(b) determine the management outcomes that apply to the resource availability scenario; and

(c) consistent with the management outcomes that apply to the resource availability scenario, determine the provisional priorities for applying environmental water by applying the principles set out in Division 1 to priority environmental assets and priority ecosystem functions; and

(d) refine those priorities based on seasonal, operational and management considerations in accordance with section 8.62.

(3) When using the method, a person must have regard to any guidelines published by the Authority.

8.61 Determining the resource availability scenario

A ***resource availability scenario*** is one of the following:

(a) very dry;

(b) dry;

(c) moderate;

(d) wet;

(e) very wet.

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8.62 Seasonal, operational and management considerations

The seasonal, operational and management considerations upon which priorities for applying environmental water are to be refined must be based on the following:

(a) the best available knowledge of the environmental watering requirements of each priority environmental asset and priority ecosystem function, and of the system as a whole; and

(b) the ecological objectives and ecological targets for each priority environmental asset and priority ecosystem function; and

(c) information which identifies ecological responses to hydrology; and

Note: See also paragraph 8.51(1)(a).

(d) recent flow history at each priority environmental asset and for each priority ecosystem function to assess antecedent conditions; and

(e) forecasts of likely water availability; and

(f) operational feasibility; and

(g) evaluation and review of the results and effectiveness of previous environmental watering.

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Chapter 9—Water quality and salinity management plan

Part 1—Preliminary

9.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter sets out the water quality and salinity management plan (item 10 of the table in subsection 22(1) and section 25 of the Act).

(3) The water quality and salinity management plan sets out:

(a) the key causes of water quality degradation in the Murray-Darling Basin (Part 2); and

(b) water quality objectives for Basin water resources (Part 3); and

(c) water quality targets (Part 4).

Note 1: The water quality and salinity management plan has been prepared having regard to the National Water Quality Management Strategy endorsed by the Natural Resource Management Ministerial Council (see subsection 25(3) of the Act).

Note 2: Water quality includes salinity: see the definition of ***water quality*** in section 1.07.

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Part 2—Key causes of water quality degradation in Murray-Darling Basin

9.02 Types of water quality degradation and their key causes

(1) The types of water quality degradation in the Murray-Darling Basin are the following:

(a) elevated levels of salinity;

(b) elevated levels of suspended matter;

(c) elevated levels of nutrients, including phosphorous and nitrogen;

(d) elevated cyanobacteria cell counts or biovolume, toxins and odour compounds;

(e) water temperature outside natural ranges;

(f) dissolved oxygen outside natural ranges;

(g) elevated levels of pesticides, heavy metals and other toxic contaminants;

(h) pH outside natural ranges;

(i) elevated pathogen counts.

(2) The key causes of water quality degradation for each type of degradation are set out in Schedule 10.

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Part 3—Water quality objectives for Basin water resources

9.03 Outline of this Part

This Part sets out the following water quality objectives for Basin water resources:

(a) objectives for:

(i) declared Ramsar wetlands; and

(ii) other water-dependent ecosystems;

(b) objectives for raw water for treatment for human consumption;

(c) the objective for irrigation water;

(d) the objective for recreational water quality;

(e) the objective of maintaining good levels of water quality;

(f) the salt export objective.

9.04 Objectives for water-dependent ecosystems

(1) The water quality objective for declared Ramsar wetlands is that the quality of water is sufficient to maintain the ecological character of those wetlands.

Note: See paragraph 21(3)(c) of the Act.

(2) The water quality objective for water-dependent ecosystems other than declared Ramsar wetlands is that the quality of water is sufficient:

(a) to protect and restore the ecosystems; and

(b) to protect and restore the ecosystem functions of the ecosystems; and

(c) to ensure that the ecosystems are resilient to climate change and other risks and threats.

Note: See the overall environmental objectives of the environmental watering plan in section 8.04.

9.05 Objectives for raw water for treatment for human consumption

The water quality objectives for raw water for treatment for human consumption are:

(a) to minimise the risk that the quality of raw water taken for treatment for human consumption results in adverse human health effects; and

(b) to maintain the palatability rating of water taken for treatment for human consumption at the level of good as set out in the ADWG; and

Note: See section 1.07 for the meaning of ***ADWG***.

(c) to minimise the risk that the quality of raw water taken for treatment for human consumption results in the odour of drinking water being offensive to consumers.

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9.06 Objective for irrigation water

The water quality objective for irrigation water is that the quality of surface water or groundwater, when used in accordance with the best irrigation and crop management practices and principles of ecologically sustainable development, does not result in crop yield loss or soil degradation.

Note: See section 1.07 for the meaning of ***soil degradation***.

9.07 Objective for recreational water quality

The water quality objective for recreational water quality is to achieve a low risk to human health from water quality threats posed by exposure through ingestion, inhalation or contact during recreational use of Basin water resources.

9.08 Objective to maintain good levels of water quality

If the value of a water quality characteristic (for example, salinity, nutrients, pesticides, pH, turbidity) is at a level that is better than the target value for water quality set out in Part 4, an objective is to maintain that level.

9.09 Salt export objective

(1) This section sets out a further water quality objective (the ***salt export objective***) for the River Murray System.

(2) The salt export objective is to ensure adequate flushing of salt from the River Murray System into the Southern Ocean.

(3) The salt export objective is expected to be achieved by the discharge of an average of 2 million tonnes of salt from the River Murray System into the Southern Ocean each water accounting period.

Note: A discharge of an average of 2 million tonnes of salt each water accounting period has been assessed as being adequate for the purposes of subsection (2). This figure has been calculated on the basis of a long-term modelled estimate approach that takes into account cyclical climate influences on flows, as well as existing works and measures such as salt interception schemes that avoid substantial quantities of salt entering the River Murray System, and which are complementary to flushing salt from the River Murray System.

(4) The Authority must estimate the discharge of salt from the River Murray System into the Southern Ocean every water accounting period.

(5) The Authority must assess, on an annual basis, achievement of the salt export objective by comparing the estimated number of tonnes of salt exported per year averaged over the preceding 3 years against the indicative figure of 2 million tonnes of salt per year.

(6) The Authority must publish each assessment on its website.

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Part 4—Water quality targets

Division 1—Preliminary

9.10 Outline of this Part and purpose of targets

This Part sets out the following:

(a) water quality targets to which particular entities must have regard when performing functions, including in relation to the management of water flows (Division 2);

(b) water quality targets that inform the development of certain measures required to be included in water resource plans (Division 3);

(c) salinity targets for the purposes of long-term salinity planning and management for the Murray-Darling Basin (Division 4).

Note 1: Schedule B to the Agreement also sets out targets for salinity management in the Murray-Darling Basin. The provisions of that Schedule operate independently of, and are unaffected by, the targets in this Part.

Note 2: The targets in this Part also inform the matters listed in Schedule 12, by reference to which the effectiveness of the Basin Plan is to be evaluated. Basin States and Commonwealth agencies are required to produce reports on those matters: see section 13.14.

Note 3: See also section 13.08 which requires the Authority to review the targets in this Part.

9.11 Failing to achieve a target

The failure to achieve a target does not in itself mean that:

(a) a person has acted inconsistently with the water quality and salinity management plan; or

(b) a person is required to take particular action or refrain from taking particular action in response to the failure.

9.12 Most stringent target applies

If, for a Basin water resource, more than one target value set out in this Part applies for the same water quality characteristic (for example, salinity, nutrients, pesticides, pH, turbidity), the most stringent target value applies.

9.13 Guidelines

(1) The Authority may publish guidelines relating to the application of the targets set out in this Part, for example, recommending actions to be taken by relevant persons and bodies in order to achieve the targets or in the event that a target is not met.

(2) To avoid doubt, nothing in the Basin Plan binds any person or body to comply with the guidelines.

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Division 2—Targets for managing water flows

9.14 Targets for managing water flows

(1) The Authority must have regard to the targets in subsection (5) when performing its functions under the Agreement relating to the management of water flows.

(2) The Basin Officials Committee must have regard to the targets in subsection (5) when performing its functions under the Agreement relating to the management of water flows.

(3) An agency of a Basin State must have regard to the targets in subsection (5) when performing functions relating to the management of water flows.

(4) The Commonwealth Environmental Water Holder, holders of held environmental water and managers of planned environmental water must have regard to the targets in subsection (5) when making decisions about the use of environmental water.

(5) For the purposes of subsections (1) to (4), the following targets apply:

(a) to maintain dissolved oxygen at a target value of at least 50% saturation;

Note: This equates to approximately 50% oxygen saturation at 25°C and 1 atmosphere of pressure.

(b) the targets for recreational water quality in section 9.18;

(c) the levels of salinity at the reporting sites set out in the following table should not exceed the values set out in the table, 95% of the time:

Item	Reporting site	Target value (EC) (µS/cm)
1	River Murray at Murray Bridge	830
2	River Murray at Morgan	800
3	River Murray at Lock 6	580
4	Darling River downstream of Menindee Lakes at Burtundy	830
5	Lower Lakes at Milang	1000

Note 1: Schedule B to the Agreement imposes obligations on the Commonwealth and Basin States in relation to decisions that may have a 'Significant Effect' on salinity, and how to account for these effects.

Note 2: The target values can be expressed in milligrams per litre (mg/L) by multiplying the EC values by 0.6.

(6) The Authority must:

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(a) monitor salinity levels at each reporting site in paragraph (5)(c) on a daily basis; and

(b) conduct, at the end of each water accounting period, an assessment of whether the target values in paragraph (5)(c) have been met over the period that consists of that water accounting period and the previous 4 water accounting periods; and

(c) publish the findings of each assessment on its website.

Division 3—Water quality targets for water resource plans

9.15 Purpose of Division

The targets set out in this Division are to inform the development of certain measures which are required to be included in water resource plans.

Note 1: See Part 7 of Chapter 10. In some circumstances, a WQM plan in a water resource plan may specify alternatives to target values set out in this Division: see subsection 10.32(4).

Note 2: The targets in this Division relate to fresh water-dependent ecosystems, irrigation water and recreational water. The ADWG sets out standards for the quality of raw water for treatment for human consumption.

9.16 Water quality targets for fresh water-dependent ecosystems

(1) The water quality targets for fresh water-dependent ecosystems (including fresh water-dependent ecosystems that are declared Ramsar wetlands) are that a water quality characteristic in a target application zone meets the target value for that characteristic and zone set out in Schedule 11.

(2) The ***target application zone***, of a particular name, means the area within the boundary described by the polygon of that name included in the dataset that:

(a) is titled *Water Quality Zones*; and

(b) has a dataset scale of 1:250,000; and

(c) is held by the Authority at the commencement of the Basin Plan.

(3) The Authority must publish on its website a map that:

(a) identifies each target application zone; and

(b) uses the dataset referred to in subsection (2).

9.17 Water quality targets for irrigation water

(1) The water quality targets for irrigation water are that the values for a water quality characteristic meet the target values set out in this section 95% of the time over each period of 10 years that ends at the end of a water accounting period.

(2) The target values apply at sites in the Murray-Darling Basin where water is extracted by an irrigation infrastructure operator for the purpose of irrigation.

Note: Water resource plans are required to identify these sites (see section 10.34).

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(3) The target values for salinity are set out in the following table:

Item	Basin region	Target value (EC) (µS/cm)
1	Southern Basin (Murray River and tributaries)	833
2	Northern Basin (Barwon River and Darling River and their tributaries)	Paroo and Warrego rivers—838
		Generally—957

Note: To convert EC to milligrams per litre (mg/L), the following approximate conversion factors can be used: (a) for the Southern Basin (including the Lachlan river), mg/L = EC multiplied by 0.6; (b) for Northern Basin, mg/L = EC multiplied by 0.7; (c) for the Paroo and Warrego rivers, mg/L = EC multiplied by 0.8.

(4) The target value for the sodium adsorption ratio of irrigation water is the value which, if exceeded, would cause soil degradation when that water is applied to land.

Note: See section 1.07 for the meaning of ***soil degradation***.

9.18 Water quality targets for recreational water

The water quality targets for water used for recreational purposes are that the values for cyanobacteria cell counts or biovolume meet the guideline values set out in Chapter 6 of the Guidelines for Managing Risks in Recreational Water.

Division 4—Salinity targets for the purposes of long-term salinity planning and management

9.19 Salinity targets

(1) This section sets out surface water salinity targets for the purpose of long-term salinity planning and management for the Murray-Darling Basin.

(2) The Murray-Darling Basin and End-of-Valley Targets for salinity are set out (as absolute values) in Appendix 1 of Schedule B to the Agreement as amended from time to time.

(3) The following entities are to apply the targets in performing long-term salinity planning and management functions:

(a) the Authority;

(b) the Basin Officials Committee;

(c) agencies of Basin States.

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Chapter 10—Water resource plan requirements

Part 1—Preliminary

10.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter sets out requirements in relation to the following matters that a water resource plan must comply with in order for it to be accredited or adopted under Division 2 of Part 2 of the Act (item 11 of the table in subsection 22(1) of the Act):

(a) the identification of the water resource plan area and other matters (Part 2);

(b) the incorporation, and application, of the long-term annual diversion limit for each SDL resource unit in the water resource plan area (Part 3);

(c) the sustainable use and management of water resources of the water resource plan area within the long-term annual diversion limits (Part 4);

(d) the regulation, for the purpose of managing Basin water resources, of interception activities with a significant impact (whether on an activity-by-activity basis or cumulatively) on those water resources (Part 5);

(e) planning for environmental watering (Part 6);

(f) water quality objectives for the water resource plan area (Part 7);

(g) the circumstances in which tradeable water rights in relation to the water resource plan area may be traded, and the conditions applicable to such trades (Part 8);

(h) the broad approaches to the way risks to the water resources of the water resource plan area should be addressed (Part 9);

(i) information about measuring the water taken from the water resources of the water resource plan area and monitoring the water resources of the water resource plan area (Part 10);

(j) reviews of the water resource plan and amendments of the plan arising from those reviews (Part 11);

(k) the scientific information or models on which the water resource plan is to be based (Part 12);

(l) planning for extreme events (Part 13);

(m) Indigenous values and uses (Part 14)

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Part 2—Identification of water resource plan area and other matters

10.02 Identification of water resource plan area and water resources

(1) A water resource plan must identify:

(a) the water resource plan area; and

(b) the water resources;

to which it applies.

(2) The water resource plan area must be one of the water resource plan areas described in Part 2 of Chapter 3 and must be identified using the same description of that area as is set out in that Part, with any variations permitted by section 3.04.

(3) The water resources must be those described in Part 2 of Chapter 3 as the water resources of the water resource plan area and must be identified using the same description of those water resources as is set out in that Part.

10.03 Identification of SDL resource units and water resources

(1) A water resource plan must identify:

(a) each SDL resource unit in the water resource plan area; and

(b) the water resources within each SDL resource unit.

(2) The SDL resource units must be those described in sections 6.02 and 6.03 and Schedules 2 and 4 as the SDL resource units within the water resource plan area, as applicable.

(3) The water resources within each SDL resource unit must be those described in sections 6.02 and 6.03, and Schedules 2 and 4.

10.04 Form of water resource plan

Water resource plan constituted by 2 or more instruments

(1) If a water resource plan is constituted by 2 or more instruments or texts, subsections (2) and (3) apply to it.

Note: Subsection 63(1) of the Act states that a water resource plan may be constituted by 2 or more instruments.

(2) The water resource plan must identify the instruments or texts that constitute the water resource plan.

Note: The same instrument or text may be used for more than one water resource plan.

(3) If an instrument or text applies only to some of the water resources of the water resource plan area, the water resource plan must:

(a) identify the water resources or the parts of the water resources to which the instrument or text applies; and

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(b) include an indicative map of the water resources identified in paragraph (a).

Water resource plan to include list of requirements

(4) A water resource plan must include a list that specifies:

(a) each requirement set out in this Chapter (individually or by reference to a group of requirements); and

(b) the part of the plan that addresses each requirement (or group of requirements); and

(c) the parts of the plan that will cease to have effect or are to be reviewed, and the times at which those parts will cease to have effect or are to be reviewed.

Note: For paragraphs (a) and (b), the list may, for example, group multiple requirements in Chapter 10 together and specify that those requirements are addressed in a single document that deals with those requirements.

Material not forming part of the water resource plan

(5) If a water resource plan is constituted by an instrument or text which contains additional material that is not part of the water resource plan, the water resource plan must identify that material.

Note: See paragraph (d) of the definition of ***water resource plan*** in section 4 of the Act.

10.05 Regard to other water resources

A water resource plan must:

(a) be prepared having regard to the management and use of any water resources which have a significant hydrological connection to the water resources of the water resource plan area; and

(b) describe the way in which paragraph (a) was complied with.

10.06 Matters relating to requirements of Chapter

(1) For each matter that this Chapter requires to be dealt with in a water resource plan, the plan must specify the person responsible for the matter.

(2) Without limiting subsection (1), if a water resource plan requires a measure or action to be undertaken, the plan must specify the person responsible for undertaking that measure or action.

10.07 Consultation to be demonstrated

(1) A water resource plan prepared by a Basin State must contain a description of the consultation in relation to the plan (including in relation to any part of the plan), if any, that was undertaken before the State gave the plan to the Authority under subsection 63(1) of the Act.

Note: A water resource plan prepared by the Authority and adopted under section 69 of the Act is a legislative instrument. The *Legislative Instruments Act 2003* requires that the explanatory statements for such plans describe the consultation undertaken in relation to the plans.

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(2) If a water resource plan is amended in accordance with section 65 of the Act, the plan must contain a description of the consultation in relation to the amendment, if any, that was undertaken before the relevant Basin State gave the proposed amendment to the Authority under subsection 65(2) of the Act.

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Part 3—Incorporation and application of long-term annual diversion limit

Division 1—Water access rights

10.08 Water access rights must be identified

(1) A water resource plan must identify the following:

(a) each form of take from each SDL resource unit in the water resource plan area;

(b) any classes of water access right that apply to the forms of take identified under paragraph (a);

(c) the characteristics of each class of right including, where appropriate, the number of rights and any conditions on the exercise of the rights.

(2) A water resource plan must require a holder of a water access right to comply with the conditions of that right.

10.09 Identification of planned environmental water and register of held environmental water

(1) A water resource plan must identify the planned environmental water in the water resource plan area and associated rules and arrangements relating to that water.

(2) A water resource plan must provide for the establishment and maintenance of a register, to be published on a website specified by the plan, of held environmental water for the water resource plan area which records:

(a) the characteristics of held environmental water in the water resource plan area (for example, quantity, reliability, security class, licence type, limitations); and

(b) who holds that water.

(3) Subsection (2) is satisfied if the plan identifies a register of held environmental water which records the matters required by subsection (2) and is published on a website.

Division 2—Take for consumptive use

Note: This Division sets out the principal provisions for how a water resource plan incorporates and applies the SDL for each SDL resource unit. The SDLs take effect from 1 July 2019. Water resource plans may be accredited before then and have effect until the relevant time referred to in section 64 of the Act.

10.10 Annual determinations of water permitted to be taken

(1) For each SDL resource unit in a water resource plan area, and for each form of take, the water resource plan must set out the method for determining the maximum quantity of water that the plan permits to be taken for consumptive use during a water accounting period.

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(2) The method for subsection (1) may include modelling, and must be designed to be applied after the end of the relevant water accounting period, having regard to the water resources available during the period.

(3) The method must:

(a) account for the matters in subsection 10.12(1); and

(b) be consistent with the other provisions of the water resource plan.

(4) The plan must also set out a demonstration that the method relates to the SDL of each resource unit in such a way that, if applied over a repeat of the historical climate conditions, it would result in meeting the SDL for the resource unit, including as amended under section 23B of the Act.

Note 1: Under the Basin Plan, the SDL is the same as the long-term annual diversion limit because the temporary diversion provision for each SDL resource unit is zero. Section 6.04 and Schedules 2 and 4 set out the SDLs for each SDL resource unit.

Note 2: Amendments under section 23B of the Act are made following proposals for adjustment under Chapter 7.

(5) If, as a result of an amendment under section 23B of the Act, the SDL for a surface water SDL resource unit is expressed as a formula that changes with time, the SDL for subsection (4) is taken to be:

(a) for a water accounting period beginning on or after 1 July 2019—the SDL as it stood on 30 June 2019; and

(b) for a water accounting period beginning on or after 1 July 2022—the SDL as it stood on 30 June 2022; and

(c) for a water accounting period beginning on or after 1 July 2024—the SDL as it stood on the day before the beginning of the relevant water accounting period.

10.11 Rules for take, including water allocation rules

(1) A water resource plan must set out rules (including, if applicable, rules for water allocations) that ensure, as far as practicable, that the quantity of water actually taken from each SDL resource unit for consumptive use in a water accounting period that beginning on or after 1 July 2019 does not (after making any adjustments for the disposal or acquisition of held environmental water) exceed the unit's annual permitted take for the period.

Note 1: Water resource plans are not required to give effect to the long-term average sustainable diversion limits until 1 July 2019. Compliance with the long-term annual diversion limit will then be measured using the annual permitted take (see Part 4 of Chapter 6). The ***annual permitted take*** is defined in subsections 6.10(1) and 6.12B(1).

Note 2: Water allocations can be made during or before a water accounting period. The annual permitted take is usually worked out after the end of a water accounting period.

A water resource plan may provide for less water to be taken

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(2) To avoid doubt, the rules may be designed to ensure that the quantity of water that is actually taken for consumptive use from an SDL resource unit in a water accounting period is less than the annual permitted take.

10.12 Matters relating to accounting for water

(1) For paragraph 10.10(3)(a), the following matters must be accounted for:

(a) all forms of take from the SDL resource unit and all classes of water access right;

(b) water allocations that are determined in one water accounting period and used in another, including water allocations that are carried over from one water accounting period to the next;

(c) for a surface water SDL resource unit—return flows, in a way that is consistent with arrangements under the Agreement immediately before the commencement of the Basin Plan;

(d) subject to subsection (3)—trade of water access rights;

(e) water resources which have a significant hydrological connection to the water resources of the SDL resource unit;

(f) circumstances in which there is a change in the way water is taken or held under a water access right;

(g) changes over time in the extent to which water allocations in the unit are utilised;

Note: Paragraph (g) includes what is commonly known as a growth-in-use strategy.

(h) water sourced from the Great Artesian Basin and released into a Basin water resource, by excluding that water;

(i) water resources which are used for the purpose of managed aquifer recharge.

(2) Subject to this section, the method may account for other matters.

(3) For paragraph (1)(d), the water resource plan must account for the disposal and acquisition of held environmental water separately and in a way that does not affect the method under section 10.10.

10.13 Limits on certain forms of take

(1) Subject to this section, a water resource plan must require that the long-term annual average quantity of water that can be taken from a surface water SDL resource unit for consumptive use by:

(a) take under basic rights; or

(b) take by runoff dams; or

(c) net take by commercial plantations;

does not exceed the level specified in column 2 of Schedule 3 for that form of take.

(2) The quantity specified in subsection (1) for a form of take may be increased above the level specified in column 2 of Schedule 3 for that form of take if:

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(a) the long-term annual average quantity of water that can be taken by another form of take from the same SDL resource unit is changed at the same time so that there is no overall change in the total long-term annual average quantity of water that can be taken; and

(b) take by the forms of take affected by the changes are capable of:

(i) being accurately measured (for example, through the use of a meter); or

(ii) in the case of a form of take that is not capable of being accurately measured at the time the water resource plan is submitted for accreditation or adoption—being reasonably estimated using the best available method immediately before the water resource plan is submitted; and

(c) the changes are not expected to result in the take from the SDL resource unit ceasing to be an environmentally sustainable level of take.

10.14 Effects, and potential effects, on water resources of the water resource plan area

(1) A water resource plan must identify the effect, or potential effect, if any, of the following on the use and management of the water resources of the water resource plan area:

(a) the taking of groundwater that is not a Basin water resource resulting in water being removed from a groundwater SDL resource unit in the water resource plan area because of a pre-existing hydrological connection or a hydrological connection created by the process of taking that groundwater;

(b) the taking of groundwater that is not a Basin water resource resulting in water that would otherwise flow directly or indirectly into an SDL resource unit in the water resource plan area no longer flowing into that unit.

(2) If a water resource plan identifies an effect, or potential effect, of the kind referred to in subsection (1), the water resource plan must set out:

(a) a process for monitoring that effect or potential effect; and

(b) actions that will be taken to respond to that effect or potential effect.

(3) Without limiting paragraph (2)(b), the water resource plan may require a person to hold a water access right in the water resource plan area in relation to the effect, or potential effect, identified.

Division 3—Actual take

10.15 Determination of actual take must be specified

(1) A water resource plan must set out how the quantity of water actually taken for consumptive use by each form of take from each SDL resource unit will

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be determined after the end of a water accounting period using the best information available at the time.

Note: The ***annual actual take*** for the SDL resource unit is the sum of the quantity of water actually taken by each form of take for consumptive use: see subsections 6.10(2) and 6.12B(2). Paragraph 71(1)(c) of the Act requires the annual actual take to be set out in a report to the Authority within 4 months after the end of the water accounting period.

(2) For a particular form of take, and subject to the requirement that a determination use the best information available at the time, a determination may be made by:

(a) measuring the quantity of water actually taken; or

(b) estimating the quantity of water actually taken; or

(c) a combination of the above.

(3) Where a determination for a form of take is made by estimating the quantity of water actually taken, the water resource plan must provide for the estimate to be done consistently with the method under subsection 10.10(1) that relates to that form of take.

(4) The quantity of water actually taken must:

(a) include water that was held environmental water which was disposed of and then used in the SDL resource unit for consumptive use; and

(b) exclude water sourced from the Great Artesian Basin and released into and taken from a Basin water resource.

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Part 4—The sustainable use and management of water resources

Division 1—Sustainable use and management

10.16 Sustainable use and management of water resources

This Part sets out the requirements in relation to the sustainable use and management of water resources of the water resource plan area within the long-term annual diversion limit for an SDL resource unit.

Division 2—Surface water

10.17 Priority environmental assets and priority ecosystem functions

(1) A water resource plan must be prepared having regard to whether it is necessary for it to include rules which ensure that the operation of the plan does not compromise the meeting of environmental watering requirements of priority environmental assets and priority ecosystem functions.

Note: The environmental watering requirements of priority environmental assets and priority ecosystem functions will be set out in long-term watering plans and may also be set out in the Basin-wide environmental watering strategy. Long-term watering plans are required to use the methods in Part 5 of Chapter 8 to identify those requirements.

(2) Without limiting subsection (1), regard must be had to whether it is necessary for the rules to prescribe:

(a) the times, places and rates at which water is permitted to be taken from a surface water SDL resource unit; and

(b) how water resources in the water resource plan area must be managed and used.

(3) If the outcome of the requirement in subsection (1) is that such rules are necessary, the water resource plan must include those rules.

Division 3—Groundwater

10.18 Priority environmental assets dependent on groundwater

(1) A water resource plan must be prepared having regard to whether it is necessary for it to include rules which ensure that, for priority environmental assets and priority ecosystem functions that depend on groundwater, the operation of the plan does not compromise the meeting of environmental watering requirements.

Note: The environmental watering requirements of priority environmental assets and priority ecosystem functions will be set out in long-term watering plans and may also be set out in the Basin-wide environmental watering strategy. Long-term watering plans are required to use the methods in Part 5 of Chapter 8 to identify those requirements.

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(2) Without limiting subsection (1), regard must be had to whether it is necessary for the water resource plan to include rules that specify:

(a) the times, places and rates at which water is permitted to be taken from a groundwater SDL resource unit; and

(b) resource condition limits, being limits beyond which the taking of groundwater will, for a priority environmental asset that depends on groundwater, compromise an environmental watering requirement; and

(c) restrictions on the water permitted to be taken (including the times, places and rates at which water may be taken) in order to prevent a resource condition limit from being exceeded.

(3) If the outcome of the requirement in subsection (1) is that such rules are necessary, the water resource plan must include those rules.

10.19 Groundwater and surface water connections

(1) A water resource plan must be prepared having regard to whether it is necessary for it to include rules which ensure that, for groundwater that has a significant hydrological connection to surface water, the operation of the plan does not compromise the meeting of environmental watering requirements (for example, base flows).

(2) Without limiting subsection (1), regard must be had to whether it is necessary for the water resource plan to include rules that specify:

(a) the times, places and rates at which water is permitted to be taken from a groundwater SDL resource unit; and

(b) resource condition limits, being limits beyond which the taking of groundwater will compromise the discharge of water into any surface water resource; and

(c) restrictions on the water permitted to be taken (including the times, places and rates at which water may be taken) in order to prevent a resource condition limit from being exceeded.

(3) If the outcome of the requirement in subsection (1) is that such rules are necessary, the water resource plan must include those rules.

10.20 Productive base of groundwater

(1) A water resource plan must be prepared having regard to whether it is necessary for it to include rules which ensure that the operation of the plan does not compromise:

(a) the overall structural integrity of the aquifer (whether within or outside the water resource plan area) arising from take within the long-term annual diversion limit for an SDL resource unit; or

(b) the overall hydraulic relationships and properties between groundwater and surface water systems, between groundwater systems, and within groundwater systems.

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(2) Without limiting subsection (1), regard must be had to whether it is necessary for the water resource plan to include rules that specify:

(a) the times, places and rates at which water is permitted to be taken from a groundwater SDL resource unit; and

(b) any zones in the water resource plan area where continued groundwater extraction will result in a long-term decline in groundwater levels; and

(c) measures to prevent any long-term decline in groundwater levels in that zone, except where the groundwater is a non-renewable groundwater resource; and

(d) for a non-renewable groundwater resource—the planned rate of decline in groundwater levels and the anticipated groundwater levels after 50 years from the commencement of the water resource plan; and

(e) resource condition limits, being limits beyond which the taking of groundwater from the SDL resource unit will compromise the objectives in paragraphs (1)(a) and (b); and

(f) restrictions on the water permitted to be taken (including the times, places and rates at which water may be taken) in order to prevent a resource condition limit from being exceeded.

(3) If the outcome of the requirement in subsection (1) is that such rules are necessary, the water resource plan must include those rules.

10.21 Additional requirements for Western Porous Rock, Gunnedah-Oxley Basin MDB, Sydney Basin MDB and Goulburn-Murray: Sedimentary Plain SDL resource units

(1) A water resource plan for the NSW Murray-Darling Basin Porous Rock water resource plan area must, in relation to the Western Porous Rock, Gunnedah-Oxley Basin MDB and Sydney Basin MDB SDL resource units, include rules that are designed to ensure that the objectives set out in the following provisions are met:

(a) section 10.18;

(b) section 10.19;

(c) section 10.20.

(2) A water resource plan for the Goulburn-Murray water resource plan area must, in relation to the Goulburn-Murray: Sedimentary Plain SDL resource unit, include rules that are designed to ensure that the objective set out in section 10.20 is met.

Note: The objectives set out in the provisions referred to are the following:

(a) in section 10.18—that for priority environmental assets and priority ecosystem functions that depend on groundwater, the operation of the plan does not compromise the meeting of environmental watering requirements;

(b) in section 10.19—that for groundwater that has a significant hydrological connection to surface water, the operation of the plan does not compromise the meeting of environmental watering requirements;

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(c) in section 10.20—that the operation of the plan does not compromise:

(i) the overall structural integrity of the aquifer (whether within or outside the water resource plan area) arising from take within the long-term annual diversion limit for an SDL resource unit; or

(ii) the overall hydraulic relationships and properties between groundwater and surface water systems, between groundwater systems, and within groundwater systems.

Division 4—How requirements have been met

10.22 Description of how requirements have been met

A water resource plan must:

(a) describe what was done to comply with the requirements in this Part; and

(b) if a risk of a kind referred to in subsection 10.41(1) has been identified in relation to the water resources of the water resource plan area—explain why rules addressing the risk have or have not been included in the plan.

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Part 5—Interception activities

10.23 Listing types of interception activity

(1) A water resource plan must, having regard to the risk identification and assessment conducted for section 10.41, specify whether there are any types of interception activity in the water resource plan area which have the potential to have a significant impact on:

(a) the water resources of the water resource plan area; or

(b) water resources which are hydrologically connected to the water resources of the water resource plan area;

whether on an activity-by-activity basis, or cumulatively.

(2) If there are any such types of interception activity, the water resource plan must list those types.

(3) For the purpose of determining whether a type of interception activity is of the kind referred to in subsection (1), regard must be had to the following factors:

(a) the location of particular activities of that type in the water resource plan area;

(b) the impact of the type of activity on the availability of:

(i) the water resources of the water resource plan area; and

(ii) any water resources which are hydrologically connected to the water resources of the water resource plan area;

(c) the projected growth of the type of activity over the period for which the water resource plan will have effect.

Note: The following are types of interception activity which may have the potential to have a significant impact on the water resources of a water resource plan area:

(a) interception by runoff dams;

(b) interception by commercial plantations;

(c) interception by mining activities, including coal seam gas mining;

(d) interception by floodplain harvesting.

10.24 Monitoring impact of interception activities

If a water resource plan includes a list of the kind referred to in subsection 10.23(2), the plan must set out, in respect of each type of interception activity listed, a process for monitoring the impact of that type of activity on:

(a) the water resources of the water resource plan area; and

(b) water resources which are hydrologically connected to the water resources of the water resource plan area.

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10.25 Actions to be taken

(1) A water resource plan must identify actions that will be taken in the event that monitoring under section 10.24 shows that:

(a) an impact of a type of interception activity compromises the meeting of an environmental watering requirement; or

(b) an impact of several types of activity together compromises the meeting of an environmental watering requirement; or

(c) there is an increase in the quantity of water being intercepted by a type of activity;

after the commencement of the water resource plan.

(2) Subsection (1) does not apply if the relevant outcome in paragraph (1)(a), (b) or (c) is accounted for by the method under subsection 10.10(1).

Note 1: This section provides a mechanism to address unanticipated effects of, or changes in, interception activity.

Note 2: Section 10.13 sets out the circumstances in which a water resource plan may allow for an increase in anticipated take by an interception activity.

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Part 6—Planning for environmental watering

10.26 Planning for environmental watering

(1) A water resource plan must provide for environmental watering to occur in a way that:

(a) is consistent with:

(i) the environmental watering plan; and

(ii) the Basin-wide environmental watering strategy; and

(b) contributes to the achievement of the objectives in Part 2 of Chapter 8.

(2) For the purposes of subsection (1), the water resource plan must be prepared having regard to:

(a) the most recent version of the long-term watering plan prepared in accordance with the requirements of Division 3 of Part 4 of Chapter 8; and

(b) the views of local communities, including bodies established by a Basin State that express community views in relation to environmental watering.

10.27 Enabling environmental watering between connected water resources

(1) This section applies if:

(a) there are 2 water resource plan areas that contain surface water; and

(b) there is a surface water connection between the 2 areas.

(2) The water resource plan for each of the areas must provide for the co-ordination of environmental watering between the 2 areas.

10.28 No net reduction in the protection of planned environmental water

A water resource plan must ensure that there is no net reduction in the protection of planned environmental water from the protection provided for under State water management law immediately before the commencement of the Basin Plan.

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Part 7—Water quality objectives

Note: Section 1.07 defines ***water quality*** to include water salinity.

Division 1—Requirement for water quality management plan

10.29 Water resource plan to include WQM Plan

A water resource plan must include a water quality management plan (***WQM Plan***). The WQM Plan must:

(a) for water resource plan areas made up of only surface water SDL resource units—be made in accordance with Division 2;

(b) for water resource plan areas made up of only groundwater SDL resource units—be made in accordance with Division 3;

(c) for water resource plan areas made up of both surface water SDL resource units and groundwater SDL resource units—be made in accordance with:

(i) Division 2 in relation to surface water SDL resource units (as if a reference in Division 2 to the water resource plan area were a reference to the surface water SDL resource units of the water resource plan area); and

(ii) Division 3 in relation to groundwater SDL resource units (as if a reference in Division 3 to the water resource plan area were a reference to the groundwater SDL resource units of the water resource plan area).

Division 2—Surface water

10.30 WQM Plan to identify key causes of water quality degradation

The WQM Plan must identify the causes, or likely causes, of water quality degradation in the water resource plan area having regard to the key causes of water quality degradation identified in Part 2 of Chapter 9 and set out in Schedule 10.

10.31 Measures addressing risks arising from water quality degradation

If a risk of a kind mentioned in paragraph 10.41(2)(d) has been identified in relation to the water resources of the water resource plan area, the WQM Plan must explain why measures addressing the risk have or have not been included in the water resource plan.

10.32 WQM Plan to identify water quality target values

(1) The WQM Plan must identify the water quality target values for the water resource plan area.

(2) The water quality target values are the following:

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(a) for fresh water-dependent ecosystems—the applicable target values referred to in section 9.16;

(b) for irrigation water—the target values for water quality characteristics set out in section 9.17;

(c) for water used for recreational purposes—the values set out in section 9.18.

Note: The ADWG sets out standards for the quality of raw water for treatment for human consumption.

(3) However, if the objectively determined actual value of a water quality characteristic at a site is better than the target value identified in subsection (2), then the target value is that better value.

Note: See the objective in section 9.08.

(4) The WQM Plan may specify an alternative water quality target value if:

(a) it is consistent with the water quality objectives in Part 3 of Chapter 9; and

(b) it is determined in accordance with the procedures set out in the ANZECC Guidelines; and

(c) either:

(i) the alternative target value provides a better level of protection than the value that would apply under subsection (2) or (3), as applicable; or

(ii) the WQM Plan sets out reasons why the alternative target value will be as effective in achieving the objectives in Part 3 of Chapter 9; or

(iii) the WQM Plan sets out reasons why the target value in subsection (2) or (3), as applicable, is inappropriate for the water resource plan area; and

(d) for a water resource that is also covered by a water resource plan area of another Basin State—it is developed in consultation with that State.

10.33 WQM Plan to identify measures

(1) The WQM Plan must specify measures to be undertaken in or in relation to the water resources of the water resource plan area that contribute to the achievement of the objectives set out in:

(a) section 9.04 (Objectives of water-dependent ecosystems); and

(b) section 9.05 (Objectives for raw water for treatment for human consumption); and

(c) section 9.06 (Objective for irrigation water); and

(d) section 9.07 (Objective for recreational water quality); and

(e) section 9.08 (Objective to maintain good levels of water quality);

unless there are no such measures that can be undertaken cost-effectively.

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(2) The measures must be prepared having regard to:

(a) the causes, or likely causes, of water quality degradation identified in accordance with section 10.30; and

(b) target values identified in accordance with section 10.32; and

(c) the targets in Division 4 of Part 4 of Chapter 9.

(3) The measures may include land management measures.

Note 1: Chapter 9 contains both water quality objectives and water quality targets. A WQM Plan must specify measures that contribute to the achievement of the objectives. The targets are relevant only to the extent that subsection (2) requires that the measures be prepared having regard to the targets. This section does not require a WQM Plan to set out measures designed to achieve the targets.

Note 2: See also subsections 22(9) to (12) of the Act.

10.34 WQM Plan to identify locations of targets for irrigation water

The WQM Plan must identify the sites in the water resource plan area at which the target values for irrigation water apply.

10.35 Impact of WQM Plan on another Basin State

The measures specified in the WQM Plan must be developed having regard to:

(a) the impact those measures (including the absence of adequate measures) may have on the ability of another Basin State to meet water quality targets; and

(b) any adverse impacts those measures may have on Basin water resources in the other Basin State.

Note: See also the consultation requirement in subsection 63(2) of the Act.

Division 3—Groundwater

10.35AWQM Plan to identify key causes of water quality degradation

The WQM Plan must identify the causes, or likely causes, of water quality degradation in the water resource plan area having regard to the key causes of water quality degradation identified in Part 2 of Chapter 9 and set out in Schedule 10.

10.35B WQM Plan to identify water quality target values

(1) The WQM Plan must identify the water quality target values for the water resource plan area.

(2) The water quality target values are the following:

(a) for fresh water-dependent ecosystems—the applicable target values referred to in section 9.16;

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(b) for irrigation water—the target values for water quality characteristics set out in section 9.17;

(c) for water used for recreational purposes—the values set out in section 9.18.

(3) However, the WQM Plan may specify alternative water quality target values if they are consistent with the water quality objectives in Part 3 of Chapter 9.

10.35C Consideration to be given to rules or measures

(1) In preparing the WQM Plan, regard must be had to whether it is desirable for it to include rules or measures that support the maintenance of water quality within groundwater SDL resource units against the effects of elevated levels of salinity and other types of water quality degradation, taking into account the causes, or likely causes, of water quality degradation identified under section 10.35A and the water quality target values identified under section 10.35B.

(2) Without limiting subsection (1), regard must be had to whether it is desirable for the WQM Plan to include rules or measures that specify:

(a) the times, places and rates at which water is permitted to be taken from a groundwater SDL resource unit; and

(b) resource condition limits, being limits beyond which the taking of groundwater from the groundwater SDL resource unit will result in an elevated level of salinity or another type of water quality degradation; and

(c) restrictions on the water permitted to be taken (including the times, places and rates at which water may be taken) in order to prevent a resource condition limit from being exceeded; and

(d) a requirement to establish and maintain a register which identifies the sites of bores used to monitor salinity or other water quality characteristics in the groundwater SDL resource unit.

(3) If the outcome of the requirement in subsection (1) is that such rules or measures are desirable, the WQM Plan must include those rules or measures, or explain why they have not been included.

10.35D Additional requirement for Western Porous Rock, Gunnedah-Oxley Basin MDB, Sydney Basin MDB and Goulburn-Murray: Sedimentary Plain SDL resource units

The WQM Plan for the following water resource plan areas must include rules or measures that are designed to ensure that the objective set out in section 10.35C is met:

(a) the NSW Murray-Darling Basin Porous Rock water resource plan area, in relation to the Western Porous Rock, Gunnedah-Oxley Basin MDB and Sydney Basin MDB SDL resource units;

(b) the Goulburn-Murray water resource plan area, in relation to the Goulburn-Murray: Sedimentary Plain SDL resource unit.

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Note: The objective set out in section 10.35C is that water quality within a groundwater SDL resource unit is maintained against the effects of elevated levels of salinity and other types of water quality degradation.

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Part 8—Trade of water access rights

10.36 Application of Part

This Part does not apply to water access rights of a kind that are not able to be traded under State water management law.

10.37 Circumstances in which conditions in section 12.24 are met

(1) A water resource plan must set out the circumstances in which trade between 2 locations within a groundwater SDL resource unit is permitted. In setting out the circumstances, a water resource plan must ensure that each condition set out in section 12.24 will be met in relation to the proposed trade.

(2) If the water resource plan applies a conversion rate to meet the condition in paragraph 12.24(d), the water resource plan must either:

(a) specify the conversion rate; or

(b) set out the way in which the conversion rate will be determined from time to time and made generally available.

10.38 Circumstances in which conditions in section 12.25 are met

(1) A water resource plan must set out the circumstances in which trade between 2 groundwater SDL resource units is permitted. In setting out the circumstances, a water resource plan must ensure that each condition set out in section 12.25 will be met in relation to proposed trade.

(2) If the water resource plan applies a conversion rate to meet the condition in paragraph 12.25(e), the water resource plan must either:

(a) specify the conversion rate; or

(b) set out the way in which the conversion rate will be determined from time to time and made generally available.

10.39 Circumstances in which conditions in section 12.26 are met

(1) A water resource plan must set out the circumstances in which trade between a groundwater SDL resource unit and a surface water SDL resource unit is permitted. In setting out the circumstances, a water resource plan must ensure that each condition set out in section 12.26 will be met in relation to proposed trade.

(2) If the water resource plan applies a conversion rate to meet the condition in paragraph 12.26(e), the water resource plan must either:

(a) specify the conversion rate; or

(b) set out the way in which the conversion rate will be determined from time to time and made generally available.

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Part 9—Approaches to addressing risks to water resources

10.40 Definitions

In this Part:

risk means a risk listed in a water resource plan in accordance with subsection 10.41(4).

level of risk has the meaning given in AS/NZS ISO 31000:2009 *Risk Management—Principles and Guidelines*.

10.41 Risk identification and assessment methodology

(1) A water resource plan must be prepared having regard to current and future risks to the condition and continued availability of the water resources of the water resource plan area.

(2) Without limiting subsection (1), the risks include (where applicable):

(a) risks to the capacity to meet environmental watering requirements; and

(b) risks arising from the matters referred to in subsection 10.20(1); and

(c) risks arising from potential interception activities; and

(d) risks arising from elevated levels of salinity or other types of water quality degradation.

(3) In identifying risks for the purposes of subsection (1), regard must be had to:

(a) risks identified in section 4.02; and

(b) any guidelines published by the Authority in relation to risk identification and risk assessment.

(4) The water resource plan must list the risks identified for the purposes of subsection (1).

(5) The water resource plan must assess each risk.

(6) The water resource plan must define the level of risk of each risk, using the following categories:

(a) low;

(b) medium;

(c) high;

(d) if it is considered appropriate, any additional category.

(7) The water resource plan must describe the data and methods used to identify and assess the risks.

(8) The water resource plan must describe any quantified uncertainties in the level of risk attributed to each risk, including the results of any sensitivity analysis.

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10.42 Description of risks

A water resource plan must describe:

(a) each risk which is defined in accordance with subsection 10.41(6) as having a medium or higher level of risk; and

(b) factors that contribute to those risks.

10.43 Strategies for addressing risks

(1) If a water resource plan defines a risk in accordance with subsection 10.41(6) as having a medium or higher level of risk, the water resource plan must either:

(a) describe a strategy for the management of the water resources of the water resource plan area to address the risk in a manner commensurate with the level of risk; or

(b) explain why the risk cannot be addressed by the water resource plan in a manner commensurate with the level of risk.

(2) If the water resource plan identifies a risk which relates to a matter dealt with by a requirement in another Part of this Chapter, the strategy must take account of that requirement.

(3) A water resource plan must be prepared having regard to:

(a) the strategies listed in subsection 4.03(3); and

(b) any guidelines published by the Authority in accordance with section 4.04.

Note: The Authority may publish guidelines in accordance with section 4.04 in relation to the implementation of strategies to manage or address risks identified in section 4.02.

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Part 10—Measuring and monitoring

10.44 Information relating to measuring take—water access rights

A water resource plan must include the following information in relation to each class of water access right relating to the water resources of the water resource plan area:

(a) the best estimate of the total long-term annual average quantity of water taken that is measured;

(b) the best estimate of the total long-term annual average quantity of water taken that is not measured;

(c) how the quantities under paragraphs (a) and (b) were calculated;

(d) the proportion of the quantity referred to in paragraph (a) that is measured in accordance with standards for measuring agreed by the Basin States and the Commonwealth.

10.45 Supporting measuring

(1) A water resource plan must specify measures for maintaining and, if practicable, improving:

(a) the proportion of take that is measured in the water resource plan area; and

(b) the standard to which take is measured.

(2) The water resource plan must specify the timeframe for implementing the measures.

10.46 Monitoring water resources

(1) A water resource plan must specify the monitoring of the water resources of the water resource plan area that will be done to enable the Basin State to fulfil its reporting obligations under section 13.14.

(2) Nothing in this section limits the capacity of the Basin State to conduct other monitoring of the water resources of a water resource plan area.

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Part 11—Reviews of water resource plans

10.47 Review of water resource plans

A water resource plan must require that if a review of the plan (or a part of the plan) is undertaken, the report of the review must be given to the Authority within 30 days after the report is completed.

10.47A Additional requirements for Western Porous Rock, Gunnedah-Oxley Basin MDB, Sydney Basin MDB and Goulburn-Murray: Sedimentary Plain SDL resource units

If a review of the relevant water resource plan in relation to any of the Western Porous Rock, Gunnedah-Oxley Basin MDB, Sydney Basin MDB or Goulburn-Murray: Sedimentary Plain SDL resource units is undertaken, the review must assess:

(a) the effectiveness of the implementation of the rules of the water resource plan; and

(b) the extent to which the rules achieve the objectives mentioned in sections 10.21 and 10.35C.

10.48 Amendment of water resource plan

A water resource plan must require a Basin State that proposes an amendment to the plan arising from a review to give the reasons for the amendment to the Authority.

Note: See also section 65 of the Act.

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Part 12—Information used to prepare water resource plan

10.49 Best available information

(1) A water resource plan must be based on the best available information.

(2) The water resource plan must identify and describe the significant sources of information on which the water resource plan is based.

10.50 Methods used to develop water resource plan

A water resource plan must identify any significant method, model or tool that has been used to develop the water resource plan.

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Part 13—Extreme events

10.51 Measures in response to extreme events

(1) A water resource plan must describe how the water resources of the water resource plan area will be managed during the following types of events:

(a) an extreme dry period;

(b) a water quality event of an intensity, magnitude and duration that is sufficient to render water acutely toxic or unusable for established local uses and values;

(c) any type of event that has resulted in the suspension of a statutory regional water plan in the past 50 years (including a transitional water resource plan or interim water resource plan).

(2) If an event of a type listed in subsection (1) would compromise a Basin State's ability to meet critical human water needs in the water resource plan area, the water resource plan must set out measures to meet critical human water needs during such an event.

(3) The water resource plan must provide that, if new scientific information suggests a change in the likelihood of an event of a type listed in subsection (1) occurring (for example, due to climate change), consideration must be given to whether, as a result of this new information, the water resources should be managed differently.

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Part 14—Indigenous values and uses

Note: If a water resource plan is prepared by a Basin State, it is expected that the Authority will consult with relevant Indigenous organisations in relation to whether the requirements of this Part have been met, for the purposes of paragraph 63(3)(b) of the Act.

10.52 Objectives and outcomes based on Indigenous values and uses

(1) A water resource plan must identify:

(a) the objectives of Indigenous people in relation to managing the water resources of the water resource plan area; and

(b) the outcomes for the management of the water resources of the water resource plan area that are desired by Indigenous people.

(2) In identifying the matters set out in subsection (1), regard must be had to:

(a) the social, spiritual and cultural values of Indigenous people that relate to the water resources of the water resource plan area (***Indigenous values***); and

(b) the social, spiritual and cultural uses of the water resources of the water resource plan area by Indigenous people (***Indigenous uses***);

as determined through consultation with relevant Indigenous organisations, including (where appropriate) the Murray Lower Darling Rivers Indigenous Nations and the Northern Murray-Darling Basin Aboriginal Nations.

(3) A person or body preparing a water resource plan may identify opportunities to strengthen the protection of Indigenous values and Indigenous uses in accordance with the objectives and outcomes identified under subsection (1), in which case the opportunities must be specified in the water resource plan.

10.53 Consultation and preparation of water resource plan

(1) A water resource plan must be prepared having regard to the views of relevant Indigenous organisations with respect to the matters identified under section 10.52 and the following matters:

(a) native title rights, native title claims and Indigenous Land Use Agreements provided for by the *Native Title Act 1993* in relation to the water resources of the water resource plan area;

(b) registered Aboriginal heritage relating to the water resources of the water resource plan area;

(c) inclusion of Indigenous representation in the preparation and implementation of the plan;

(d) Indigenous social, cultural, spiritual and customary objectives, and strategies for achieving these objectives;

(e) encouragement of active and informed participation of Indigenous people;

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(f) risks to Indigenous values and Indigenous uses arising from the use and management of the water resources of the water resource plan area.

Note: For examples of the principles that may be applied in relation to the participation of Indigenous people, see the document titled 'MLDRIN and NBAN Principles of Indigenous Engagement in the Murray-Darling Basin'.

(2) In this section, ***registered Aboriginal heritage*** means Aboriginal heritage registered or listed under a law of a Basin State or the Commonwealth that deals with the registration or listing of Aboriginal heritage (regardless of whether the law deals with the listing of other heritage).

10.54 Cultural flows

A water resource plan must be prepared having regard to the views of Indigenous people with respect to cultural flows.

10.55 Retention of current protection

A water resource plan must provide at least the same level of protection of Indigenous values and Indigenous uses as provided in:

(a) a transitional water resource plan for the water resource plan area; or

(b) an interim water resource plan for the water resource plan area.

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Chapter 11—Critical human water needs

Note: See subsection 86A(2) of the Act for the meaning of ***critical human water needs***.

Part 1—Preliminary

11.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter sets out the following matters in relation to critical human water needs (sections 86B, 86C, 86D and 86E of the Act):

(a) the amount of water required to meet critical human water needs, and the water quality and salinity trigger points (Part 2);

(b) monitoring, assessment and risk management relating to critical human water needs (Part 3);

(c) matters in relation to Tier 2 water sharing arrangements (Part 4);

(d) matters in relation to Tier 3 water sharing arrangements (Part 5).

11.02 Definitions

In this Chapter:

water accounting period means a period of 12 months beginning on 1 June of any year.

water quality characteristic means a water quality characteristic, within the meaning of the ADWG, for which the ADWG sets out a health-related guideline value.

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Part 2—Water required to meet critical human water needs

11.03 Amount of water required to meet critical human water needs (Act paragraph 86B(1)(a))

For each Basin State that is a referring State (other than Queensland) the amount of water required to meet the critical human water needs of the communities in the State that are dependent on the waters of the River Murray System is:

(a) New South Wales—61 GL per water accounting period;

(b) Victoria—77 GL per water accounting period;

(c) South Australia—204 GL per water accounting period.

11.04 Conveyance water required to deliver water for critical human water needs (Act paragraph 86B(1)(b))

The amount of conveyance water required to deliver the water referred to in section 11.03 is 1,596 GL per water accounting period.

Note 1: The amount specified in this section is based on observed losses from the major storages and the River Murray upstream of the South Australian border during years of low water availability. The amount specified in this section also includes the amount specified in clause 88(b) of the Agreement.

Note 2: See subsection 86A(4) of the Act for the meaning of ***conveyance water***.

11.05 Water quality and salinity trigger points (Act paragraph 86B(1)(c))

(1) This section specifies water quality trigger points and salinity trigger points at which water in the River Murray System becomes unsuitable for meeting critical human water needs.

Note: Section 86F of the Act provides for emergency responses when a water quality trigger point or a salinity trigger point specified in this Part is reached.

Salinity trigger points

(2) A salinity trigger point is reached if a member of the Basin Officials Committee advises the Authority that:

(a) a water supply authority has taken raw water from the River Murray System, at any site at or upstream from Wellington, for the purpose of treatment and supply for human consumption; and

(b) the level of salinity in that water is 1,400 EC (μS/cm) or greater.

Water quality trigger points

(3) A water quality trigger point is reached if a member of the Basin Officials Committee advises the Authority that:

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(a) a water supply authority has taken raw water from the River Murray System, at any site at or upstream from Wellington, for the purpose of treatment and supply for human consumption; and

(b) the level of a water quality characteristic of the water makes it impracticable for the water supply authority to treat the water so that it meets the relevant guideline values set out in the ADWG; and

(c) it is expected that it will continue to be impracticable to treat the water so that it meets the relevant guideline values set out in the ADWG.

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Part 3—Monitoring, assessment and risk management

Note: For the purposes of paragraph 86C(1)(a) of the Act, arrangements for monitoring matters that are relevant to critical human water needs are dealt with in Chapter 13.

11.06 Process for assessing inflow prediction (Act paragraph 86C(1)(b))

River Murray System

(1) The process by which the Authority must assess inflow prediction for the River Murray System involves:

(a) monitoring the volume of inflow; and

(b) having regard to the best available information about likely inflow, including:

(i) tributary inflow estimates provided by the Basin States; and

(ii) information about daily, monthly and seasonal rainfall, temperature and climate; and

(c) regularly reviewing trends in climate and inflow patterns.

Snowy water licence

(2) The processes by which the Authority must assess inflow prediction, in relation to works that are under the control of the body that is entitled, under the *Snowy Hydro Corporatisation Act 1997* of New South Wales, to the Snowy water licence within the meaning of that Act, are set out in Part III of Schedule F to the Agreement.

Inflow prediction

(3) The Authority must use the processes set out in subsections (1) and (2) to prepare a range of predictions of possible inflow into the River Murray System.

11.07 Process for managing risks to critical human water needs associated with inflow prediction (Act paragraph 86C(1)(b))

(1) The Authority must manage the risks to critical human water needs in the River Murray System associated with inflow prediction in accordance with this section.

(2) Based on the inflow predictions and other information mentioned in section 11.06 and the forecasts of water quality mentioned in paragraph 11.08(1)(e), the Authority must identify risk factors and assess the risks of the following events:

(a) the full amount of the amount of conveyance water specified in section 11.04 will not be available;

(b) the full amount of water to be reserved under subsection 11.12(2) will not be available;

(c) water quality and salinity trigger points under section 11.05 will be reached.

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(3) If the Authority's assessment of inflow prediction indicates that advances under clause 102C of, or Schedule H to, the Agreement may be required in a water accounting period, the Authority must identify and assess the risks to critical human water needs associated with such advances.

(4) The Authority must manage the risks to critical human water needs associated with inflow prediction by managing the operation of the River Murray System in accordance with the Agreement having regard to:

(a) the efficient and effective operation of the River Murray System; and

(b) the need to operate the River Murray System so as to ensure that there is water in the system that is of a suitable quality to meet critical human water needs; and

(c) the water quality and salinity trigger points under section 11.05; and

(d) the need to undertake water resource assessments, including worst case planning water resource assessments; and

(e) the Authority's obligations under clause 50 of the Agreement; and

(f) the need to set aside, and draw upon, a conveyance reserve in accordance with Division 2 of Part 4 of this Chapter; and

(g) the need to operate the River Murray System in co-ordination with the operation of:

(i) works that are under the control of the body that is entitled, under the *Snowy Hydro Corporatisation Act 1997* of New South Wales, to the Snowy water licence within the meaning of that Act; and

(ii) tributaries of the River Murray System, in particular the operation of the Goulburn River in Victoria and the Murrumbidgee River in New South Wales; and

(iii) the Menindee Lakes Storage when it is under the control of New South Wales.

11.08 Risk management approach for inter-annual planning (Act paragraph 86C(1)(c))

(1) The Authority's risk management approach for inter-annual planning relating to arrangements for critical human water needs must be based on:

(a) the reserves policy specified in Division 2 of Part 4; and

(b) the inflow predictions and other information mentioned in section 11.06; and

(c) the risk assessments made, the risk management approaches and measures adopted, and the information gathered under section 11.07; and

(d) the efficient operation of the River Murray System in accordance with the Agreement and the 'Objectives and Outcomes' document prepared under clause 31 of the Agreement; and

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(e) monitoring and forecasting of water quality in the River Murray System and communication between the Authority, Basin States and private providers of data about water quality.

(2) The Authority must have regard to:

(a) water resource assessments; and

(b) accounts kept by the Authority in accordance with Subdivision D of Division 1 of Part XII of the Agreement;

when making decisions about:

(c) the volume of water to be made available to the Basin States, in a particular year; and

(d) whether water is set aside in the conveyance reserve for future years.

Note: Part XII of the Agreement will also apply to the Authority in making such decisions.

(3) A Basin State must have regard to advice from the Authority regarding the volume of water to be made available to it in a particular year, when making decisions about whether water is made available for uses other than meeting critical human water needs.

(4) When Tier 3 water sharing arrangements apply, the Ministerial Council must have regard to the water accounts and water resource assessments when making decisions about:

(a) whether water is made available, in a particular year, for uses other than meeting critical human water needs; and

(b) whether water is set aside in the conveyance reserve for future years.

Note: Part 5 of this Chapter deals with when Tier 3 water sharing arrangements commence and when they cease to apply.

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Part 4—Tier 2 water sharing arrangements

Note: See Division 2 of Part XII of the Agreement for Tier 2 water sharing arrangements.

Division 1—When Tier 2 water sharing arrangements apply

11.09 Commencement of Tier 2 water sharing arrangements (Act paragraph 86D(1)(a))

(1) If the Authority is satisfied that either subsection (2) or subsection (3) applies, it may, by a notice published on its website:

(a) declare which of the subsections applies; and

(b) declare that Tier 1 water sharing arrangements cease, and Tier 2 water sharing arrangements enter into effect from the date specified in the notice.

Note 1: See Division 1 of Part XII of the Agreement for Tier 1 water sharing arrangements.

Note 2: Tier 2 water sharing arrangements can also commence under subsection 11.16(1) if Tier 3 arrangements cease to apply.

Insufficient water to provide conveyance water in current water accounting period

(2) This subsection applies if at any time between the first day in June and the last day in August of the same water accounting period, the worst case planning water resource assessment indicates that the balance of the amount of conveyance water specified in section 11.04 cannot be supplied for the remainder of that water accounting period.

Insufficient water to set aside conveyance reserve for next water accounting period

(3) This subsection applies if at any time between the first day in September and the last day in May of the same water accounting period, the worst case planning water resource assessment indicates that the amount of water required to be reserved under subsection 11.12(2) cannot be set aside by the end of that water accounting period.

(4) In deciding whether subsection (2) or subsection (3) applies, no advances under clause 102C of the Agreement are to be taken into account.

11.10 Cessation of Tier 2 water sharing arrangements (Act paragraph 86D(1)(b))

(1) If Tier 2 water sharing arrangements are in effect, but the Authority is satisfied that subsection (2) applies, it may, by a notice published on its website:

(a) declare that the subsection applies; and

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(b) declare that Tier 2 water sharing arrangements cease, and Tier 1 water sharing arrangements enter into effect, on the date specified in the notice.

(2) This subsection applies if:

(a) no measures taken under the Tier 2 and 3 water sharing arrangements in Schedule H to the Agreement are in effect, and in particular:

(i) any advances under clause 7 of that Schedule have been acquitted; and

(ii) there is no plan of action in place under clause 8 of the Schedule; and

(iii) there is no remedial action outstanding under clause 10 of the Schedule; and

(b) the worst case planning water resource assessment indicates that:

(i) the balance of the amount of conveyance water specified in section 11.04 can be supplied for the remainder of the current water accounting period; and

(ii) the amount of water specified in subsection 11.12(2) can be set aside by the end of the current water accounting period; and

(c) the Basin Officials Committee has not determined that an advance is required in the current water accounting period.

Division 2—Tier 2 reserves policy

11.11 Reserves policy (Act paragraph 86D(1)(c))

This Division specifies the reserves policy that applies for periods during which Tier 2 water sharing arrangements apply.

11.12 Meeting the annual shortfall in conveyance water

(1) For subsection 86D(2) of the Act, the shortfall in conveyance water is 620 GL in each year.

Note: The amount is based on the conveyance water amount set in section 11.04 and a minimum historical inflow of 980 GL. The Authority may, under Subdivision F of Division 1 of Part 2 of the Act, prepare an amendment to this provision if the Ministerial Council approves another amount.

(2) For subparagraph 86D(1)(c)(i) of the Act, the annual volume of water required to be reserved by the end of a water accounting period to meet the shortfall in conveyance water is 225 GL.

Note: The amount is based on hydrological modelling. The Authority may, under Subdivision F of Division 1 of Part 2 of the Act, prepare an amendment to this provision if the Ministerial Council approves another amount based on different models or modelling assumptions.

(3) For subparagraph 86D(1)(c)(ii) of the Act, the volume of water specified in subsection (2) must not vary between years.

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(4) For subparagraph 102D(2)(a)(ii) of the Agreement, the volume determined in accordance with the Basin Plan is the volume of water specified in subsection (2).

Note 1: While the volume of water specified in subsection 11.12(2) does not vary between years, the volume of water in the conveyance reserve may vary from time to time, owing to the use of the conveyance reserve in accordance with this Part and changes in applicable water sharing arrangements. See section 11.13.

Note 2: The volume of water specified in subsection 11.12(1) has been determined by the Authority in accordance with subsection 86D(2) of the Act on the basis of the minimum inflow sequence to the River Murray System (used by the Authority for planning purposes) including minimum inflows from the Murrumbidgee, Darling and Goulburn Rivers.

11.13 Application of the conveyance reserve provisions of the Agreement

For paragraph 86D(1)(c) of the Act, the arrangements that are to apply to ensure that the volume of water specified in subsection 11.12(2) will be reserved and provided are set out in clause 102D of the Agreement and Schedule H to the Agreement.

11.14 Arrangements for carrying water over in storage

(1) South Australia has the rights provided for in clauses 91 and 130 of the Agreement to store its entitlement to water.

(2) Without limiting the operation of Part XII of the Agreement, New South Wales and Victoria have the right to carry over water in storage described in paragraph 135(14)(a) of the Agreement.

(3) New South Wales, Victoria and South Australia are each responsible for meeting the critical human water needs of that State and for deciding how water from their respective water share is used.

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Part 5—Tier 3 water sharing arrangements

Note: See Division 3 of Part XII of the Agreement for Tier 3 water sharing arrangements.

11.15 Commencement of Tier 3 water sharing arrangements (Act paragraph 86E(1)(a))

(1) If the Authority is satisfied that either subsection (2) or subsection (3) applies, it may, by a notice published on its website:

(a) declare which of the subsections applies; and

(b) declare that Tier 1 or Tier 2 water sharing arrangements cease, and Tier 3 water sharing arrangements enter into effect, on the date specified in the notice.

(2) This subsection applies if, in either:

(a) circumstances of extreme and unprecedented low levels of water availability in the River Murray System; or

(b) circumstances in which there is an extremely high risk that water will not be available in the River Murray System to meet critical human water needs in the next 12 months;

either of the following paragraphs applies:

(c) the worst case planning water resource assessment indicates that at least one of the amounts of water specified in section 11.03 cannot be supplied by the end of the current water accounting period; or

(d) the worst case planning water resource assessment indicates that the amount of water specified in section 11.04 cannot be supplied by the end of the current water accounting period, taking into account the use of any advances under clause 102C of the Agreement and the use of any remedial action undertaken in accordance with clause 10 of Schedule H to the Agreement.

(3) This subsection applies if, in circumstances of extreme and unprecedented poor water quality in the water available in the River Murray System to meet critical human water needs, a water quality or salinity trigger point specified in subsection 11.05(2) or (3) is reached.

(4) If Tier 1 water sharing arrangements cease in accordance with paragraph (1)(b), Tier 2 water sharing arrangements are:

(a) taken to have entered into effect immediately upon the cessation of Tier 1 water sharing arrangements; and

(b) taken to have ceased immediately afterwards.

11.16 Cessation of Tier 3 water sharing arrangements (Act paragraph 86E(1)(b))

(1) If Tier 3 water sharing arrangements are in place, but the Authority is satisfied that subsections (3) and (4) apply, it may, by a notice published on its website:

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(a) declare that both the subsections apply; and

(b) declare that Tier 3 water sharing arrangements cease, and Tier 2 water sharing arrangements enter into effect, on the date specified in the notice.

(2) If the Authority is satisfied that subsections (3) and (4) apply and also that subsection 11.10(2) is satisfied, it may, by a notice published on its website:

(a) declare that all the subsections apply; and

(b) declare that Tier 3 water sharing arrangements cease to have effect, and Tier 1 water sharing arrangements enter into effect, on the date specified in the notice.

(3) This subsection applies if the worst case planning water resource assessment indicates that:

(a) the amounts of water specified in section 11.03 can be supplied by the end of the current water accounting period; and

(b) the amount of conveyance water specified in section 11.04 can be supplied by the end of the current water accounting period, taking into account the use of any advances under clause 102C of the Agreement and the use of any remedial action undertaken in accordance with clause 10 of Schedule H to the Agreement.

(4) This subsection applies if:

(a) raw water has been taken by a water supply authority in accordance with paragraph 11.05(2)(a) and the level of salinity in that water is less than 1,400 EC (µS/cm); and

(b) raw water has been taken by a water supply authority in accordance with paragraph 11.05(3)(a) and:

(i) the levels of water quality characteristics of the water would make it practicable for the water supply authority to treat the water so that it meets the relevant guideline value set out in the ADWG; and

(ii) it is expected that it would continue to be practicable to treat the water so that it meets the relevant guideline values set out in the ADWG.

(5) If Tier 1 water sharing arrangements enter into effect in accordance with subsection (2), Tier 2 water sharing arrangements are:

(a) taken to have entered into effect immediately upon the cessation of Tier 3 water sharing arrangements; and

(b) taken to have ceased immediately afterwards.

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Chapter 12—Water trading rules

Part 1—Preliminary

12.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter sets out the water trading rules (item 12 of the table in subsection 22(1) of the Act) which deal with the following:

(a) restrictions on the trade of tradeable water rights (Part 2);

(b) information which must be given by irrigation infrastructure operators in relation to water delivery rights and irrigation rights (Part 3);

(c) disclosure obligations of approval authorities (Part 4);

(d) information which must be made available by Basin States and irrigation infrastructure operators (Part 5).

12.02 Application of Chapter to certain water access rights

Chapter does not apply to non-tradeable water access rights

(1) This Chapter does not apply to water access rights of a kind that are not able to be traded under State water management law.

Certain provisions do not apply to trades conducted pursuant to inter-governmental agreements

(2) Sections 12.07, 12.08, 12.09 and 12.14 do not prevent the application of restrictions on a trade of a water access right if:

(a) the restrictions satisfy subsection (3); and

(b) the trade satisfies subsection (4).

(3) For paragraph (2)(a), restrictions satisfy this subsection if they are imposed in furtherance of an agreement that:

(a) is between the Commonwealth and a Basin State or between Basin States; and

(b) relates to trades of held environmental water to, from or between places; and

(c) is for the purpose of achieving one or more environmental outcomes.

(4) For paragraph (2)(b), a trade satisfies this subsection if the trade is either:

(a) of a kind that State water management law:

(i) permits only for held environmental water; and

(ii) did not permit prior to the entry into an agreement of the kind referred to in subsection (3); or

(b) part of a sequence of trades that:

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(i) is being conducted in furtherance of an agreement of a kind referred to in subsection (3); and

(ii) contains a trade of a kind referred to in paragraph (a).

Review of subsections (2) to (4)

(5) The Authority must complete a review of the operation of subsections (2) to (4) by 1 July 2020.

(6) In conducting the review, the Authority must obtain, and have regard to, the advice of the ACCC.

Note: After conducting the review, the Authority might seek to amend the Basin Plan under Subdivision F of Division 1 of Part 2 of the Act.

12.03 Water delivery rights to which this Chapter applies

(1) This Chapter applies to a water delivery right if:

(a) the right is held against an irrigation infrastructure operator; and

(b) the irrigation infrastructure operator is entitled to impose a fee upon the termination or surrender of that right, or services provided in relation to that right; and

(c) the *Water Charge (Termination Fees) Rules 2009* regulates any fee that might be imposed.

Note: An irrigation infrastructure operator is required to calculate the termination fee in accordance with the *Water Charge (Termination Fees) Rules 2009*. These Rules also impose certain procedural requirements that must be met before a termination fee can be imposed.

(2) In this Chapter, a reference to the trade, termination or surrender of a water delivery right includes a trade, termination or surrender of part or all of the entitlement to delivery under the water delivery right.

12.04 Reference to a trade to, from or between places

In this Chapter, a reference to the trade of a water access right to, from or between places (for example trading zones, locations, areas, resources or systems) is a reference to a trade which results in a change of location at which the water to which the right relates may be taken.

12.05 Recovery of loss or damage

A person who suffers loss or damage as a result of conduct of another person, other than an agency of a Basin State, that contravenes a section specified in the following table may recover the amount of the loss or damage by action against that other person.

Item	Section
1	12.06
2	12.07

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Item	Section
3	12.08
4	12.09
5	12.10
6	12.11
7	12.12
8	12.13
9	12.14
10	12.15
11	12.16
13	12.21
14	12.23
15	12.24
16	12.25
17	12.26
18	12.28
19	12.30
20	12.32
21	12.33
22	12.34
23	12.35
24	12.51

Note: See subsection 26(5) of the Act.

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Part 2—Restrictions on trade of tradeable water rights

Division 1—Trade of tradeable water rights

Subdivision A—All water resources—right to trade free of certain restrictions

12.06 Separate rights

(1) A person may trade a water access right free of any condition as to the holding, buying, selling, obtaining, accepting or terminating of a separate location-related right.

(2) In this section:

location-related right means any of the following:

(a) water delivery right;

(b) works approval;

(c) water use approval.

12.07 Class of persons

A person may trade a water access right free of any restriction on the trade that relates to the person being, or not being, a member of a particular class of persons.

Note 1: An example of a class of persons is ‘environmental water user’.

Note 2: See also section 12.27.

12.08 Purpose for which water is used

(1) A person may trade a water access right free of any restriction on the trade that relates to the purpose for which the water relating to that right has been, or will be, used.

(2) This section does not apply to a water access right that is:

(a) a stock right; or

(b) a domestic right; or

(c) a stock and domestic right.

(3) This section does not apply to the trade of a water access entitlement designated for an urban water supply activity under State water management law.

12.09 Take and use of water after a trade

A person may take and use water under a water access right free of any restriction arising from the fact that the person acquired the water access right by way of trade.

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12.10 Use outside Murray-Darling Basin

A person may trade a water access right free of any restriction arising from the fact that water extracted under the right might be transported or used outside the Murray-Darling Basin.

12.11 Trade of water allocation which has been carried over

(1) A person may trade a water allocation free of any restriction arising from the fact that the water allocation was carried over from the previous water accounting period under a carryover arrangement.

(2) Subsection (1) does not apply if:

(a) a carryover announcement is required before the water allocation is permitted to be taken; and

(b) no such announcement has been made.

12.12 Access to carryover for traded water access rights

(1) A person may participate in a carryover arrangement in relation to a water access right free of any restriction arising from the fact that the person acquired the water access right by way of trade.

(2) Despite subsection (1), if:

(a) the trade of a water access right results in a change of the water resource to which the right relates; and

(b) the carryover arrangement for the destination water resource is different from that of the origin water resource;

the carryover arrangement for the destination water resource may be applied to the water access right.

Note: See sections 12.21 and 12.22.

12.13 Overallocation

A person may trade a water access right within a water resource free of any restriction based on the fact that a water resource is overallocated.

12.14 Level of use of water access right

(1) A person may trade a water access right free of any restriction based on:

(a) the historical level of use of the water access right; or

(b) an anticipated increase in the use of the water access right.

Note: Section 12.21 prohibits exchange rates being applied to trades within or between regulated systems.

(2) Subsection (1) does not apply if:

(a) the trade is between 2 places (whether or not ownership changes); and

(b) there is a difference in the reliability or availability of water between the 2 places; and

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(c) the restriction is necessary in order to account for that difference.

12.15 Trade must not be made conditional on water delivery right

A person may trade a water access right or an irrigation right free of any condition that would require the person to hold, buy, sell, obtain, accept, terminate, or vary the volume or unit share of, a water delivery right.

Subdivision B—Additional rules relating to surface water

12.16 Free trade of surface water

(1) A person may trade a water access right:

(a) within a regulated system; or

(b) between regulated systems; or

(c) within an unregulated system;

free of any restriction on changing the location at which the water to which the right relates may be taken, and any restriction that is a volumetric limit, other than a restriction that:

(d) is necessary because of a reason listed in subsection 12.18(1); and

(e) is consistent with Subdivision A.

(2) For this section, if the boundary between 2 unregulated systems is based solely on the border between 2 Basin States, this section applies as if the 2 unregulated systems were one unregulated system.

12.18 Restrictions allowable for physical or environmental reasons

(1) A restriction of a type referred to in section 12.16 may be necessary because of:

(a) the existence of a physical constraint; or

(b) the need to address hydrologic connections and water supply considerations; or

(c) the need to protect the needs of the environment; or

(d) the level of hydraulic connectivity; or

(e) a combination of any of the above.

(2) In this section, ***hydrologic connections and water supply considerations***, in relation to a water access right, means any of the following:

(a) the amount of transmission loss that may be incurred through evaporation, seepage, or other means;

(b) the potential impact, as a result of the trade of a water access right, on water availability in relation to a water access right held by a third party (other than an impact arising solely because of an increase in use of the traded water access right);

(c) the ability to:

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(i) deliver water from the same storage from which it is currently delivered; or

(ii) adjust valley and state transfer accounts to facilitate trade, for example by way of a back trade.

Note 1: See clause 3 of Schedule D to the Agreement for the meaning of ***valley account***.

Note 2: See clause 5 of the *Murray-Darling Basin Agreement (Adjusting Valley Accounts and State Transfer Accounts) Protocol 2010* for the meaning of ***state transfer account***.

12.19 Basin States to notify the Inspector-General of restrictions

(1) If a Basin State decides to impose a restriction of a kind referred to in section 12.16, it must notify the Inspector-General of the decision and the reasons for the decision.

(2) The notification must be given:

(a) if the restriction was in effect at the commencement of this Chapter—within 30 days after that commencement; or

(b) otherwise—no later than the date of effect of the restriction.

12.20 Basin State may request the Inspector-General to make declaration

(1) The Inspector-General must make a written declaration that a restriction of a kind referred to in section 12.16 is necessary because of a reason listed in subsection 12.18(1) if:

(a) a Basin State requests the Inspector-General to make that declaration; and

(b) the Inspector-General is satisfied that the restriction is in fact necessary because of a reason listed in subsection 12.18(1).

(2) The Inspector-General may consult other Basin States, the ACCC, and any other interested parties before making the declaration.

(3) The Inspector-General must publish the declaration, and the Inspector-General's reasons for being satisfied that the restriction is necessary, on the Inspector-General's website.

Note: See section 25D of the *Acts Interpretation Act 1901* for content required in a statement of reasons.

12.21 Exchange rates not to be used in a regulated system

A water access entitlement must not be traded in a regulated system or between regulated systems if an exchange rate is applied to the water access entitlement as a condition of the trade.

Note: See section 12.22 for an exception to this section.

12.22 Inspector-General may permit exchange rates in limited circumstances

(1) Section 12.21 does not apply if:

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(a) the exchange rate is applied as a condition of the trade of a water access entitlement from one location (***location A***) to another (***location B***); and

(b) the Inspector-General has made a declaration under this section; and

(c) the water access entitlement is to be traded between the 2 locations at the exchange rate specified in the declaration.

(2) A Basin State may request the Inspector-General to make a declaration under this section.

(3) The Inspector-General must make a written declaration permitting the application of a specified exchange rate to trades between 2 specified locations if:

(a) the Inspector-General is satisfied that the purpose of the exchange rate is to address transmission losses; or

(b) the Inspector-General is satisfied that:

(i) the purpose of the exchange rate is to redress the impact of previous exchange rate trades from location B to location A; and

(ii) the total volume of water access entitlements to be traded from location A to location B using the exchange rate would not exceed the total volume of water access entitlements previously traded to location A from location B using exchange rates.

(4) The Inspector-General must publish the declaration on its website.

12.23 Restrictions on delivery of water under a tagged water access entitlement established on or after 22 October 2010

(1) If:

(a) a restriction has effect on the trade of water allocations between 2 places, each of which is in a regulated system; and

(b) a tagged water access entitlement exists in relation to those 2 places; and

(c) an order for water is made under the tagged water access entitlement;

the order for water under the tagged water access entitlement is subject to the same restriction.

(2) This section does not apply to a tagged water access entitlement which is established before 22 October 2010.

(3) During the first 5 years after the commencement of this Chapter, this section does not apply to a tagged water access entitlement which is established on or after 22 October 2010 and before the commencement of the Basin Plan.

(4) For this section, a tagged water access entitlement is ***established*** once the tag has been approved by all relevant approval authorities.

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(5) In this section:

tagged water access entitlement means a water access entitlement:

(a) which is registered on a water register in relation to one place; and

(b) under which the water allocation is extracted in a different place (which is tagged on the register);

pursuant to an arrangement for water access entitlement tagging.

Subdivision C—Additional rules relating to groundwater

12.24 Trade within a groundwater SDL resource unit

The trade of a water access right between 2 locations within a groundwater SDL resource unit is prohibited, unless all the following conditions are met:

(a) there is sufficient hydraulic connectivity between the 2 locations;

(b) any resource condition limits in the SDL resource unit specified in a water resource plan will not be exceeded as a result of the trade;

(c) either:

(i) water access rights in the 2 locations have substantially similar characteristics of timing, reliability and volume; or

(ii) measures are in place to ensure that the water access right to be traded will maintain its characteristics of timing, reliability and volume;

(d) measures are in place to address the impact, as a result of trade, on water availability in relation to a water access right held by a third party.

Note: Section 10.37 sets out requirements for a water resource plan in relation to this section.

12.25 Trade between groundwater SDL resource units

The trade of a water access right between 2 groundwater SDL resource units is prohibited, unless all the following conditions are met:

(a) there is sufficient hydraulic connectivity between the 2 units;

(b) any resource condition limits in either unit specified in a water resource plan will not be exceeded as a result of the trade;

(c) measures are in place to account for the trade;

(d) either:

(i) water access rights in the 2 units have substantially similar characteristics of timing, reliability and volume; or

(ii) measures are in place to ensure that the water access right to be traded will maintain its characteristics of timing, reliability and volume;

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(e) measures are in place to address the impact, as a result of trade, on water availability in relation to a water access right held by a third party.

Note: Section 10.38 sets out requirements for a water resource plan in relation to this section.

12.26 Trade between groundwater and surface water

The trade of a water access right between a groundwater SDL resource unit and a surface water SDL resource unit is prohibited, unless all the following conditions are met:

(a) there is sufficient hydraulic connectivity between the 2 units;

(b) any resource condition limits in the groundwater SDL resource unit specified in a water resource plan will not be exceeded as a result of the trade;

(c) measures are in place to account for the trade;

(d) either:

(i) water access rights in the 2 units have substantially similar characteristics of timing, reliability and volume; or

(ii) measures are in place to ensure that the water access right to be traded will maintain its characteristics of timing, reliability and volume;

(e) measures are in place to address the impact, as a result of trade, on water availability in relation to a water access right held by a third party.

Note: Section 10.39 sets out requirements for a water resource plan in relation to this section.

Subdivision D—Miscellaneous

12.27 Restrictions allowable for breaches of State water management law

Nothing in this Chapter is to be taken to have the effect that a person may trade a water access right free of a restriction imposed under State water management law because the person has:

(a) committed an offence; or

(b) failed to pay fees or charges.

Note: See section 4 of the Act for the meaning of ***State water management law***.

Division 2—Trade of water delivery rights

Note: See section 4 of the Act for the meaning of ***irrigation infrastructure operator.***

12.28 No unreasonable restriction of trade of water delivery rights

An irrigation infrastructure operator must not unreasonably restrict the trade of a water delivery right.

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12.29 When restriction of trade is reasonable

(1) For section 12.28, factors to be taken into account in deciding whether a restriction is reasonable include, but are not limited to, the following:

(a) overall capacity in the irrigation infrastructure operator's irrigation network;

(b) capacity in the parts of the irrigation infrastructure operator's irrigation network to which water would potentially be delivered under the traded water delivery right;

(c) reconfiguration or decommissioning work in the parts of the irrigation infrastructure operator's irrigation network to which water would potentially be delivered under the traded water delivery right;

(d) connectivity between specific parts of the irrigation infrastructure operator's irrigation network relevant to the proposed trade;

(e) payment of fees or charges of the type described in paragraph 91(1)(a) of the Act;

(f) the volume of a water delivery right reasonably required to irrigate a person's property for both current and expected future water use;

(g) the net costs to the irrigation infrastructure operator of assessing and giving effect to the trade of a water delivery right;

(h) the provision of reasonable security to the irrigation infrastructure operator for the payment of fees or charges for access to the operator's irrigation network by the person acquiring the water delivery right;

(i) whether the proposed trade would result in the water delivery right being held by a person who does not own or occupy land in the area serviced by the irrigation infrastructure operator.

(2) In this section:

reconfiguration or decommissioning work means activities whereby irrigation networks are closed, rationalised, or otherwise changed, in order to change their capacity or efficiency.

12.30 Irrigation infrastructure operator must give reasons for restricting trade of water delivery right

(1) If an irrigation infrastructure operator decides to restrict the trade of a water delivery right within its irrigation network, it must notify each party to the trade in writing of the decision and the reasons for the decision.

Note: See section 25D of the *Acts Interpretation Act 1901* for content required in a statement of reasons.

(2) The notification must be given as soon as practicable, but in any case within 30 days, after the decision is made.

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Part 3—Information about water delivery rights and irrigation rights

Division 1—General

12.31 Object of this Part

The object of this Part is to facilitate the trade of water delivery rights and irrigation rights by making information about the rights available to the holders of those rights.

Division 2—Water delivery rights to be specified by irrigation infrastructure operators

Note: See section 4 of the Act for the meaning of ***irrigation infrastructure operator***.

12.32 Obligation on irrigation infrastructure operator to specify water delivery rights and give notice

(1) An irrigation infrastructure operator must, for each person holding a water delivery right against it, decide:

(a) the volume or unit share of the person's water delivery right; and

(b) the units applicable to the water delivery right; and

(c) if the water delivery right relates to a specific part of the irrigation infrastructure operator's irrigation network—the part of the irrigation network to which the water delivery right relates.

Note: The units applicable to the water delivery right may be expressed, for example, as megalitres (ML), ML/time, percentage or fraction of available capacity.

(2) The irrigation infrastructure operator must notify the person in writing of:

(a) the decision and the reasons for the decision; and

Note: See section 25D of the *Acts Interpretation Act 1901* for content required in a statement of reasons.

(b) the terms and conditions of the contract between the irrigation infrastructure operator and the person which are applicable to the water delivery right.

(3) The notification must be given:

(a) for a water delivery right in existence at the commencement of this Chapter—within 30 days after commencement; or

(b) otherwise—as soon as practicable, but in any case within 30 days after the right comes into existence.

(4) An irrigation infrastructure operator does not need to notify a person of a matter in accordance with this section if:

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(a) it has notified the person of the matter before commencement of this Chapter; and

(b) the notice is accurate at the commencement of this Chapter.

12.33 Obligation on irrigation infrastructure operator to give notice if water delivery right is changed

(1) If an irrigation infrastructure operator decides to change a person's volume or unit share of water delivery right, it must notify the person in writing of the decision and the reasons for the decision.

Note: See section 25D of the *Acts Interpretation Act 1901* for content required in a statement of reasons.

(2) The notification must be given as soon as practicable, but in any case within 30 days, after the decision is made.

(3) An irrigation infrastructure operator does not need to notify a person of a matter in accordance with this section if the person's volume or unit share of water delivery right changes only to reflect a trade or termination by the person.

Division 3—Irrigation rights to be specified by irrigation infrastructure operators

Note: See section 4 of the Act for the meaning of ***irrigation infrastructure operator***.

12.34 Obligation on irrigation infrastructure operator to specify irrigation rights and give notice

(1) An irrigation infrastructure operator must, for each person who holds an irrigation right against it, decide the person's entitlement to water under their irrigation right.

(2) The entitlement must be expressed as either:

(a) a number of megalitres; or

(b) a unit share of the irrigation infrastructure operator's water access entitlement.

(3) The irrigation infrastructure operator must notify the person in writing of the decision and the reasons for the decision.

Note: See section 25D of the *Acts Interpretation Act 1901* for content required in a statement of reasons.

(4) The notification must be given:

(a) for an irrigation right in existence at the commencement of this Chapter—within 30 days after commencement; or

(b) otherwise—as soon as practicable, but in any case within 30 days after the right comes into existence.

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(5) An irrigation infrastructure operator does not need to notify a person of a matter in accordance with this section if:

(a) it has notified the person of the matter before the commencement of this Chapter; and

(b) the notice is accurate at the commencement of this Chapter.

12.35 Obligation on irrigation infrastructure operator to give notice if irrigation right is changed

(1) If an irrigation infrastructure operator decides to change a person's entitlement to water under an irrigation right, it must notify the person in writing of the decision and the reasons for the decision.

Note: See section 25D of the *Acts Interpretation Act 1901* for content required in a statement of reasons.

(2) The notification must be given as soon as practicable, but in any case within 30 days, after the decision is made.

(3) An irrigation infrastructure operator does not need to notify a person of a matter in accordance with this section if the person's entitlement to water under an irrigation right changes only to reflect a trade or transformation by the person.

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Part 4—Approval processes for trade of water access rights

Division 1—General

12.36 Object of this Part

The object of this Part is to facilitate the trade of water access rights by making the approval processes involved in trade more open and transparent.

Division 2—Approval authority's other activities

12.37 Approval authority must disclose interest before trade occurs

(1) An approval authority must disclose to each party to a proposed trade submitted to it for approval:

(a) the nature of any legal or equitable interest it, or a related party, has in a water access right which is the subject of the proposed trade; and

(b) the nature of any commercial interest it, or a related party, has in the activities of any water market intermediary involved in the proposed trade.

(2) The disclosure must be made:

(a) as soon as practicable; and

(b) before the approval authority approves or rejects the trade.

(3) Subsection (1) does not apply if the interest arises solely from the fact that the approval authority is an agency of a Basin State.

(4) An approval authority is taken to have satisfied the requirements in subsections (1) and (2) if those requirements have been satisfied by a related party of the approval authority, on behalf of the approval authority.

12.38 Approval authority must disclose if it has been a party to a trade

(1) This section applies if:

(a) an approval authority has approved the trade of a water access right; and

(b) the approval authority, or a related party, was a party to the trade.

(2) The approval authority must publish the following information on its website as soon as practicable after the trade has been approved:

(a) the facts referred to in subsection (1);

(b) the type of water access right;

(c) the volume of the water access right traded;

(d) the number of days elapsed between lodgement and approval;

(e) the price of the trade.

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12.39 Approval authority to give reasons for restricting trade

(1) If an approval authority (the ***restricting authority***) decides to restrict a proposed trade of a water access right, it must, subject to subsection (2), give notice of the decision and the reasons for the decision to each party.

(2) If a party to the proposed trade is an interstate party, the approval authority may instead give the notice to the interstate authority, together with a request that it notify the interstate party on behalf of the restricting authority.

(3) The restricting authority must give the notice as soon as practicable, and in any case within 30 days after the decision.

(4) The interstate authority must comply with a request under subsection (2) as soon as practicable.

(5) For this section, if a proposed trade involves a trade of a water access right between the State of the restricting authority and another State:

(a) the approval authority in the other State is the ***interstate authority***; and

(b) a party who acts through the interstate authority is an ***interstate party***.

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Part 5—Information and reporting requirements

Division 1—General

12.40 Object of this Part

The object of this Part is to facilitate the trade of tradeable water rights by making information about the rights publicly available.

12.41 Authority to publish information it is given under this Part

The Authority must publish information it is given under this Part.

Division 2—Information about water access rights

12.42 Water access rights to which this Division applies

In this Division, ***water access right*** does not include water allocation.

12.43 Information about water access rights to be made available

(1) A Basin State which holds information:

(a) relating to a class of water access right conferred by or under a law of the State; and

(b) which is referred to in section 12.44;

must give the information to the Authority in accordance with this section.

(2) The information must be given to the Authority:

(a) in the form determined by the Authority from time to time; and

(b) within the time periods determined by the Authority from time to time.

(3) The information may be provided electronically by way of a link to an appropriate website, or in any other way determined by the Authority.

(4) The Authority must inform a Basin State of any matter it determines under subsection (2) or (3).

(5) The Authority must not require the information to be given more than once per water accounting period.

(6) However, if the information is changed, the State must give the changed information to the Authority as soon as is practicable, but in any case, no later than the date of effect of the change.

12.44 Types of information about water access rights

The information the Authority may require in the form determined under subsection 12.43(2), in relation to a class of water access right, is information relating to the following:

(a) the characteristics of the class, including:

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(i) the water resource name;

(ii) the SDL resource unit;

(iii) its priority or reliability;

(iv) the form of take;

(b) the total volume of the class on issue;

(c) the historic reliability of the class (both as a long-term average and in more recent periods);

(d) the fees and charges payable by a holder of a water access right in the class;

(e) carryover arrangements;

(f) the timing and manner of making allocation announcements;

(g) how allocation levels are determined;

(h) the trading rules relevant to the class;

(i) the areas to which a water access right of the class (and any water allocation under such a right) may be traded;

(j) the areas from which water access rights of other classes (and any water allocations under such rights) may be traded to the water resource to which the class relates.

Division 3—Trading rules to be made available

12.45 Interpretation

In this Division:

central information point means a point determined by the Authority to receive copies of trading rules.

12.46 Basin State must make trading rules available

(1) A Basin State must give a copy of rules it has made that regulate the trade of tradeable water rights in a compiled form, incorporating any amendments, to the central information point:

(a) within 30 days after the commencement of this Chapter; and

(b) if the rules change—as soon as practicable, but in any case no later than the date of effect of the change.

(2) Subsection (1) does not apply to rules of a kind referred to in section 12.47.

(3) If the rules include material by way of a reference to another document:

(a) the rules must explain how the referenced document relates to the rules; and

(b) the referenced document must be published online.

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12.47 Irrigation infrastructure operator must make trading rules available

(1) If an irrigation infrastructure operator has rules that govern the trade of tradeable water rights within, into, or out of, the irrigation infrastructure operator's irrigation network, it must document those rules.

(2) This section does not apply to rules that relate to administrative procedures (for example, the payment of fees, the completion of forms, or information that must be supplied by a person applying for a trade).

(3) If a person requests a copy of an irrigation infrastructure operator's rules, the irrigation infrastructure operator must give a copy of the rules to that person as soon as practicable, but in any case within 30 days after receiving the request.

(4) If the irrigation infrastructure operator has a website, it must publish the rules on its website:

(a) within 7 days after the later of:

(i) the commencement of this Chapter; and

(ii) the day the person becomes an irrigation infrastructure operator; and

(iii) the day the irrigation infrastructure operator obtains a website; and

(b) if the rules change—as soon as practicable, but in any case within 30 days after the change.

(4A) If the irrigation infrastructure operator is an operator to which subsection (5) applies, it must also give a copy of the rules to the central information point:

(a) within 7 days after the day on which subsection (5) starts to apply to the operator; and

(b) if the rules change—as soon as practicable, but in any case within 30 days after the change.

(5) This subsection applies to an irrigation infrastructure operator if the sum of the maximum volume of water from Basin water resources in respect of which the operator provides infrastructure services in relation to:

(a) water access entitlements held by the operator (otherwise than for the purpose of providing infrastructure services to customers who hold water access entitlements to that water); and

(b) water access entitlements held by its customers; and

(c) water access entitlements held by the owner (not being the operator) of the water service infrastructure operated by the operator;

is at least 10GL.

Note: In this subsection, the maximum volume of water refers to that held under water access entitlements.

(5A) For subsection (5):

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customer, in relation to an irrigation infrastructure operator, means a person who is entitled to infrastructure services, such as the holder of a water delivery right, from the operator.

infrastructure service means access, or a service provided in relation to access, to water service infrastructure and includes the storage, delivery, drainage and taking of water.

(6) The rules must be made available in such a manner that the current version of the rules is readily ascertainable and accessible.

(7) If the rules include material by way of a reference to another document:

(a) the rules must explain how the referenced document relates to the rules; and

(b) the referenced document must be published online.

Note: See section 4 of the Act for the meaning of ***irrigation infrastructure operator***.

Division 4—Trading prices to be made available

12.48 Price of trade to be reported

(1) If the trade of a water access right requires the approval of an approval authority, the person disposing of the water access right must notify the approval authority in writing of the price agreed for the trade.

Note: See section 1.07 for the meaning of ***approval authority***.

(2) If the trade of a water access right does not require the approval of an approval authority but does require registration, the person disposing of the water access right must notify the registration authority of the price agreed for the trade.

(3) The notice must be given either at, or before, the time the approval or registration is sought.

Division 5—Information to be made available

12.49 Interpretation

*Meaning of **material effect***

(1) In this Division:

material effect: a water announcement is taken to have a ***material effect*** on the price or value of water access rights if the announcement is reasonably likely to influence persons who commonly acquire water access rights in deciding whether or not to acquire or dispose of such rights.

*Meaning of **water announcement***

(2) In this Division:

water announcement means:

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(a) an allocation announcement; or

(b) a carryover announcement; or

(c) a public announcement by an agency of the Commonwealth or of a Basin State that:

(i) is of a decision that relates to actions that the agency is undertaking, or may or will undertake; and

(ii) can reasonably be expected, if made generally available, to have a material effect on the price or value of water access rights.

(3) A reference in subparagraph (2)(c)(i) to a decision:

(a) includes, but is not limited to, a decision that relates to:

(i) a carryover arrangement or a change to a carryover arrangement; or

(ii) a change in the ability to trade between places; or

(iii) an amendment to a previous announcement; or

(iv) a trading strategy; and

(b) excludes a decision that relates to a particular trade of a water access right if:

(i) the trade is or will be consistent with, and conducted pursuant to, a trading strategy; and

(ii) the trading strategy has been the subject of a water announcement that has become generally available.

12.50 Water announcements must be made generally available

A person who makes a water announcement must ensure that it is made in a manner that makes it generally available.

12.51 Person not to trade if aware of water announcement before it is made generally available

(1) This section applies to a person who is aware of:

(a) a decision:

(i) that has been made, and is to be announced, by an agency of the Commonwealth or of a Basin State; and

(ii) that has not been publicly announced; and

(iii) the announcement of which will constitute a water announcement; or

(b) a water announcement that is not generally available.

(2) The person must not:

(a) take an action mentioned in subsection (3) in relation to any water access right whose price or value could reasonably be expected to be

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materially affected by the information referred to in subsection (1) if it were to become generally available; or

(b) procure another person to take such an action.

(3) For subsection (2), the actions are:

(a) enter into a contract to trade; or

(b) if no contract is involved in the trade:

(i) apply to an approval authority in relation to the trade; or

(ii) if no approval is involved in the trade—apply to a registration authority in relation to the trade.

12.52 Chinese wall arrangements for agencies

(1) A relevant agency does not contravene section 12.51 by taking an action mentioned in subsection 12.51(3) at any time merely because of information in the possession of an officer or a member of staff of the agency if:

(a) the decision to take the action was taken on its behalf by a person or persons other than that officer or member of staff; and

(b) it had in operation at that time arrangements that could reasonably be expected to ensure that the information was not communicated to the person or persons who made the decision referred to in paragraph (a) and that no advice with respect to the decision was given to that person or any of those persons by a person in possession of the information; and

(c) the information was not so communicated and no such advice was given.

(2) In this section:

relevant agency means:

(a) the Commonwealth; or

(b) a Basin State; or

(c) a person that is:

(i) an agency of the Commonwealth; or

(ii) an agency of a Basin State.

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Chapter 13—Program for monitoring and evaluating the effectiveness of the Basin Plan

Part 1—Preliminary

13.01 Simplified outline

(1) This section sets out a simplified outline of this Chapter.

(2) This Chapter sets out the program for monitoring and evaluating the effectiveness of the Basin Plan (item 13 of the table in subsection 22(1) of the Act), which consists of:

(a) the principles to be applied in monitoring and evaluating the effectiveness of the Basin Plan (Part 2); and

(b) the following framework to be used to monitor and evaluate the effectiveness of the Basin Plan:

(i) processes for reviewing and evaluating the Basin Plan and assessing the condition of the Murray-Darling Basin, contributing to adaptive management (Part 3);

(ii) reporting requirements relating to the matters by reference to which the effectiveness of the Basin Plan will be monitored and evaluated (Part 4);

(iii) requirements for the publication of information (Part 5);

(iv) provisions for improving monitoring, evaluation and reporting capabilities (Part 6).

(3) The effectiveness of the Basin Plan is to be evaluated against the objectives and outcomes set out in Chapters 5, 8 and 9, and by reference to the matters in Schedule 12.

13.02 Personal information not required

Nothing in this Chapter requires or authorises a person to disclose personal information.

Note: See section 6 of the *Privacy Act 1988* for the definition of ***personal information***.

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Part 2—Principles to be applied

13.03 Principles of responsibility for monitoring and evaluating the effectiveness of the Basin Plan

Principle 1

(1) The Authority is responsible for leading monitoring at the Basin scale, having regard to the desirability of:

(a) collecting information in an efficient way; and

(b) providing open access to information collected or used in, or generated by, monitoring; and

(c) harnessing existing monitoring capabilities where possible, rather than creating new monitoring capabilities; and

(d) building upon existing information and data supply arrangements where possible, rather than establishing new arrangements; and

(e) using an adaptive approach to test and improve monitoring capabilities; and

(f) eliminating duplication and fragmentation of monitoring processes where possible; and

(g) there being no net reduction in existing monitoring efforts.

Principle 2

(2) The Authority is responsible for leading all evaluations of the effectiveness of the Basin Plan, with Basin States, the Commonwealth Environmental Water Holder and the Department enabling evaluations by collecting, analysing and reporting information (including data) in a fit for purpose manner.

13.04 Other principles to be applied in monitoring and evaluating the effectiveness of the Basin Plan

(1) The principles in this section must be applied by:

(a) the Authority, when monitoring the effectiveness of the Basin Plan and conducting evaluations and reviews under Part 3; and

(b) the Basin States, the Commonwealth Environmental Water Holder and the Department, when monitoring and evaluating for the purpose of meeting the reporting requirements in Part 4.

Principle 3

(2) Commonwealth agencies and Basin States should report against matters in a manner which reflects the degree to which they are responsible for those matters.

Note: For example, the Commonwealth Environmental Water Holder is responsible for reporting on matters only to the extent that the matters relate to its responsibilities.

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Principle 4

(3) Monitoring and evaluation should be undertaken within the conceptual framework of program logic.

Note: Program logic is a mechanism that helps to determine when and what to evaluate so that resources can be used effectively and efficiently: see the Australian Government's *NRM MERI Framework*.

Principle 5

(4) Monitoring and evaluation findings, including in respect of progress towards meeting targets and trends in the condition and availability of the Basin water resources, should enable decision-makers to use adaptive management.

Principle 6

(5) Monitoring and evaluation should harness the monitoring capabilities of existing Basin State and Commonwealth programs (including jointly funded programs), provided that the programs are consistent with the principles in this Part, with a view to aligning and improving these programs over time.

Note: For example, water information provided by Basin States to the Bureau of Meteorology under Part 7 of the Act may be used, where possible, for monitoring and evaluation under this Chapter to avoid duplication in the sourcing of that information.

Principle 7

(6) The best available knowledge (including scientific, local and cultural knowledge), evidence and analysis should be used where practicable to ensure credibility, transparency and usefulness of monitoring and evaluation findings.

Principle 8

(7) Basin States and the Commonwealth should collaborate on the technical and operational elements of monitoring and evaluation in order to build engagement and ownership.

Principle 9

(8) A risk-based approach should be used for investment in monitoring and evaluation.

Principle 10

(9) Monitoring and reporting should be timely, efficient, cost-effective and consistent, and should supply the information needed for evaluation.

Principle 11

(10) To the extent possible, there should be open access to information collected or used in, or generated by, monitoring and evaluation.

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Part 3—Evaluations, reviews and assessments

Division 1—Evaluation of Basin Plan

13.05 Purpose of evaluation

(1) The Authority must evaluate the effectiveness of the Basin Plan against the objectives and outcomes set out in Chapters 5, 8 and 9, and by reference to the matters listed in Schedule 12, for the purposes of:

(a) annual reports on the effectiveness of the Basin Plan, as required by section 52A of the Act; and

(b) advising on the impacts of the Basin Plan before the end of 2020, as required by section 49A of the Act; and

(c) 10 yearly reviews of the Basin Plan, as required by subsection 50(1) of the Act; and

(d) any other reviews of the long-term average sustainable diversion limits (for example, following a request under subsection 50(2) of the Act).

Note: The Authority must publish the findings and recommendations arising from an evaluation: see section 13.18.

(2) The matters in Schedule 12 relate to:

(a) the Basin Plan as a whole, including its social and economic impacts; and

(b) each of the following elements of the Basin Plan:

(i) the environmental watering plan;

(ii) water quality and salinity;

(iii) the water trading rules;

(iv) water resource planning.

Note: The matters in Schedule 12 represent, and are similar but not identical to, the objectives and outcomes set out in Chapters 5, 8 and 9.

(3) In making an evaluation, the Authority must have regard to:

(a) relevant reports produced under Part 4; and

(b) the key evaluation questions in section 13.06; and

(c) any other relevant information it holds.

13.06 Key evaluation questions

The key questions that the Authority must ask when making an evaluation referred to in section 13.05 are the following:

(a) to what extent has the intended purpose of the Basin Plan set out in section 20 of the Act been achieved?

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(b) to what extent have the objectives, targets and outcomes set out in the Basin Plan been achieved?

(c) how has the Basin Plan contributed to changes to the environmental, social and economic conditions in the Murray-Darling Basin?

(d) what, if any, unanticipated outcomes have resulted from the implementation of the Basin Plan?

(e) how could the effectiveness of the Basin Plan be improved?

(f) to what extent were the actions required by the Basin Plan suited to meeting the objectives of the Basin Plan?

(g) to what extent has the program for monitoring and evaluating the effectiveness of the Basin Plan contributed to adaptive management and improving the available scientific knowledge of the Murray-Darling Basin?

Division 2—Reviews of water quality targets, environmental watering plan and social and economic impacts

13.07 Purpose of reviews

The purpose of the reviews required by this Division is to assess:

(a) the effectiveness of:

(i) the water quality targets in the water quality and salinity management plan; and

(ii) the environmental watering plan;

in contributing to the achievement of the objectives set out in Chapters 8 and 9; and

(b) the social and economic impacts of the Basin Plan.

Note: The Authority must publish the findings and recommendations arising from a review: see section 13.19.

13.08 Reviews of the water quality and salinity management plan targets

(1) The Authority must complete a review of the water quality targets in the water quality and salinity management plan before the end of 2020 and within every 5 years thereafter.

Note: The water quality targets are set out in Part 4 of Chapter 9. Water quality includes salinity: see section 1.07.

(2) The first review must include a consideration of:

(a) the appropriateness of the existing target values for levels of salinity in paragraph 9.14(5)(c); and

(b) whether it is necessary to increase the number of target sites in order to improve the management of salinity;

having regard to Schedule B to the Agreement.

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(3) The Authority may request from a person or body (for example, a person or body mentioned in subsection (4)) any information that it considers necessary to conduct the review.

Note: See also section 238 of the Act.

(4) The review must be undertaken in consultation with the Basin States, the Commonwealth Environmental Water Holder and other relevant Commonwealth agencies.

13.09 Reviews of the environmental watering plan

(1) The Authority must complete a review of the environmental watering plan before the end of 2020 and within every 5 years thereafter.

(2) The review must include a review of the targets set out in Schedule 7.

(3) The Authority may request from a person or body (for example, a person or body mentioned in subsection (4)) any information that it considers necessary to conduct the review.

Note: See also section 238 of the Act.

(4) The review must be undertaken in consultation with the Basin States, the Commonwealth Environmental Water Holder and other relevant Commonwealth agencies.

13.09A Reviews of the social and economic impacts of the Basin Plan

(1) The Authority must complete a review of the social and economic impacts of the Basin Plan before the end of 2020 and within every 5 years thereafter.

(2) The review must be undertaken in consultation with the Basin States and relevant Commonwealth agencies.

Division 4—Assessments of Basin condition

13.11 Periodic assessments of Basin condition

(1) The Authority may periodically undertake assessments of trends in the condition and availability of the Basin water resources and the social, cultural and economic contexts in which they are used, as revealed by monitoring information.

(2) An assessment must be undertaken in consultation with the Basin States, the Commonwealth Environmental Water Holder and other relevant Commonwealth agencies.

Division 5—Evaluations, reviews and audits to inform changes to, and implementation of, Basin Plan

13.12 Evaluations, reviews and audits to inform changes to, and implementation of, Basin Plan

(1) When:

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(a) proposing any amendments to the Basin Plan; or

(b) unless a contrary intention appears from the Basin Plan—exercising powers or performing functions under the Basin Plan;

the Authority and the Basin States must have regard to:

(c) the findings and recommendations arising from any relevant evaluations under Division 1; and

(d) the findings and recommendations of any relevant reviews conducted under Division 2; and

(e) the findings and recommendations of any relevant audits conducted under Division 3B of Part 2 of the Act.

Note: Subdivision F of Division 1 of Part 2 of the Act sets out the process for amending the Basin Plan.

(2) If the Authority or a Basin State fails to comply with subsection (1) when exercising a power or performing a function under the Basin Plan, the exercise of the power or the performance of the function is not invalid by reason of the failure.

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Part 4—Reporting requirements

13.13 Definitions

In this Part:

reporter, for a matter listed in Schedule 12, means the person or body listed as the reporter for the matter.

reporting day, for a matter listed in Schedule 12, means 31 October in the calendar year in which a reporting period for the matter ends or such other day as is determined by the Authority.

reporting period, for a matter listed in Schedule 12:

(a) if the matter is listed as a Category A matter—means the period of 5 years starting on the start day for the matter, and every successive period of 5 years; and

(b) if the matter is listed as a Category B matter—means the period of 1 year starting on the start day for the matter, and every successive period of 1 year.

start day, for a matter listed in Schedule 12, means the day, being a day no later than 1 July 2019, notified by the Authority in writing to the reporters for the matter.

Note 1: For example, the start day for some reporting matters may be the day on which the Basin Plan, or a particular part of the Basin Plan, commences.

Note 2: Reporting days and reporting periods may also be varied by agreement: see section 13.15.

13.14 Reporting requirements for Basin States, the Department etc

(1) For each matter listed in Schedule 12, each reporter listed for the matter must, for each reporting period and by the reporting day, produce a report (including data) on the matter as at the end of the reporting period.

(2) If the reporter is not the Authority, the reporter must, by the reporting day, give the report to the Authority.

Note: The Authority is required to publish copies of all reports: see section 13.22.

13.15 Agreements in relation to reporting requirements

(1) The Authority must use its best endeavours to enter, within 2 years after the commencement of the Basin Plan, into an agreement with:

(a) each Basin State; and

(b) the Commonwealth Environmental Water Holder; and

(c) the Department;

in relation to meeting the reporting requirements in section 13.14.

(2) Without limiting subsection (1), an agreement may:

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(a) exempt a Basin State, the Commonwealth Environmental Water Holder or the Department from reporting on a matter to the extent that the matter is not relevant to that person or body; or

(b) exempt a Basin State from reporting on a matter to the extent that the Basin State already provides the information covered by the report to a Commonwealth agency or a Commonwealth agency otherwise has the information in its possession or control; or

(c) provide for the production of a report in respect of a period other than the reporting period or by a day other than the reporting day; or

(d) if more than one person is listed as the reporter for a matter, permit a joint report to be produced; or

(e) allow a person to contribute information to a report produced by another; or

(f) set out the manner in which the report is to be produced or given to the Authority.

(3) If an agreement provides for the production of a report in respect of a period other than the reporting period, section 13.14 has effect as if the first-mentioned period were the reporting period.

(4) If an agreement provides for the production of a report by a day other than the reporting day, section 13.14 has effect as if the first-mentioned day were the reporting day.

(5) The Authority must seek to ensure that an agreement removes unnecessary duplication of effort in the provision of reports.

(6) Nothing in this section prohibits the Authority from entering into agreements for the provision of information other than the information required by section 13.14 (for example, for the purposes of conducting a review under section 50 of the Act).

13.16 Guidelines for reporting requirements

The Authority may publish guidelines in relation to the reporting requirements in this Part, and the Basin States, the Department and the Commonwealth Environmental Water Holder may have regard to the guidelines.

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Part 5—Publication of information

13.17 Publication of monitoring information

The Authority must, in consultation with Basin States, the Department and the Commonwealth Environmental Water Holder (as relevant), and any other relevant person or body, take all reasonable steps to publish on its website information (including data) obtained in monitoring the effectiveness of the Basin Plan.

13.18 Publication of evaluation findings and recommendations

(1) The Authority must take all reasonable steps to publish on its website the findings and recommendations arising from its evaluations of the effectiveness of the Basin Plan under Division 1 of Part 3.

(2) The Authority must provide the Basin States, the Department, the Commonwealth Environmental Water Holder and any other relevant person or body with an opportunity to comment on the proposed findings and recommendations before the findings and recommendations are published.

13.19 Publication of findings and recommendations arising from reviews

(1) The Authority must take all reasonable steps to publish on its website the findings and recommendations arising from any review conducted under Division 2 of Part 3.

(2) The Authority must provide the Basin States, the Department, the Commonwealth Environmental Water Holder and any other relevant person or body with an opportunity to comment on the proposed findings and recommendations before the findings and recommendations are published.

13.21 Publication of findings of assessments

(1) The Authority must take all reasonable steps to publish on its website the findings of each assessment conducted under Division 4 of Part 3.

(2) The Authority must provide the Basin States, the Department, the Commonwealth Environmental Water Holder and any other relevant person or body with an opportunity to comment on the proposed findings before the findings are published.

13.22 Publication of reports produced under Part 4

(1) The Authority must take all reasonable steps to publish on its website a copy of each report produced by or given to the Authority under Part 4.

(2) However, if the person or body (other than the Authority) who produced the report has published the report on a website, the Authority need not publish the report on its website.

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Part 6—Improving monitoring, evaluation and reporting capabilities

13.23 Improving monitoring, evaluation and reporting capabilities

(1) The Authority must complete an assessment of monitoring, evaluation and reporting capabilities relevant to this Chapter before the end of 2020.

(2) When conducting the assessment, the Authority must have regard to the findings and recommendations arising from relevant evaluations, reviews, audits and assessments conducted under Part 3.

(3) If the assessment identifies improvements that can be made to monitoring capabilities, the Authority must use its best endeavours, with the Basin States, the Department, the Commonwealth Environmental Water Holder and any other relevant persons or bodies, to give effect to those improvements.

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Schedule 1—Basin water resources and the context for their use

Note: See section 2.01

Introduction

1. This description of Basin water resources and the context in which those resources are used has been prepared in accordance with the requirements of item 1 of the table in subsection 22(1) of the *Water Act 2007* and is based upon the best information available to the Murray-Darling Basin Authority at this point in time. It comprises information on the size, extent, connectivity, variability and condition of the Basin water resources; the uses to which the Basin water resources are put (including by Indigenous people); the users of the Basin water resources; and the social and economic circumstances of Basin communities dependent on the Basin water resources.

2. The Murray-Darling Basin is large, diverse and dynamic in terms of its climate, natural resources and the social and economic circumstances of its industries and communities. Spatial and temporal changes in the availability, condition and use of water resources are a constant, resulting in a highly variable set of circumstances across different parts of the Basin at any given time. This description considers the Basin water resources and the context in which those resources are used, primarily from a Basin-wide perspective.

Size and extent of Basin water resources

3. The Murray-Darling Basin is defined by the catchment areas of the Murray and Darling rivers and their many tributaries. Comprising 23 main river valleys, the Basin extends over 1 million km^2 of south-eastern Australia, covering three-quarters of New South Wales, more than half of Victoria, significant portions of Queensland and South Australia, and all of the Australian Capital Territory. The Basin includes more than 77,000 km of rivers, creeks and watercourses, and an estimated 30,000 wetlands (Crabb 1997).

4. Many rivers and streams, particularly in the comparatively unregulated north of the Basin, are highly ephemeral.

5. The average rainfall over the Basin is estimated to be 530,618 GL a year. Of this, around 94% evaporates or transpires through plants. It is estimated that less than 6% of rainfall runs off into rivers and streams of the Basin (Roderick & Farquhar 2011; MDBA 2010b).

6. Average annual inflows of water to the Basin streams (including inter-basin transfers) are of the order of 32,500 GL (MDBA 2011d).

7. The capacity of major water storages in the Basin is about 34,500 GL (Crabb 1997).

8. The Murray-Darling Basin has large groundwater resources (estimated to be about 10.13 million GL) in three main aquifer types: alluvial, porous rock and fractured rock. The alluvial and porous rocks of the sedimentary basins cover the largest area. The storage in these aquifers is significant, but only a small percentage is accessible and water quality is often poor. Annual recharge averages about 23,450 GL (CSIRO & SKM 2011; CSIRO 2010b).

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9. While the Great Artesian Basin is a major groundwater resource under the Basin, its management is not included in the Basin Plan, as the Water Act excludes groundwater of the Great Artesian Basin from the definition of Basin water resources.

Connectivity

10. Hydrologic connectivity, or the ability for water sources to connect sufficiently to allow the movement of water, is highly variable between the regions of the Murray-Darling Basin and between wet and dry periods. For example, the Paroo, Lachlan and Wimmera rivers terminate in floodplain wetlands, and only in very large floods contribute any flow to the Darling, Murrumbidgee or Murray rivers respectively (CSIRO 2008). The Murrumbidgee and Goulburn-Broken generally provide more regular flows to the Murray.

11. During very wet periods, water connects laterally from river channels to wide floodplains. These floodplains are typically very flat in their lower reaches, resulting in slow travel times and high volumes of seepage and evaporation, particularly over summer and especially in the northern parts of the Basin.

12. Across the Basin the level of connection between surface water and groundwater is variable. For example there are strong connections between groundwater and surface water in alluvial valleys such as the Peel River while there is no connection in a number of western Basin areas (MDBA 2012; Tomlinson 2011).

Variability

13. Climatic conditions in the Murray-Darling Basin vary considerably from region to region and year to year. There is a strong east-west rainfall gradient and a strong north-west to south-east temperature gradient. Rainfall is summer-dominant in the north and winter-dominant in the south (CSIRO 2008).

14. The Basin also experiences considerable variation in annual inflow to its rivers—over the past 114 years inflows have ranged from a high of around 117,907 GL in 1956 to a low of around 6,740 GL in 2006 (MDBA 2010a, 2010b).

15. Flow through the barrages near the Murray Mouth also varies widely depending upon a wide range of climatic conditions, including the federation and millennium droughts and the very wet periods during the 1950s and 1970s. The historical patterns of annual stream flow are modelled under without-development conditions and represent this variability. At Wentworth on the River Murray, flow in the wettest 15-year sequence (1950–1964) is 42% higher than the long-term average. In the driest 15-year sequence (1995–2009), flow is 32% lower than the long-term average (MDBA 2010b).

16. Multiple lines of evidence indicate that the tropics and tropical weather systems and their influences are expanding southward, exerting considerable influence on the climate of south-eastern Australia, including the Murray-Darling Basin. There is also evidence that the southern storm tracks that historically brought cool season rains to southern Australia have contracted toward the South Pole. If these trends in circulation patterns continue they will have significant implications for the climate and water resources of the Murray-Darling Basin, potentially leading to a warmer and drier climate in the southern half of south-eastern Australia (CSIRO 2010a).

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Condition

17. The condition of the Basin's surface water resources varies depending on a range of factors including location, climate and connectivity, the level of development, management arrangements, local activities, and an area's relationship with other parts of the system.

18. Changes to the flow regime of the Murray-Darling Basin's rivers have affected flood- and flow-dependent species and ecosystems (Boulton 1999; Kingsford 2000; Kingsford & Thomas, 2004). The National Land and Water Resources Audit (NLWRA 2000) assessment of river condition indicated that the ecological health of Basin rivers was poorer than that required for ecological sustainability.

19. In its *Assessment of the ecological and economic benefits of environmental water in the Murray-Darling Basin* (2012), CSIRO found that the ecological condition across the regions of the Basin is predominantly poor, with the trend being one of decline. It noted this was consistent with the *NSW State of the Catchments Reports* (NSWOEH 2010) and the *Sustainable Rivers Audit* (2004-07) (Davies *et al*. 2008). The *Sustainable Rivers Audit* provides a comprehensive assessment of the ecosystem health of 23 river valleys in the Murray-Darling Basin. On the basis of the first assessment (2004–07), the Paroo valley in the north-west of the Basin was the only region to achieve a health rating of 'good'. The Condamine and Border Rivers valleys were rated as being in 'moderate health', and all others were rated 'poor' or 'very poor', with the lowest ranked being the Murrumbidgee and Goulburn valleys (Davies *et al*. 2008).

20. In the past 50 years, populations of native fish species in the Basin have suffered serious declines in distribution and abundance. These declines reflect the poor state of the river system and the impacts of human use. Up to half of the Basin's native fish species are considered to be either threatened or of conservation significance. It is estimated that the fish communities in the Basin are at about 10% of their levels before European settlement. Twenty-six of the 46 native species in the Basin are recognised as either rare or threatened on state, territory or national listings. Eleven alien species comprise 80–90% of fish biomass at many sites in several rivers (Lintermans 2007).

21. Many species of waterbirds breed in large numbers only during flooding of wetlands and lakes. The large wetlands on the lower reaches of the Condamine-Balonne, the Gwydir, the Macquarie, the Lachlan and the Murrumbidgee rivers are among the most important sites of their type in Australia for such breeding events (Kingsford, Curtin & Porter 1999; Kingsford & Auld 2005). However, assessments indicate that about 90% of the Gwydir Wetlands, 75% of the wetlands of the Lower Murrumbidgee floodplain, and 40–50% of the Macquarie Marshes have been lost since European settlement (Keyte 1994; Kingsford & Thomas 1995, 2004). The breeding of colonially nesting waterbirds in the Barmah-Millewa Forest on the Murray (Leslie 2001), the number of waterbirds and waterbird nests, and the frequency of waterbird breeding in the Macquarie Marshes have been reduced relative to without-development conditions (Kingsford & Thomas 1995; Kingsford & Johnson 1998).

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22. Through the widespread drought conditions over the decade to 2010 the average annual stream flow at the Murray Mouth was particularly low. This resulted in the siltation of the Murray Mouth channel and the extreme hypersalinisation of the South Lagoon, where salinity reached more than four times that of seawater. Changes to the water regime of the River Murray have also been linked to a decline in abundance of a number of fish and waterbird species in the Coorong (Brookes *et al*. 2009).

23. Low levels of flow during the recent drought conditions led to significant water quality problems (for example, blue-green algal blooms; blackwater events in flushes after dry periods). While these are natural events, they have been increasing in intensity due to the changes in flow patterns in many rivers, particularly in the south. Small to medium floods, which normally would flush through floodplains quite regularly, are now contained and regulated.

24. The health of riparian and wetland vegetation, which plays a key part in riverine ecology, has declined. Many areas remain under significant pressure from the combined effects of human activity and the recent drought. For example, in 2003, 80% of remaining river red gums on the River Murray floodplain in South Australia were stressed to some degree, and 20–30% were severely stressed. In the Macquarie Marshes, over half the river red gum forest and woodland had more than 40% dead canopy, and over 40% had more than 80% dead canopy (Bowen & Simpson 2009).

25. The quality of groundwater resources in the Murray-Darling Basin varies naturally from fresh through brackish to highly saline (in some areas exceeding the salinity of sea water). Most of the Basin's groundwater resources are relatively unchanged from without-development conditions. However, significant changes have occurred in groundwater resources in some locations, including where large aquifers in areas of intensive irrigation development have been heavily used over the past 30 to 40 years. The condition of groundwater resources in the Basin, compared with their condition before land clearing and development for consumptive purposes, relates to the decline in groundwater levels (and pressure in confined systems) and the raising of groundwater levels because of increased recharge caused by local irrigation drainage or greater rainfall infiltration following land clearing.

Uses of Basin water resources

26. The water resources of the Murray-Darling Basin are used in agriculture, non-agricultural industry, meeting critical human water needs and normal domestic requirements, for recreational and cultural purposes, and in maintaining freshwater ecosystems.

27. Basin water resources are used both to irrigate food, fibre and pasture crops, and in dryland agriculture for watering of stock and in maintaining farming operations. Use of Basin water resources underpins Basin-wide agricultural production with an estimated value of $15 billion annually, 40% of Australia's total agricultural production. About one-third of the Basin's annual agricultural production by value is irrigated (ABS 2006).

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28. As a long-term average, 42% of surface-water run-off to the Murray-Darling Basin is diverted for social and economic consumption or environmental management, while 58% currently remains in the environment. In 2004–05, 83% of water taken from Basin water resources was used in agricultural production; another 13% was used in the water supply industry, primarily through irrigation water supply losses; and mining, other industries and household use was relatively small. The actual consumptive water use in any given year is governed by water access rights and entitlements. This amount will vary year-to-year depending on annual climatic conditions and water availability (ABS 2008). For example, in 2008–09, 3,843 GL was used for agriculture out of a total of 6,152 GL, which equates to 62% of the total water use for that year (ABS 2010).

29. Basin water resources are used for critical human water needs and domestic purposes not only across the Basin, but also in Adelaide and regional South Australia, Lithgow and the Blue Mountains in NSW, and southern Victoria.

30. Indigenous use includes for cultural, social, environmental, spiritual and economic purposes. Many Indigenous people view water spiritually—people, land and rivers are inextricably connected. Indigenous economic interests include trading, hunting, gathering food and other items for use that alleviate the need to purchase similar items and the use of water to support businesses in industries such as pastoralism and horticulture. The environmental and cultural health of the Murray-Darling Basin is of paramount importance in serving these interests.

31. The concept of cultural flows helps translate the complex relationship described above into the language of water planning and management. The following definition of cultural flows is currently used by the Northern Murray-Darling Basin Aboriginal Nations and the Murray Lower Darling Rivers Indigenous Nations: “Water entitlements that are legally and beneficially owned by the Indigenous Nations and are of sufficient and adequate quantity to improve the spiritual, cultural, environmental, social and economic conditions of those Indigenous Nations. This is our inherent right”. The provision of cultural flows will benefit Indigenous people in improving health, wellbeing and provides empowerment to be able to care for their country and undertake cultural activities.

32. The resources are also used for water sports, wider recreational activities, to attract visitors to particular regions, and for visual amenity.

33. All jurisdictions in the Murray-Darling Basin have legislated under the National Water Initiative for the statutory provision of water to be used by the environment, often defined in water plans. Entitlements may be held on behalf of the environment, which are then used for specific environmental objectives. This process is typically managed under advice; for example from groups such as the Authority’s Environmental Watering Group for The Living Murray and the Commonwealth Environmental Water Holder (NWC 2011a).

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34. The Authority's best estimate of the surface-water runoff in the Basin is shown in table 1:

Table 1: Murray-Darling Basin long-term annual inflow and water use

Surface-water		**GL**
Inflows		
	Inflows to the Basin	31,599
	Transfer into the Basin	954
	Total	**32,553**
Water use		
	Watercourse diversions	10,890
	Interceptions	2,733
	Water used by the environment and losses	13,788
	Outflows from the Basin	5,142
	Total	**32,553**

Sources: MDBA 2011a, MDBA 2011d.

Note 1: The diversions shown in this table are based on Authority estimates and correspond to those outlined in Schedule 2.

Note 2: The total inflows into the Basin shown in this table are the Authority's best estimate of surface-water runoff generated across the Basin and are based on modelled inflows adjusted where necessary to incorporate the effects of interception activities. This differs from other methods of assessing total Basin water availability such as inflow data based on CSIRO 2008, which modelled flows at the point of maximum flow under without-development conditions.

Note 3: Some estimates have been subject to rounding.

Users of Basin water resources

35. Users of Basin water resources include about 1.3 million people living outside the Basin as well as the more than 2 million people living in the Basin (ABS, ABARE and BRS 2009). Householders in cities, towns and villages use the water resources for domestic purposes while local authorities use them to maintain sports fields and parks.

36. All of the approximately 60,000 agricultural businesses in the Basin use the water resources of the Basin, about 18,000 of them in irrigating crops (ABS 2006).

37. Businesses processing food and fibre grown in the Basin, mining companies working the mineral resources of the Basin, and wider industry depend on use of Basin water resources.

38. People of the more than 40 Indigenous nations across the Basin use the water resources for cultural, social, environmental, spiritual and economic purposes. They see themselves as an integral part of the river system and are reliant on the river for their physical and spiritual well-being. Because of their holistic understanding and connection, and practices of lore and customary law, Indigenous people have a deep responsibility for the health of rivers. Indigenous bodies hold an estimated 81 water licences in the Basin, with a total allocation of 8,237 ML (Arthur 2010).

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39. An estimated 430,000 people use Basin water resources for more than 5 million recreational fishing trips a year, with a most likely direct expenditure estimate of $1.35 billion (DPI 2011). Recreation and tourism use of Basin water resources is generally non-consumptive, but depends on a degree of ecological health. Ramsar-listed wetlands are significant tourist destinations.

40. The National Water Initiative recognises the environment as a legitimate user of water and the need to ensure that water-dependent ecosystems, such as rivers, lakes, floodplains, wetlands and estuaries are considered in management decisions (NWC 2011a).

Social and economic circumstances of Basin communities dependent on the Basin water resources

41. Population density in the Basin is highest in the east and south-east, becoming increasingly sparse on a south-east to north-west gradient. More than three quarters (78%) of the population lives in one of the more than 400 urban centres, towns and rural localities spread across the Basin. The remainder live rurally (ABS 2009).

42. In 2006 there were 921,300 people employed in the Basin, with more than 21% of the jobs in Canberra. Of those residents considered to be part of the labour force, 5.0% were at the time classified as unemployed, compared to 5.2% unemployment nationally (ABS 2006).

Table 2: Industry of employment (2006)

Industry	**MDB excluding Canberra (%)**	**Canberra only (%)**	**Australia (%)**
Agriculture, forestry and fishing	13.3	0.3	3.2
Mining	1.0	0.0	1.2
Manufacturing and trade (retail and wholesale)	25.9	13.0	26.9
Utilities (electricity, gas, water, waste services, telecommunication and information services)	2.3	2.9	3.0
Construction and housing	8.2	6.9	9.7
Arts, recreation and tourism	7.2	7.8	7.9
Transportation	4.5	2.4	4.8
Professional and administrative	15.1	45.1	20.8
Education, health and social services	18.8	18.1	18.7
Other	3.7	3.5	3.8
Total employed persons	**745,500 [3.6% of total population]**	**175,800 [0.9% of total population]**	**9,104,200 [44.6% of total population]**
Total population (2006 census)	**20,402,459**		

Source: ABS 2006

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43. Excluding Canberra, almost half (47%) of the Basin's income earners in 2006 earned less than $400 per week gross, slightly more than the national proportion of 45%. For higher incomes, 17% of working Basin residents earned more than $1,000 gross per week, compared to 20% nationally. A similar pattern, of more lower-income earners and fewer higher-income earners, emerges when the gross weekly incomes are combined for families (ABS 2006).

44. Agriculture is a defining feature for many of the Basin's communities. Many residents have a strong connection with the land, which forms part of their identity. The intimate connection between the farm as a place of work, as a residence, as part of family tradition, and in defining identity, reflects a way of life for many farmers and their families (DAFF 2008). Many towns were explicitly established as irrigation communities as successive governments championed the use of water for agriculture to encourage economic and social development within the Basin, for instance as part of soldier settlement schemes or, as in Coleambally in 1968, as a consequence of the development of the Snowy River scheme. Community identity for these towns is closely associated with the historical context of water resources development. For these and many other Basin communities, the water resource provides, beyond specific uses, a broader amenity that contributes greatly to the social values that communities and individuals consider important. Rivers, lakes, creeks and streams engender a sense of place for communities, which in turn helps to maintain the social fabric that the Basin's communities value.

45. The agriculture, forestry and fishing sector is a significant employer, with 11% of employed persons and 32% of businesses in 2006 (ABS, ABARE and BRS 2009).

46. The Basin's agricultural communities have been affected by a large range of social and economic developments and trends. Beginning in the 1980s, economic and financial reforms have been implemented through which trade barriers have been removed, the Australian dollar floated, public utilities privatised, markets created for water and power, and the banking sector deregulated. The consequences for rural and regional communities and agricultural producers have been profound. Improvements in communication technology and transport, together with changes in the organisation of production, have allowed sectors such as tourism and services to relocate or grow in regional areas. Private capital has also become increasingly mobile, and farmers have had increased access to credit to expand their operations and gain access to international markets.

47. At the same time, the agricultural sector has had to contend with a wide range of other pressures, including changes in the costs of production (e.g. water, feed, fuel, fertiliser), consumer demand, technological advances and innovation, emerging environmental concerns, continuing variability in seasonal conditions, and declining terms of trade (ABARE, BRS 2010; Beilharz 1994; Hughes 1998; Kelly 1992; Melleuish 1997; Tonts 2000). Over the last decade, governments have put in place measures, such as The Living Murray program, to recover water for the environment (MDBA 2011c); as at 31 March 2012, it was estimated that 1,344 GL/year of environmental water had been recovered since 2009 (www.mdba.gov.au).

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48. Irrigators and other farmers have had to increase productivity and manage input costs to remain competitive. For example, the dairy industry more than doubled milk production per cow from 1979-80 to 2008-09 (Frontier Economics 2010). Nationally, productivity in the agriculture, forestry and fisheries sectors increased at an average annual rate of 2.2% between 1974-75 and 2007-08, higher than the manufacturing (1.2%), retail (0.9%) or mining (0.8%) sectors (ABARE, BRS 2010). In the Basin, water usage by the dairy industry between 2005-06 and 2007-08 (drought years) declined by 64.4%, but the value of dairy production reduced by only 26.5% (MDBA 2011b). The growth of the water market has played a significant role in enabling irrigated agriculture to adjust to seasonal variations in water availability (MDBA 2011b).

49. Long-term changes in the economic prospects for agriculture have led to changes in the Basin's social and economic makeup and outlook. Over the longer term, the proportion of those employed in agriculture has declined. Employment in agriculture, forestry and fishing in the Basin fell by almost 12% from 2001 to 2006. In the decade to 2006, the number of people in the Basin identifying themselves as 'farmer' or 'farm manager' fell by 10%. The average age of those working in agriculture has been steadily increasing. The proportion of workers aged over 45 and 65 years is higher in agriculture than in any other industry (MDBA 2011b).

50. In the period from 1976 to 2001, the population of the Basin's large cities and towns grew by 30%, much more quickly than most of the smaller towns and rural localities. From 2001 to 2006, coinciding with extended drought, the population in large and medium towns grew by 8% while the rural population declined by 1.7%. This reflects a continuation of the trend, since the beginning of the twentieth century, for the percentage of the population living in rural areas of the Basin to decline (ABS, ABARE and BRS 2009).

51. The Basin's river systems are of critical importance to the social, cultural and economic life of Indigenous people (Jackson 2008; Jackson and Altman 2009). About 70,000 people in the Basin identify as Indigenous. Reflecting in part their much younger age profile, the Indigenous population in the Basin grew by 17% between 2011 and 2006, five times faster than the growth of the non-Indigenous population (Taylor and Biddle 2004).

52. Labour force and income indicators for Indigenous people are relatively poor. In 2006, the Indigenous unemployment rate in the Basin was 20.1%, four times that of the non-Indigenous community (ABS, ABARE and BRS 2009).

Conclusion

53. A description of Basin water resources and the context for which those resources are used has been presented across a number of themes using the best information available to the Murray-Darling Basin Authority. While the particular circumstances can vary quite considerably between communities across the many different localities within the Basin, a broad description of the water resources, its users, the uses to which they are put and the social and economic circumstances of residents living in the Basin has been provided here.

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Schedule 2—Matters relating to surface water SDL resource units

Note 1: See sections 6.02, 6.04, 6.05, 6.05A, Schedule 3, Schedule 6A, the definition of BDL in section 1.07, and Part 3 of Chapter 10.

Note 2: The SDL for a particular surface water SDL resource unit as set out in this Schedule can be expressed in terms of the following formula:

$$SDL = BDL - \begin{pmatrix}\text{local}\\ \text{reduction}\\ \text{amount}\end{pmatrix} - \begin{pmatrix}\text{SDL resource}\\ \text{unit shared}\\ \text{reduction amount}\end{pmatrix} + \begin{pmatrix}\text{SDL adjustment}\\ \text{amount}\end{pmatrix}$$

where, for the surface water SDL resource unit:

BDL is the baseline diversion limit, as defined in section 1.07. For a surface water SDL resource unit, the BDL is the quantity of water calculated in accordance with column 2 of the table in Schedule 3 for the SDL resource unit.

local reduction amount is the local reduction amount for the surface water SDL resource unit as defined in section 1.07. Under that definition, the local reduction amount is:

- if a quantity of water is identified in column 2 of the table in this Schedule as the local reduction amount for the SDL resource unit—that amount; and
- if no quantity is identified—zero.

SDL resource unit shared reduction amount is the SDL resource unit shared reduction amount as defined in section 1.07. The SDL resource unit shared reduction amount for a particular surface water SDL resource unit is calculated in accordance with section 6.05 and Chapter 7.

SDL adjustment amount is the adjustment for the surface water SDL resource unit for the water accounting period, as defined in section 1.07. The SDL adjustment amount is given by section 6.05A, and is calculated in accordance with Schedule 6A.

	Column 1	**Column 2**
Item	**Surface water SDL resource unit (code)**	**Long-term average sustainable diversion limit for SDL resource unit**
Queensland		
	Warrego-Paroo-Nebine water resource plan area	
1	Paroo (SS29)	The limit is the BDL minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note: The Authority estimates the BDL to be 9.9 GL per year and therefore this limit is estimated to be 9.9 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount.
2	Warrego (SS28)	The limit is the BDL minus 8 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 128 GL per year and therefore this limit is estimated to be 120 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 8 GL per year.

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	Column 1	Column 2
Item	**Surface water SDL resource unit (code)**	**Long-term average sustainable diversion limit for SDL resource unit**
3	Nebine (SS27)	The limit is the BDL minus 1 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 31 GL per year and therefore this limit is estimated to be 30 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 1 GL per year.
	Condamine-Balonne water resource plan area	
4	Condamine-Balonne (SS26)	The limit is the BDL minus 100 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 978 GL per year and therefore this limit is estimated to be 878 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 28 GL per year.
	Queensland Border Rivers-Moonie water resource plan area	
5	Moonie (SS25)	The limit is the BDL minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 84 GL per year and therefore this limit is estimated to be 84 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 1 GL per year.
6	Queensland Border Rivers (SS24)	The limit is the BDL minus 14 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 320 GL per year and therefore this limit is estimated to be 306 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 4 GL per year.
New South Wales		
	Intersecting Streams water resource plan area	
7	Intersecting Streams (SS17)	The limit is the BDL minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 114 GL per year and

	Column 1	Column 2
Item	**Surface water SDL resource unit (code)**	**Long-term average sustainable diversion limit for SDL resource unit**
		therefore this limit is estimated to be 114 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 8 GL per year.
	Barwon-Darling Watercourse water resource plan area	
8	Barwon-Darling Watercourse (SS19)	The limit is the BDL minus 32 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 198 GL per year and therefore this limit is estimated to be 166 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 22 GL per year.
	New South Wales Border Rivers water resource plan area	
9	NSW Border Rivers (SS23)	The limit is the BDL minus 7 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 303 GL per year and therefore this limit is estimated to be 296 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 4.6 GL per year.
	Gwydir water resource plan area	
10	Gwydir (SS22)	The limit is the BDL minus 42 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 450 GL per year and therefore this limit is estimated to be 408 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 50 GL per year.
	Namoi water resource plan area	
11	Namoi (SS21)	The limit is the BDL minus 20 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 508 GL per year and therefore this limit is estimated to be 488 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment

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	Column 1	Column 2
Item	**Surface water SDL resource unit (code)**	**Long-term average sustainable diversion limit for SDL resource unit**
		amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 17 GL per year.
	Macquarie-Castlereagh water resource plan area	
12	Macquarie-Castlereagh (SS20)	The limit is the BDL minus 55 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 734 GL per year and therefore this limit is estimated to be 679 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 89 GL per year.
	Lachlan water resource plan area	
13	Lachlan (SS16)	The limit is the BDL minus 48 GL per year (local reduction amount) plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 618 GL per year and therefore this limit is estimated to be 570 GL per year plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 65 GL per year.
	Murrumbidgee water resource plan area	
14	Murrumbidgee (SS15)	The limit is the BDL minus 320 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 2501 GL per year and therefore this limit is estimated to be 2181 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 173 GL per year.
	New South Wales Murray and Lower Darling water resource plan area	
15	New South Wales Murray (SS14)	The limit is the BDL minus 262 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 1812 GL per year and therefore this limit is estimated to be 1550 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 243 GL per year.

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	Column 1	Column 2
Item	**Surface water SDL resource unit (code)**	**Long-term average sustainable diversion limit for SDL resource unit**
16	Lower Darling (SS18)	The limit is the BDL minus 8 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 60.5 GL per year and therefore this limit is estimated to be 52.5 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 2.8 GL per year.
Victoria		
	Victorian Murray water resource plan area	
17	Victorian Murray (SS2)	The limit is the BDL minus 253 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 1707 GL per year and therefore this limit is estimated to be 1454 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 375 GL per year.
18	Kiewa (SS3)	The limit on take is the BDL minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note: The Authority estimates the BDL to be 25 GL per year and therefore this limit is estimated to be 25 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount.
	Northern Victoria water resource plan area	
19	Ovens (SS4)	The limit on take is the BDL minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note: The Authority estimates the BDL to be 83 GL per year and therefore this limit is estimated to be 83 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount.
20	Goulburn (SS6)	The limit is the BDL minus 344 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 1689 GL per year and therefore this limit is estimated to be 1345 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 334 GL per year.

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	Column 1	Column 2
Item	**Surface water SDL resource unit (code)**	**Long-term average sustainable diversion limit for SDL resource unit**
21	Broken (SS5)	The limit is the BDL minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note: The Authority estimates the BDL to be 56 GL per year and therefore this limit is estimated to be 56 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount.
22	Campaspe (SS7)	The limit is the BDL minus 18 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 153 GL per year and therefore this limit is estimated to be 135 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 18 GL per year.
23	Loddon (SS8)	The limit is the BDL minus 12 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 179 GL per year and therefore this limit is estimated to be 167 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be 3 GL per year.
	Wimmera–Mallee (surface water) water resource plan area	
24	Wimmera-Mallee (surface water) (SS9)	The limit is the BDL minus 23 GL per year (local reduction amount) plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 129 GL per year and therefore this limit is estimated to be 106 GL per year plus the SDL adjustment amount. Note 2: As of 30 June 2012, the reduction achieved is estimated to be zero GL per year.
South Australia		
	South Australian River Murray water resource plan area	
25	South Australian Murray (SS11)	The limit is the BDL minus 101 GL per year (local reduction amount) minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note 1: The Authority estimates the BDL to be 665 GL per year and therefore this limit is estimated to be 564 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount.

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	Column 1	Column 2
Item	**Surface water SDL resource unit (code)**	**Long-term average sustainable diversion limit for SDL resource unit**
		Note 2: As of 30 June 2012, the reduction achieved is estimated to be 99 GL per year.
	South Australian Murray Region water resource plan area	
26	South Australian Non-Prescribed Areas (SS10)	The limit is the BDL plus the SDL adjustment amount. Note: The Authority estimates the BDL to be 3.5 GL per year and therefore this limit is estimated to be 3.5 GL per year plus the SDL adjustment amount.
	Eastern Mount Lofty Ranges water resource plan area	
27	Eastern Mount Lofty Ranges (SS13)	The limit is the BDL minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note: The Authority estimates the BDL to be 28.3 GL per year and therefore this limit is estimated to be 28.3 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount.
28	Marne-Saunders (SS12)	The limit is the BDL plus the SDL adjustment amount. Note: The Authority estimates the BDL to be 2.9 GL per year and therefore this limit is estimated to be 2.9 GL per year plus the SDL adjustment amount.
Australian Capital Territory		
	Australian Capital Territory (surface water) water resource plan area	
29	Australian Capital Territory (surface water) (SS1)	The limit is the BDL minus the SDL resource unit shared reduction amount plus the SDL adjustment amount. Note: The Authority estimates the BDL to be 54.7 GL per year and therefore this limit is estimated to be 54.7 GL per year minus the SDL resource unit shared reduction amount plus the SDL adjustment amount.

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Schedule 3—BDLs for surface water SDL resource units

Note 1: See Schedule 2 and the definition of BDL in section 1.07.

Note 2: Some estimates have been subject to rounding.

	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
Queensland		
Warrego-Paroo-Nebine water resource plan area		
1	Paroo (SS29)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 0.2 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraphs (c) and (d): The Authority estimates the sum of items (c) and (d) to be 9.7 GL per year. Note to paragraph (e): The Authority estimates this to be zero GL per year.
2	Warrego (SS28)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
		taken by those forms of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 45 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraphs (c) and (d): The Authority estimates the sum of items (c) and (d) to be 83 GL per year. Note to paragraph (e): The Authority estimates this to be zero GL per year.
3	Nebine (SS27)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed as at 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
		level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 6 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraphs (c) and (d): The Authority estimates the sum of items (c) and (d) to be 25 GL per year. Note to paragraph (e): The Authority estimates this to be zero GL per year.
Condamine-Balonne water resource plan area		
4	Condamine-Balonne (SS26)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law as at 26 March 2010; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 26 March 2010; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 713 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraphs (c) and (d): The Authority estimates the sum of items (c) and (d) to be 264 GL per year. Note to paragraph (e): The Authority estimates this to be 1 GL per year.

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
Queensland Border Rivers-Moonie water resource plan area		
5	Moonie (SS25)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 33 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraphs (c) and (d): The Authority estimates the sum of items (c) and (d) to be 51 GL per year. Note to paragraph (e): The Authority estimates this to be zero GL per year.
6	Queensland Border Rivers (SS24)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and

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Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
		(c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 242 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraphs (c) and (d): The Authority estimates the sum of items (c) and (d) to be 77 GL per year. Note to paragraph (e): The Authority estimates this to be 1 GL per year.
New South Wales		
Intersecting Streams water resource plan area		
7	Intersecting Streams (SS17)	The BDL is the sum of: (a) the long-term annual average take of water, averaged over the period from July 1993 to June 1999, from watercourses (excluding take under basic rights); and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 3 GL per year. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraphs (c) and (d): The Authority estimates the sum of items (c) and (d) to be 111 GL per year. Note to paragraph (e): The Authority estimates this to be zero GL per year.

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
Barwon-Darling Watercourse water resource plan area		
8	Barwon-Darling Watercourse (SS19)	The BDL is the long-term annual average limit on the quantity of water that can be taken calculated by: (i) summing the quantity of water that would have been taken in accordance with Schedule E to the Agreement as at 30 June 2009 for each year of the historical climate conditions; and (ii) dividing that quantity by all the years of the historical climate conditions. Note: The Authority estimates this to be 198 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20.
New South Wales Border Rivers water resource plan area		
9	NSW Border Rivers (SS23)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law as at 1 July 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water, averaged over the period from July 1993 to June 1999, for take from watercourses other than from regulated rivers (excluding take under basic rights); and (c) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (d) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 1 July 2009; and (e) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (f) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 191 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority estimates this to be 16 GL per year.

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Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
		Note to paragraph (c): The Authority is yet to estimate this take. Note to paragraphs (d) and (e): The Authority estimates the sum of (d) and (e) to be 95 GL per year. Note to paragraph (f): The Authority estimates this to be zero GL per year.
Gwydir water resource plan area		
10	Gwydir (SS22)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water, averaged over the period from July 1993 to June 1999, for take from watercourses other than from regulated rivers (excluding take under basic rights); and (c) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (d) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (e) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (f) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 314 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority estimates this to be 11 GL per year. Note to paragraph (c): The Authority is yet to estimate this take. Note to paragraphs (d) and (e): The Authority estimates the sum of items (d) and (e) to be 124 GL per year. Note to paragraph (f): The Authority estimates this to be 1 GL per year.

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Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
Namoi water resource plan area		
11	Namoi (SS21)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions calculated on the basis of the quantity of water that can be taken under State water management law as at 1 July 2010; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water, averaged over the period from July 1993 to June 1999, from watercourses other than from regulated rivers (excluding take under basic rights); and (c) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (d) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 1 July 2010; and (e) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (f) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 265 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority estimates this to be 78 GL per year. Note to paragraph (c): The Authority is yet to estimate this take. Note to paragraphs (d) and (e): The Authority estimates the sum of items (d) and (e) to be 160 GL per year. Note to paragraph (f): The Authority estimates this to be 5 GL per year.

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Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
Macquarie-Castlereagh water resource plan area		
12	Macquarie-Castlereagh (SS20)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law (as if the applicable water sharing plan was not suspended) as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water, averaged over the period from July 1993 to June 1999, from watercourses other than from regulated rivers (excluding take under basic rights); and (c) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (d) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (e) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (f) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 380 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority estimates this to be 44 GL per year. Note to paragraph (c): The Authority is yet to estimate this take. Note to paragraphs (d) and (e): The Authority estimates the sum of items (d) and (e) to be 266 GL per year. Note to paragraph (f): The Authority estimates this to be 44 GL per year.

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Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
Lachlan water resource plan area		
13	Lachlan (SS16)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers and by floodplain harvesting (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law (as if the applicable water sharing plan was not suspended) as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water, averaged over the period from July 1993 to June 1999, from watercourses other than from regulated rivers (excluding take under basic rights); and (c) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (d) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (e) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (f) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 287 GL per year, but the estimate does not include an estimate of take for stock and domestic purposes. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority estimates this to be 16 GL per year. Note to paragraph (c): The Authority is yet to estimate this take. Note to paragraphs (d) and (e): The Authority estimates the sum of items (d) and (e) to be 287 GL per year. Note to paragraph (f): The Authority estimates this to be 29 GL per year.

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Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
Murrumbidgee water resource plan area		
14	Murrumbidgee (SS15)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law (as if the applicable water sharing plan was not suspended) as at 30 June 2009 (but excluding held environmental water recovered by the Living Murray Initiative and by Water for Rivers); and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water, averaged over the period from July 1993 to June 1999, from watercourses other than from regulated rivers (excluding take under basic rights); and (c) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (d) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that can be taken under State water management law as at 30 June 2009; and (e) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (f) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 1958 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority estimates this to be 42 GL per year. Note to paragraph (c): The Authority is yet to estimate this take. Note to paragraphs (d) and (e): The Authority estimates the sum of items (d) and (e) to be 385 GL per year. Note to paragraph (f): The Authority estimates this to be 116 GL per year.

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
New South Wales Murray and Lower Darling water resource plan area		
15	New South Wales Murray (SS14)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law (as if the applicable water sharing plan was not suspended) as at 30 June 2009 (but excluding held environmental water recovered by the Living Murray Initiative and by Water for Rivers); and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water, averaged over the period from July 1993 to June 1999, from watercourses other than from regulated rivers (excluding take under basic rights); and (c) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (d) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (e) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (f) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 1680 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority estimates this to be 28 GL per year. Note to paragraph (c): The Authority is yet to estimate this take. Note to paragraph (d) and (e): The Authority estimates the sum of items (d) and (e) to be 80 GL per year. Note to paragraph (f): The Authority estimates this take to be 24 GL per year.

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16	Lower Darling (SS18)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law (as if the applicable water sharing plan was not suspended) as at 30 June 2009 (but excluding held environmental water recovered by the Living Murray Initiative and by Water for Rivers); and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water, averaged over the period from July 1993 to June 1999, for take from watercourses other than from regulated rivers (excluding take under basic rights); and (c) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (d) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (e) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (f) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 55 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraph (c): The Authority is yet to estimate this take. Note to paragraphs (d) and (e): The Authority estimates the sum of items (d) and (e) to be 5.5 GL per year. Note to paragraph (f): The Authority estimates this to be zero GL per year.
Victoria		
Victorian Murray water resource plan area		
17	Victorian Murray (SS2)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses (excluding take under basic

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		rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law as at 30 June 2009 (but excluding held environmental water recovered by the Living Murray Initiative and by Water for Rivers); and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 1662 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraphs (c) and (d): The Authority estimates the sum of items (c) and (d) to be 23 GL per year. Note to paragraph (e): The Authority estimates this to be 22 GL per year.
18	Kiewa (SS3)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be

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		taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 11 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraphs (c) and (d): The Authority estimates the sum of items (c) and (d) to be 6.6 GL per year. Note to paragraph (e): The Authority estimates this to be 7 GL per year.
	Northern Victoria water resource plan area	
19	Ovens (SS4)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from watercourses under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 25 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraph (c) and (d): The Authority estimates the sum of (c) and

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		(d) to be 26 GL per year. Note to paragraph (e): The Authority estimates this to be 32 GL per year.
20	Goulburn (SS6)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law as at 30 June 2009 (but excluding held environmental water recovered by the Living Murray Initiative and by Water for Rivers); and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken from watercourses that are not regulated rivers (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water from watercourses that are not regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) under State water management law as at 30 June 2009; and (f) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (g) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 1552 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraph (c): The Authority estimates this to be 29 GL per year. Note to paragraph (d): The Authority is yet to estimate this take. Note to paragraphs (e) and (f): The Authority estimates the sum of items (e) and (f) to be 86 GL per year. Note to paragraph (g): The Authority estimates this to be 23 GL per year.

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
21	Broken (SS5)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law as at 30 June 2009 (but excluding held environmental water recovered by the Living Murray Initiative and by Water for Rivers); and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken from watercourses that are not regulated rivers (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water from watercourses that are not regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (f) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (g) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 13 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraph (c): The Authority estimates this to be zero GL per year. Note to paragraph (d): The Authority is yet to estimate this take. Note to paragraphs (e) and (f): The Authority estimates the sum of items (e) and (f) to be 30 GL per year. Note to paragraph (g): The Authority estimates this to be 13 GL per year.

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
22	Campaspe (SS7)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law as at 30 June 2009 (but excluding held environmental water recovered by the Living Murray Initiative); and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken from watercourses that are not regulated rivers (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water from watercourses that are not regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that can be taken under State water management law as at 30 June 2009; and (f) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (g) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 111 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraph (c): The Authority estimates this to be 2 GL per year. Note to paragraph (d): The Authority is yet to estimate this take. Note to paragraphs (e) and (f): The Authority estimates the sum of items (e) and (f) to be 39 GL per year. Note to paragraph (g): The Authority estimates this to be 1 GL per year.
23	Loddon (SS8)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
		can be taken from regulated rivers (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken from watercourses that are not regulated rivers calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (d) the long-term annual average take of water from watercourses that are not regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 30 June 2009; and (f) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (g) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 89 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraph (c): The Authority estimates this to be zero GL per year. Note to paragraph (d): The Authority is yet to estimate this take. Note to paragraphs (e) and (f): The Authority estimates the sum of items (e) and (f) to be 85 GL per year. Note to paragraph (g): The Authority estimates this to be 5 GL per year.

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
Wimmera–Mallee (surface water) water resource plan area		
24	Wimmera-Mallee (surface water) (SS9)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from regulated rivers (excluding take under basic rights) calculated by: (i) summing the quantity of water that would have been taken by that form of take for each year of the historical climate conditions under State water management law as at 31 October 2010 (but excluding held environmental water recovered under the Wimmera-Mallee Pipeline Project); and (ii) dividing that quantity by all of the years of the historical climate conditions; and (b) the long-term annual average take of water from regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average limit on the quantity of water that can be taken from watercourses that are not regulated rivers (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 31 October 2010; and (d) the long-term annual average take of water from watercourses that are not regulated rivers under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (e) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the quantity of water that could be taken under State water management law as at 31 October 2010; and (f) the long-term annual average take of water by runoff dams under basic rights calculated on the basis of the take under the level of development that existed on 30 June 2009; and (g) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 66 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20. Note to paragraph (b): The Authority is yet to estimate this take. Note to paragraph (c): The Authority estimates this to be 1 GL per year. Note to paragraph (d): The Authority is yet to estimate this take. Note to paragraphs (e) and (f): The Authority estimates the sum of items (e) and (f) to be 61 GL per year.

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
		Note to paragraph (g): The Authority estimates this to be 1 GL per year.
South Australia		
South Australian River Murray water resource plan area		
25	South Australian Murray (SS11)	The BDL is the long-term annual average limit on the quantity of water that can be taken from watercourses calculated by: (i) summing the quantity of water that would have been taken by that form of take in accordance with Schedule E to the Agreement as at 30 June 2009 for each year of the historical climate conditions (but excluding water recovered under the Living Murray Initiative); and (ii) dividing that quantity by all the years of the historical climate conditions. Note: The Authority estimates this to be 665 GL per year. The details of modelling assumptions and system set up used for making this estimate are documented in MDBA Technical Report 2010/20 and MDBA Technical Report 2011/01.
	South Australian Murray Region water resource plan area	
26	South Australian Non-Prescribed Areas (SS10)	The BDL is the long-term annual average limit on the quantity of water that can be taken by runoff dams and from watercourses calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law as at 30 June 2009; and (ii) dividing that quantity by all of the years of the historical climate conditions. Note: The Authority estimates this to be 3.5 GL per year.
Eastern Mount Lofty Ranges water resource plan area		
27	Eastern Mount Lofty Ranges (SS13)	The BDL is the long-term annual average limit on the quantity of water that can be taken from watercourses, by runoff dams and net take of water by commercial plantations calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under the draft Eastern Mount Lofty Ranges Water Allocation Plan as at 5 August 2011; and (ii) dividing that quantity by all of the years of the historical climate conditions. Note: The Authority estimates this to be 28.3 GL per year comprised of 15.3 GL per year of watercourse diversions and 13 GL per year of take from runoff dams and net take by commercial plantations.

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
28	Marne-Saunders (SS12)	The BDL is the long-term annual average limit on the quantity of water that can be taken from watercourses, by runoff dams and net take of water by commercial plantations calculated by: (i) summing the quantity of water that would have been taken by those forms of take for each year of the historical climate conditions under State water management law as at 18 January 2010; and (ii) dividing that quantity by all of the years of the historical climate conditions. Note: The Authority estimates this to be 2.9 GL per year.
Australian Capital Territory		
Australian Capital Territory (surface water) water resource plan area		
29	Australian Capital Territory (surface water) (SS1)	The BDL is the sum of: (a) the long-term annual average limit on the quantity of water that can be taken from watercourses calculated by: (i) summing the quantity of water that would have been taken by that form of take in accordance with Schedule E to the Agreement as at 30 June 2009 for each year of the historical climate conditions (including an adjustment to account for population growth to 30 June 2009 and an adjustment to reflect a revised estimate of historic water use); and (ii) dividing that quantity by all the years of the historical climate conditions; and (iii) adding the long-term average ACT Living Murray contribution being that allocated to the Living Murray as referred to in sub-clause 9(1) of Schedule E to the Agreement; and (b) the long-term annual average limit on the quantity of water that can be taken by runoff dams (excluding take under basic rights) calculated on the basis of the take under the level of development that existed on 30 June 2009; and (c) the long-term annual average take of water by runoff dams under basic rights at the level of development that existed on 30 June 2009; and (d) the long-term annual average net take of water by commercial plantations calculated on the basis of the take under the level of development that existed on 30 June 2009. Note to paragraph (a): The Authority estimates this to be 42.7 GL per year. This includes 0.5 GL per year to account for population growth to 30 June 2009 and 0.2 GL per year to reflect a revised estimate of historic water use. It also includes the ACT Living Murray contribution of 2 GL per year, which was provided by the Australian Capital Territory and sourced within New South Wales. Note to paragraphs (b) and (c): The Authority estimates the sum of items

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	Column 1	Column 2
Item	**SDL resource unit (code)**	**BDL for the SDL resource unit**
		(b) and (c) to be 1 GL per year. Note to paragraph (d): The Authority estimates this to be 11 GL per year.

Schedule 4—Matters relating to groundwater SDL resource units

Note: See sections 6.03 and 6.04 and the definition of BDL in section 1.07.

	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
Australian Capital Territory				
	Australian Capital Territory (groundwater) water resource plan area (GW1)			
1	Australian Capital Territory (Groundwater) (GS52)	all groundwater	2.27	3.16
Victoria				
	Goulburn-Murray water resource plan area (GW2)			
2	Goulburn-Murray: Shepparton Irrigation Region (GS8a)	all groundwater in the Shepparton Irrigation Region Water Supply Protection Area to a depth of 25 metres below the land surface	244.1	244.1
3	Goulburn-Murray: Highlands (GS8b)	all groundwater in the outcropping Palaeozoic rocks (or the in-situ weathered horizon where it is within 5 metres of the surface) from the land surface to 200 metres below the surface	38.3	68.7
4	Goulburn-Murray: Sedimentary Plain (GS8c)	all groundwater from the land surface to 200 metres below the surface or 50 metres below the base of the Tertiary sediments, whichever is the deeper, excluding groundwater in item 2	203.5	223.0

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
5	Goulburn-Murray: deep (GS8d)	all groundwater, excluding groundwater in items 2, 3 and 4	0	20.0
	Wimmera-Mallee (groundwater) water resource plan area (GW3)			
6	Wimmera-Mallee: Highlands (GS9a)	all groundwater in the outcropping Palaeozoic rocks (or the in-situ weathered horizon where it is within 5 metres of the surface) from the land surface to 200 metres below the surface	1.26	2.75
7	Wimmera-Mallee: Sedimentary Plain (GS9b)	all groundwater from the land surface to 200 metres below the surface or 50 metres below the base of the Tertiary sediments, whichever is the deeper	68.9, minus any limit, under a law of the State of Victoria, on the taking of groundwater from the Victorian West Wimmera Groundwater Management Area	190.1, minus any limit, under a law of the State of Victoria, on the taking of groundwater from the Victorian West Wimmera Groundwater Management Area
8	Wimmera-Mallee: deep (GS9c)	all groundwater, excluding groundwater in items 6 and 7	0	20.0
South Australia				
	South Australian Murray Region water resource plan area (GW4)			
9	Mallee (Pliocene Sands) (GS3a)	groundwater in the Pliocene sands	0	41.4
10	Mallee (Murray Group Limestone) (GS3b)	groundwater in the Murray Group Limestone	63.6	63.6

	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
11	Mallee (Renmark Group) (GS3c)	groundwater in the Renmark Group, and all other groundwater, excluding groundwater in items 9 and 10	0	2.00
12	Peake–Roby–Sherlock (unconfined) (GS5a)	groundwater in: (a) the unconfined Murray Group Limestone comprising the Coomandook and Bridgewater Formations; and (b) the unconfined Quaternary limestone	3.41	3.41
13	Peake–Roby–Sherlock (confined) (GS5b)	groundwater in: (a) the confined Renmark Group; and (b) the confined Buccleuch Group; and all other groundwater, excluding groundwater in item 12	2.58	2.58
14	SA Murray (GS6)	all groundwater	1.80	64.8
15	SA Murray Salt Interception Schemes (GS7)	all groundwater	13.2	28.6
	Eastern Mount Lofty Ranges water resource plan area (GW5)			
16	Angas Bremer (Quaternary Sediments) (GS1a)	groundwater in Quaternary sediments	0	1.09
17	Angas Bremer (Murray	groundwater in the	6.57	6.57

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
	Group Limestone) (GS1b)	Murray Group Limestone, and all other groundwater, excluding groundwater in item 16		
18	Eastern Mount Lofty Ranges (GS2)	all groundwater	34.7	38.5
19	Marne Saunders (Fractured Rock) (GS4a)	groundwater in fractured rock	2.09	2.09
20	Marne Saunders (Murray Group Limestone) (GS4b)	groundwater in: (a) the Murray Group Limestone; and (b) Quaternary sediments	2.38	2.38
21	Marne Saunders (Renmark Group) (GS4c)	groundwater in the Renmark Group, and all other groundwater, excluding groundwater in items 19 and 20	0.50	0.50
New South Wales				
	NSW Murray-Darling Basin Porous Rock water resource plan area (GW6)			
22	Western Porous Rock (GS50)	all groundwater contained within all sediments of Cenozoic age, excluding groundwater in items 26 and 27	63.1	226.0
23	Gunnedah-Oxley Basin MDB (GS17)	all groundwater contained within: (a) all rocks of Permian, Triassic, Jurassic, Cretaceous and Cenozoic age within the outcropped and buried areas; and	22.1	127.5

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
		(b) all unconsolidated alluvial sediments within the outcropped areas; excluding groundwater in items 45, 47, 49, 53, 54, 57, 60, 61 and 62		
24	Sydney Basin MDB (GS41)	all groundwater contained within: (a) all rocks of Permian, Triassic, Jurassic, Cretaceous and Cenozoic age within the outcropped and buried areas; and (b) all unconsolidated alluvial sediments within the outcropped areas	3.12	19.1
25	Oaklands Basin (GS38)	all groundwater contained within all rocks of Permian and Triassic age	0	2.50
	Darling Alluvium water resource plan area (GW7)			
26	Upper Darling Alluvium (GS42)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	6.29	6.59
27	Lower Darling Alluvium (GS23)	all groundwater contained within alluvial sediments of Quaternary age below the surface of the ground	2.23	2.23
	Murray Alluvium water resource plan area (GW8)			

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
28	Billabong Creek Alluvium (GS13)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	7.50	7.50
29	Lower Murray Shallow Alluvium (GS27a)	all groundwater contained within all alluvial sediments below the surface of the ground, to a depth of 20 metres	81.9	81.9
30	Lower Murray Deep Alluvium (GS27b)	all groundwater contained within all unconsolidated alluvial sediments deeper than 20 metres below the ground surface	88.9	88.9
31	Upper Murray Alluvium (GS46)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	14.1	14.1
	Murrumbidgee Alluvium water resource plan area (GW9)			
32	Lake George Alluvium (GS21)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	1.27	1.27
33	Lower Murrumbidgee Shallow Alluvium (GS28a)	all groundwater contained within the alluvial sediments to a depth of 40 metres or to the bottom of the Shepparton Formation, whichever is the deeper	26.9	26.9
34	Lower Murrumbidgee Deep Alluvium (GS28b)	all groundwater contained within the Calivil Formation and Renmark Group	273.6	273.6

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
		unconsolidated alluvial sediments greater than a depth of 40 metres		
35	Mid-Murrumbidgee Alluvium (GS31)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	53.5	53.5
	Lachlan Alluvium water resource plan area (GW10)			
36	Belubula Alluvium (GS12)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	2.88	2.88
37	Lower Lachlan Alluvium (GS25)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	123.4 (The *Water Sharing Plan for the Lower Lachlan Groundwater Source 2003* of New South Wales will reduce the long-term average limit to 117 GL by June 2018.)	117.0
38	Upper Lachlan Alluvium (GS44)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	94.2	94.2
	NSW Murray-Darling Basin Fractured Rock water resource plan area (GW11)			
39	Adelaide Fold Belt MDB (GS10)	all groundwater, excluding groundwater in item 22	3.61	6.90
40	Kanmantoo Fold Belt MDB (GS19)	all groundwater, excluding groundwater in items 22, 26, 27, 33, 34 and 37	8.91	18.7

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
41	Lachlan Fold Belt MDB (GS20)	all groundwater, excluding groundwater in items 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 42, 45, 47, 48, 49, 50, 51, 52, 53, 57, 60 and 62	142.4	259.0
42	Orange Basalt (GS39)	all groundwater contained within all basalt of Cenozoic age and all unconsolidated alluvial sediments	10.7	10.7
43	Young Granite (GS51)	all groundwater	7.11	7.11
44	Inverell Basalt (GS18)	all groundwater contained within all basalt of Cenozoic age and all unconsolidated alluvial sediments	4.15	4.15
45	Liverpool Ranges Basalt MDB (GS22)	all groundwater contained within all basalt of Cenozoic age and all unconsolidated alluvial sediments	2.16	2.16
46	New England Fold Belt MDB (GS37)	all groundwater excluding groundwater in items 44, 45, 58, 59, 60, 61, 63, 64 and 65	32.9	55.1
47	Warrumbungle Basalt (GS49)	all groundwater contained within all basalt of Cenozoic age and all unconsolidated alluvial sediments	0.55	0.55
	Macquarie-Castlereagh Alluvium water resource plan area (GW12)			
48	Bell Valley Alluvium (GS11)	all groundwater contained within all unconsolidated alluvial sediments below the	3.29	3.29

	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
		surface of the ground		
49	Castlereagh Alluvium (GS14)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground, except water contained within the unconsolidated alluvial sediments between the top of the high banks of the river	0.62	0.62
50	Coolaburragundy–Talbragar Alluvium (GS15)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	3.47	3.47
51	Cudgegong Alluvium (GS16)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	2.53	2.53
52	Lower Macquarie Alluvium (GS26)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	70.7 GL minus the portion of the limit under the *Water Sharing Plan for the Lower Macquarie Groundwater Sources 2003* of New South Wales that applies to water taken from the Jurassic Sandstone of the Great Artesian Basin	70.7 GL minus the portion of the limit under the *Water Sharing Plan for the Lower Macquarie Groundwater Sources 2003* of New South Wales that applies to water taken from the Jurassic Sandstone of the Great

	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
				Artesian Basin
53	Upper Macquarie Alluvium (GS45)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	17.9	17.9
	NSW Great Artesian Basin Shallow water resource plan area (GW13)			
54	NSW GAB Surat Shallow (GS34)	all groundwater contained within: (a)all geological formations to a depth of 60 metres below the surface of the ground; and (b)all unconsolidated alluvial sediments; excluding groundwater in items 57 and 62	6.57	15.5
55	NSW GAB Warrego Shallow (GS35)	all groundwater contained within: (a)all geological formations to a depth of 60 metres below the surface of the ground; and (b)all unconsolidated alluvial sediments; excluding groundwater in item 26	0.65	33.4
56	NSW GAB Central Shallow (GS36)	all groundwater contained within: (a)all geological formations to a	0.25	8.83

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
		depth of 60 metres below the surface of the ground; and (b)all unconsolidated alluvial sediments; excluding groundwater in item 26		
	Namoi Alluvium water resource plan area (GW14)			
57	Lower Namoi Alluvium (GS29)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	88.3	88.3
58	Manilla Alluvium (GS30)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	1.23	1.23
59	Peel Valley Alluvium (GS40)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	9.34	9.34
60	Upper Namoi Alluvium (GS47)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	123.4	123.4
61	Upper Namoi Tributary Alluvium (GS48)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	1.77	1.77
	Gwydir Alluvium water resource plan area (GW15)			
62	Lower Gwydir Alluvium (GS24)	all groundwater contained within all unconsolidated alluvial	33.0	33.0

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
		sediments below the surface of the ground		
63	Upper Gwydir Alluvium (GS43)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	0.72	0.72
	NSW Border Rivers Alluvium water resource plan area (GW18)			
64	NSW Border Rivers Alluvium (GS32)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	8.40	8.40
65	NSW Border Rivers Tributary Alluvium (GS33)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	0.41	0.41
Queensland				
	Queensland Border Rivers-Moonie water resource plan area (GW19)			
66	Queensland Border Rivers Alluvium (GS54)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	14.0	14.0
67	Queensland Border Rivers Fractured Rock (GS55)	all groundwater contained within all igneous and metamorphic rocks, excluding groundwater in item 66	10.1	10.5
68	Sediments above the Great Artesian Basin: Border Rivers-Moonie (GS57)	all groundwater contained within all consolidated sediments above the Great Artesian Basin, excluding groundwater in item 66	0.14	46.9

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
69	St George Alluvium: Moonie (GS62)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	0.01	0.69
	Condamine-Balonne water resource plan area (GW21)			
70	Condamine Fractured Rock (GS53)	all groundwater contained within all igneous and metamorphic rocks	0.81	1.48
71	Queensland MDB: deep (GS56)	all groundwater in aquifers below the Great Artesian Basin	0	100.0
72	Sediments above the Great Artesian Basin: Condamine–Balonne (GS58)	all groundwater contained within all consolidated sediments above the Great Artesian Basin	0.66	18.1
73	St George Alluvium: Condamine–Balonne (shallow) (GS61a)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground excluding groundwater in item 74	0.77	27.7
74	St George Alluvium: Condamine–Balonne (deep) (GS61b)	all groundwater contained within the lower part of all unconsolidated alluvial sediments occupying the Dirranbandi Trough that lies below the middle leaky confined bed	12.6	12.6
75	Upper Condamine Alluvium (Central Condamine Alluvium) (GS64a)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	81.4	46.0

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	Column 1	Column 2	Column 3	Column 4
Item	**Groundwater SDL resource unit (code)**	**Groundwater covered by groundwater SDL resource unit**	**BDL for the SDL resource unit in gigalitres (GL) per year**	**Long-term average sustainable diversion limit for SDL resource unit in gigalitres (GL) per year**
76	Upper Condamine Alluvium (Tributaries) (GS64b)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	45.5	40.5
77	Upper Condamine Basalts (GS65)	all groundwater contained within all volcanic (basalt) rocks	79.0	79.0
	Warrego-Paroo-Nebine water resource plan area (GW22)			
78	Sediments above the Great Artesian Basin: Warrego–Paroo–Nebine (GS60)	all groundwater contained within all consolidated sediments above the Great Artesian Basin	1.21	99.2
79	St George Alluvium: Warrego–Paroo–Nebine (GS63)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	0.12	24.6
80	Warrego Alluvium (GS66)	all groundwater contained within all unconsolidated alluvial sediments below the surface of the ground	0.70	10.2

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Schedule 5—Enhanced environmental outcomes referred to in paragraph 7.09(e)

Note: See paragraph 7.09(e).

(1) The outcomes listed below are ones that will be pursued under the Commonwealth's program to increase the volume of water resources available for environmental use by 450 GL per year.

(2) The outcomes that will be pursued are:

(a) further reducing salinity levels in the Coorong and Lower Lakes so that improved water quality contributes to the health of macroinvertebrates, fish and plants that form important parts of the food chain, for example:

(i) maximum average daily salinity in the Coorong South Lagoon is less than 100 grams per litre; and

(ii) maximum average daily salinity in the Coorong North Lagoon is less than 50 grams per litre; and

(iii) average daily salinity in Lake Alexandrina is less than 1000EC for 95% of years and 1500EC all of the time;

(b) keeping water levels in the Lower Lakes above 0.4 metres AHD for 95% of the time and above 0.0 metres AHD at all times to help maintain flows to the Coorong, prevent acidification, prevent acid drainage and prevent riverbank collapse below Lock 1;

(c) ensuring the mouth of the River Murray is open without the need for dredging in at least 95% of years, with flows every year through the Murray Mouth Barrages;

(d) exporting 2 million tonnes per year of salt from the Murray-Darling Basin as a long-term average;

(e) increasing flows through the barrages to the Coorong and supporting more years where critical fish migrations can occur;

(f) in conjunction with removing or easing constraints, providing opportunities for environmental watering of an additional 35,000 ha of floodplain in South Australia, New South Wales and Victoria, improving the health of forests and fish and bird habitat, improving the connection to the river, and replenishing groundwater; and

(g) achieving enhanced in-stream outcomes and improved connections with low to middle level floodplain and habitats adjacent to rivers in the southern Murray-Darling Basin.

Note: The environmental outcomes in this Schedule reflect the results of the 3200 GL per year modelling with relaxed constraints scenario reported in: MDBA (Murray-Darling Basin Authority) 2012, *Hydrologic modelling of the relaxation of operational constraints in the southern connected system: Methods and results*, MDBA publication no: 76/12, Murray-Darling Basin Authority, Canberra. http://download.mdba.gov.au/altered-PBP/Hydrologic-modelling-relaxed-constraints-October-2012.pdf

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Schedule 6—Default method for calculation of supply contribution

Note: See section 7.15.

Part 1—Description

S6.01 Simplified outline

(1) This Schedule sets the default method by which the supply contribution is calculated for Chapter 7.

Note: Section 7.15 sets out circumstances in which an alternative method may be used.

(2) The method is summarised as follows:

(a) identify the hydrological model of the Basin that is to be used for the calculations (the benchmark model—this is the model that was used to arrive at the unadjusted SDL, with some modifications);

(b) identify the indicator sites and regions that are to be used in applying the method (these will be chosen to be representative, while ensuring that areas of high ecological value are given due weight);

(c) identify the flow regime characteristics that are to be used as a measure of environmental outcomes, and that are to be measured or assessed in relation to those indicator sites;

(d) calculate the benchmark environmental outcomes;

(e) identify the method of comparison between the benchmark environmental outcomes and another set of environmental outcomes—this will use a scoring method, including preference curves and weightings for environmental significance. A higher score will represent a preferable environmental outcome;

(f) identify the limits of changes in score or outcome that ensure that supply contributions maintain environmental outcomes within identified limits;

(g) calculate the supply contribution as follows:

(i) choose a test supply contribution of an amount that is likely to be smaller than the actual supply contribution;

(ii) calculate the environmental outcomes that result from applying the model under the assumptions of:

(A) the benchmark conditions of development with the addition of the relevant notified measures;

(B) a repeat of the historical climate conditions;

(C) consumptive use of water at the levels of the unadjusted SDL adjusted by the test supply contribution;

(iii) compare the environmental outcomes against the benchmark environmental outcomes and assess whether the score is equivalent or higher;

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(iv) ensure that requirements of section 7.15 of the Basin Plan in relation to the supply contribution are satisfied;

(v) repeat with successive test supply contributions until the largest contribution is found that still results in an equivalent or higher score;

(vi) the supply contribution is equal to that test contribution.

Part 2—Method

S6.02 Benchmark model

(1) The benchmark model run will comprise the MDBA model run 847, described in MDBA 2012a, with refinements to:

(a) adjust the overall reduction from 2800 GL/year to 2750 GL/year;

(b) incorporate appropriate rules for delivery of water from the Lower Lakes into the Coorong, including relating Lake level to release volumes;

(c) incorporate Upper South East inflows as at 30 June 2009;

(d) incorporate updated environmental watering event time-series for without development and baseline model runs in the environmental event selection tool;

(e) remove the operation of the Living Murray works and use the component of the Living Murray water that was used by the works for floodplain outcomes;

(f) incorporate environmental demand sequences that manage for maximum dry spell as well as frequency; and

(g) set environmental flow demands for the Goulburn River consistent with the flow event targets described in MDBA 2012a.

Note: Refinements to the MDBA model run 847 will be undertaken in consultation with Basin jurisdictions through the Basin Officials Committee.

(2) The benchmark pattern of reliability of supply to entitlement holders for subparagraph 7.15(1)(d) is that provided for in the benchmark model run.

(3) A supply contribution assessed against the benchmark model run under this method:

(a) will incorporate the relevant notified measures, which may include:

(i) new works or measures not included in the benchmark model; or

Note: As the Living Murray works and measures have been removed from the benchmark model under S6.02(1)(e) above, the full benefit of them can be considered for an SDL adjustment.

(ii) existing works and measures to the extent that they can be further optimised; and

Note: This includes policy settings incorporated in or assumed for the purposes of the benchmark modelling run.

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(b) must take into account the following policy settings included in the benchmark model to the extent that, at the time the method is applied, the specific settings used in the benchmark model are not expected to be, or were not, implemented by 2019:

(i) crediting of environmental return flows for downstream environmental use; and

(ii) the ability to call held environmental water from storage during un-regulated flow events.

Note: In finalising these policies, Basin States and the Commonwealth would need to ensure any associated third party impacts associated with these policies are assessed and addressed as appropriate.

S6.03 Indicator sites and regions that are to be used

(1) The indicator sites, and corresponding river reaches and associated floodplains, that are to be used are those used in the development of the Environmentally Sustainable Level of Take (ESLT) method (the ***ESLT method***) for which detailed assessments of environmental water requirements were done.

Note: Refer to MDBA 2011, 2012a, 2012b.

(2) Each reach is to incorporate one hydrologic indicator site (HIS) used in the ESLT method for which detailed assessments of environmental water requirements were done.

Note: The ESLT method involved detailed assessments at 24 sites/reaches across the Basin: refer to MDBA 2012b.

(3) The regions to be used are:

(a) the Northern Basin region, which includes all rivers in the Basin upstream of the upstream extent of the Menindee Lakes; and

(b) the Southern Basin region, which includes the River Murray upstream of the boundary of the Coorong, Lower Lakes and Murray Mouth Ramsar site and all connected tributaries apart from the Northern Basin; and

(c) 2 disconnected rivers regions, the Lachlan and Wimmera Rivers, if supply contributions are proposed within these valleys.

Note: The Coorong, Lower Lakes and Murray Mouth Ramsar site cannot be scored in the same way as other sites and reaches. Paragraph S6.07(c) provides limits for changes in score or outcomes for this site.

S6.04 Things that are to be measured or assessed

(1) The flow regime characteristics, assessed against the flow event targets in the ESLT method, to be assessed are:

(a) frequency with which flow events occur; and

(b) length of dry spells (i.e. intervals between watering events).

(2) Scores are to be generated for each flow regime characteristic:

(a) at the reach scale; and

(b) at the region scale.

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(3) The ***benchmark environmental outcomes*** are those scores calculated in accordance with this section based on the application of the method set out in this Schedule for the benchmark model.

S6.05 Ecological elements of the scoring method

(1) Science based, independently reviewed, fit for purpose preference curves will be used in the method.

Note: Preference curves describe a relationship between environmental outcome and a flow statistic such as frequency or dry spell. For example, achievement of a target frequency of inundation may score 100 points, with this score reducing towards zero for frequencies below the achievement of the target.

(2) Science based, independently reviewed, fit for purpose metrics for weighting environmental significance of the flood dependent area will be used in the method.

Note: The choice of preference curves and metrics and weightings for environmental significance will involve both scientific advice and consultation with Basin jurisdictions and be those regarded as the best available for the method.

(3) The metrics to be used for weighting environmental significance in subsection (2) may include consideration of the following:

(a) water-dependent ecosystems that:

(i) are formally recognised in international agreements or, with environmental watering, are capable of supporting species listed in those agreements; or

(ii) are natural or near-natural, rare or unique; or

(iii) provide vital habitat; or

(iv) support Commonwealth, State or Territory listed threatened species or communities; or

(v) support, or with environmental watering are capable of supporting, significant biodiversity;

(b) the relative area of water-dependent ecosystems in the reach inundated under the flow event target;

(c) ecosystem functions provided by the flow regimes.

S6.06 How the method is to be applied

(1) The method is based on the achievement of the same overall environmental scores for each region under:

(a) the benchmark model run; and

(b) a run with an SDL adjusted for the supply contribution together with the improved environmental outcomes associated with the supply measures being considered.

(2) For any model run the score for each reach, and cumulatively the overall score, is that resulting from the following steps:

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(a) calculate the flow event frequency and dry spell statistics from the modelling;

(b) convert that calculation to a measure of environmental outcome by the application of preference curves;

(c) combine flow event frequency and dry spell measures of environmental outcome according to a science based, independently reviewed, fit for purpose rules-based approach, to derive a single measure for each flow target;

(d) weight by the environmental significance of the various components of the flood dependent area in each reach;

(e) combine, according to a science based, independently reviewed, fit for purpose approach, the scores for each flow event target to ascertain the score for the reach; and

(f) combine the scores for all reaches within a region to ascertain the score for the region.

Note: Scoring will need to occur separately for areas with environmental works and for areas without works and then combined within the scoring method.

(3) Hydrologic modelling under the method to establish a supply contribution will start with the benchmark environmental flow events and these will only be modified as necessary to reflect the outcomes of the proposal and potential supply contribution.

(4) The supply contribution method can be applied to all surface water SDL resource units within the Basin.

Note: The method may be applied using separate modelling runs for the northern and southern Basin, or parts thereof, as necessary to determine relevant supply contributions. For example, if there are no proposed supply contribution measures for a tributary, it would not be necessary to develop scoring metrics for that tributary provided that the in-valley recovery volume is maintained.

S6.07 Limits of changes in score or outcomes

The following limits of change in score or outcome will apply in the method under the historic climate conditions:

(a) for each region of the Basin—no reduction in the benchmark environmental outcome scores, although some reductions in individual elements may be permitted if they are offset by increases in other elements;

(b) for each reach:

(i) where the benchmark model run achieves or exceeds the target frequency range for a flow indicator, achievement of the target frequency range must be retained and the frequency result must not vary by more than 10% of the benchmark result; and

(ii) where the benchmark model run does not achieve the target frequency range for a flow indicator, the frequency result must not vary by more than 10% of the benchmark result, and not fall below the baseline model result; and

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(iii) where the benchmark model run provides little improvement in frequency for a flow indicator (less than 50% progress toward the target range from the baseline model result), the frequency result must not vary by more than 15% of the benchmark result, and not fall below the baseline model result; and

Note: Where a flow indicator exceeds these limits of change, but other indicators at the site are within the limits of change, modelling under the method will redistribute the use of environmental water amongst flow indicators to balance outcomes with respect to subparagraphs (i) to (iii). Consistent with section S6.06(3) redistribution of environmental water will occur to the minimum extent necessary to ensure that the limits of change are met and not to otherwise affect environmental flow outcomes in the benchmark model.

(iv) where a supply measure or combination of measures can achieve the ecological outcomes sought by the plan as represented by an ecological target or targets, and a flow indicator or indicators and associated benchmark model results, then subparagraphs (i) to (iii) do not apply to that flow indicator or indicators;

(c) for the Coorong, Lower Lakes, Murray Mouth—maintenance or improvement of the following:

(i) Lake Alexandrina salinity: less than 1500EC for 100% of the time and less than 1000EC for 95% of days;

(ii) Barrage flows: greater than 2000 GL per year on a three year rolling average basis with a minimum of 650 GL in any year, to be achieved for 95% of years;

(iii) Barrage flows: greater than 600 GL over any two year period, to be achieved for 100% of the time;

(iv) Coorong salinity: South Lagoon average daily salinity less than 100 grams per litre for 96% of days;

(v) Mouth openness: Mouth open to an average annual depth of 1 metres (-1.0 m AHD) or more for at least 90% of years and 0.7 metres (-0.7 m AHD) for 95% of years;

(d) for all base flows and fresh requirements within each reach—no reduction in outcomes achieved in the benchmark run.

Note: These limits of change are for the purpose of modelling SDL adjustment and do not necessarily represent environmental watering or management targets.

References

For this Schedule:

MDBA 2011, *The proposed "environmentally sustainable level of take" for surface water of the Murray-Darling Basin: Methods and outcomes*, MDBA publication no: 226/11, Murray-Darling Basin Authority, Canberra.

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MDBA 2012a, *Hydrologic modelling to inform the proposed Basin Plan: Methods and results*, MDBA publication no: 17/12, Murray-Darling Basin Authority, Canberra.

MDBA 2012b, *Assessing environmental water requirements for the Basin's rivers*, Murray-Darling Basin Authority website, Canberra, http://www.mdba.gov.au/draft-basin-plan/science-draft-basin-plan/assessing-environmental-water-requirements.

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Schedule 6A—Calculation of SDL adjustment amounts

Note: See Schedule 2, and the definition of SDL adjustment amount in section 6.05A.

Part 1—Preliminary

S6A.01 Simplified outline of this Schedule

This Schedule sets out how to calculate the SDL adjustment amount of each surface water SDL resource unit for each water accounting period. The SDL adjustment amount is used to calculate the long term average sustainable diversion limit of each surface water SDL resource unit. See subsection 6.04(3), column 2 of the table in Schedule 2, and the definition of "SDL adjustment amount" in section 6.05A.

The SDL adjustment amount is expected to vary between water accounting periods, as:

- water access entitlements are progressively acquired in conjunction with, or to take advantage of the water savings achieved by, notified efficiency measures and additional efficiency measures. Such acquisitions will be efficiency entitlements in different surface water SDL resource units, increasing the efficiency contributions in affected units; and
- additional water access rights, water delivery rights and irrigation rights are progressively acquired. Such acquisitions will be additional HEW entitlements in different surface water SDL resource units, increasing the additional HEW contributions in affected units; and
- the overall limitation on the size of adjustment amounts under section 7.19 operates, if applicable, in relation to a particular water accounting period.

Section 7.19 applies if, at a particular time, the net effect of the total supply contribution, the total efficiency contribution and the total additional HEW contribution (referred to in this Schedule as the "net effect") represents an increase or a decrease of more than 5% of the total surface water SDL for the Basin water resources as it stood at the reference time. The total surface water SDL for the Basin water resources as it stood at the reference time is equal to 10,873 GL per year, and 5% of that amount is equal to 543 GL per year (when rounded down).

On the basis of the supply measures and efficiency measures that were notified to the Authority by 30 June 2017 and any additional efficiency measures notified under section 7.12 or additional HEW entitlements specified under section 7.08B, the net effect will not represent a decrease of more than 5% of this amount. Accordingly, the formula set out in this Schedule provides for a reduction only of the supply contribution for affected units, and not of the efficiency contributions and additional HEW contributions.

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As efficiency contributions and additional HEW contributions are expected to vary over time, the net effect is also expected to vary. Section S6A.04 sets out how to assess the magnitude of the net effect.

Net effect greater than 543 GL per year

For water accounting periods for which the net effect exceeds 543 GL per year, SDL adjustment amounts are calculated in accordance with section S6A.05 of this Schedule. For such water accounting periods, the formula additionally reflects the operation of the overall limit on adjustments in section 7.19.

Net effect no greater than 543 GL per year

If, however, for a particular water accounting period, the net effect does not exceed 543 GL per year, the SDL adjustment amount for each surface water SDL resource unit is instead calculated in accordance with section S6A.06 of this Schedule.

In both cases, the adjustments are expressed in the form of a formula as a function of time, changing at specified times (namely, at the beginning of each water accounting period), that reflects the changes to the efficiency contributions and additional HEW contributions over time.

S6A.02 Interpretation

(1) In this Schedule:

apportioned supply contribution, for a particular surface water SDL resource unit, means:

(a) for a surface water SDL resource unit listed in the table to subsection (2)—the amount, in GL per year, indicated in the table; and

(b) otherwise—zero.

Note 1: The apportioned supply contribution for a surface water SDL resource unit is the amount of the total supply contribution, worked out in accordance with sections 7.15 and 7.17, that was apportioned to the surface water SDL resource unit in accordance with section 7.18, disregarding the effect (if any) of section 7.19.

Note 2: The apportioned supply contribution for each surface water SDL resource unit is the same for each water accounting period.

current additional HEW contribution for a particular surface water SDL resource unit and for a particular water accounting period, means the unit's additional HEW contribution as at the end of the first day of the water accounting period.

Note: The current additional HEW contribution for a surface water SDL resource unit might vary between water accounting periods, as relevant water access rights, water delivery rights or irrigation rights are acquired

current efficiency contribution, for a particular surface water SDL resource unit and for a particular water accounting period, means the unit's efficiency contribution (within the meaning of subsection 7.16(2)) as at the end of the first day of the water accounting period.

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Note: The current efficiency contribution for a surface water SDL resource unit might vary between water accounting periods, as relevant water access entitlements are acquired.

net effect, for a particular water accounting period, has the meaning given by subsection S6A.04(2).

Note 1: The net effect is the difference between the total supply contribution on the one hand, and the total efficiency contribution and total current additional HEW contribution on the other for the water accounting period under sections 7.15 to 7.17.

Note 2: The net effect might vary between water accounting periods as the total efficiency contribution and total current additional HEW contribution change with time.

total current additional HEW contribution for a particular water accounting period, is equal to the sum of the current additional HEW contributions of all surface water SDL resource units.

total current efficiency contribution, for the water accounting period, is equal to the sum of the current efficiency contributions of all surface water SDL resource units.

(2) For paragraph (a) of the definition of "apportioned supply contribution" in subsection (1), the table is the following:

Note: The item numbers in the table correspond to those in Schedule 2.

	Column 1	Column 2
Item	**SDL resource unit (code)**	**Apportioned supply contribution (GL/y)**
13	Lachlan (SS16)	0.0
14	Murrumbidgee (SS15)	162.0
15	New South Wales Murray (SS14)	124.8
16	Lower Darling (SS18)	0.0
17	Victorian Murray (SS2)	72.8
18	Kiewa (SS3)	1.3
19	Ovens (SS4)	3.0
20	Goulburn (SS6)	174.5
21	Broken (SS5)	1.1
22	Campaspe (SS7)	2.6
23	Loddon (SS8)	10.9
24	Wimmera-Mallee (surface water) (SS9)	0.0
25	South Australian Murray (SS11)	52.0
26	South Australian Non-Prescribed Areas (SS10)	0.0
27	Eastern Mount Lofty Ranges (SS13)	0.0
28	Marne-Saunders (SS12)	0.0
29	Australian Capital Territory (surface water) (SS1)	0.0

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S6A.03 Proposed plan area limits and proposed Basin limit

For subsection 23B(4) of the Act:

(a) the ***proposed plan area limit*** (within the meaning of subsection 23A(5) of the Act) for each surface water SDL resource unit is equal to the sum of:

(i) the long-term average sustainable diversion limit for the surface water SDL resource unit given by Schedule 2 as in force when the Basin Plan first took effect; and

Note: The Basin Plan first took effect on 24 November 2012.

(ii) the SDL adjustment amount for the surface water SDL resource unit; and

(b) the ***proposed Basin limit*** (within the meaning of subsection 23A(5) of the Act) is equal to the sum of:

(i) the proposed plan area limits as referred to in paragraph (a) for all surface water SDL resource units; and

(ii) the SDLs for each groundwater SDL resource unit as at the time the Basin Plan first took effect (see subsection 6.04(4)).

Part 2—Calculation of SDL adjustment amount

S6A.04 Net effect of the total supply contribution and the total efficiency contribution

(1) The calculation of the SDL adjustment for each surface water SDL resource unit in a water accounting period depends on whether the net effect for that water accounting period would represent an increase of more than 5% of the total surface water SDL for the Basin water resources as it stood at the reference time.

Note: The total surface water SDL for the Basin water resources as it stood at the reference time is 10,873 GL per year, and 5% of that amount is 543 GL per year (when rounded down).

(2) For a particular water accounting period, the ***net effect***, in GL per year, is calculated in accordance with the following formula:

$$\left(\text{net effect}\right) = 605 - \left(\begin{array}{c}\text{total current}\\ \text{efficiency contribution}\end{array}\right) - \left(\begin{array}{c}\text{total current additional}\\ \text{HEW contribution}\end{array}\right)$$

where:

total current efficiency contribution has the meaning given by subsection S6A.02(1).

total current additional HEW contribution has the meaning given by subsection S6A.02(1).

Note: The amount 605 GL per year is the total supply contribution.

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S6A.05 Calculation of SDL adjustment amounts—net effect greater than 543 GL per year

(1) This section applies if, for the water accounting period, the net effect is greater than 543 GL per year.

Note: The net effect will be greater than 543 GL per year only if the sum of the total current efficiency contribution and the total current additional HEW contribution is less than 62 GL per year.

(2) The ***SDL adjustment amount*** for a particular surface water SDL resource unit for the water accounting period, in GL per year, is calculated in accordance with the following formula:

$$\left(\begin{array}{c}\text{SDL}\\ \text{adjustment}\\ \text{amount}\end{array}\right) = \left(\begin{array}{c}\text{reduced supply}\\ \text{contribution}\end{array}\right) - \left(\begin{array}{c}\text{current efficiency}\\ \text{contribution}\end{array}\right) - \left(\begin{array}{c}\text{current additional}\\ \text{HEW contribution}\end{array}\right)$$

where:

reduced supply contribution, for the surface water SDL resource unit and the water accounting period, means the amount calculated in accordance with subsection (3).

current efficiency contribution, for the surface water SDL resource unit and the water accounting period, has the meaning given by subsection S6A.02(1).

current additional HEW contribution, for the surface water SDL resource unit and the water accounting period, has the meaning given by subsection S6A.02(1).

(3) For subsection (2), the surface water SDL resource unit's ***reduced supply contribution*** for the water accounting period is calculated in accordance with the following formula:

$$\left(\begin{array}{c}\text{reduced}\\ \text{supply}\\ \text{contribution}\end{array}\right) = \left(\begin{array}{c}\text{apportioned}\\ \text{supply}\\ \text{contribution}\end{array}\right) \times \left(\frac{\left(\begin{array}{c}\text{total current}\\ \text{efficiency}\\ \text{contribution}\end{array}\right) + \left(\begin{array}{c}\text{total current}\\ \text{additional}\\ \text{HEW contribution}\end{array}\right) + 543}{605}\right)$$

where:

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apportioned supply contribution, for the surface water SDL resource unit, has the meaning given by subsection S6A.02(1).

total current efficiency contribution has the same meaning as in subsection S6A.02(1).

total current additional HEW contribution has the meaning given by subsection S6A.02(1).

Note 1: The amount 543 GL per year is equal to 5% of the total surface water SDL for the Basin water resources as it stood at the reference time (that amount being 10,873 GL per year) (when rounded down).

Note 2: The amount 605 GL per year is the total supply contribution.

S6A.06 Calculation of SDL adjustment amounts—net effect less than or equal to 543 GL per year

(1) This section applies if, for the water accounting period, the net effect is less than or equal to 543 GL per year.

(2) The ***SDL adjustment amount*** for a particular surface water SDL resource unit for the water accounting period, in GL per year, is calculated in accordance with the following formula:

$$\left(\begin{array}{c}\text{SDL}\\ \text{adjustment}\\ \text{amount}\end{array}\right) = \left(\begin{array}{c}\text{apportioned}\\ \text{supply}\\ \text{contribution}\end{array}\right) - \left(\begin{array}{c}\text{current efficiency}\\ \text{contribution}\end{array}\right) - \left(\begin{array}{c}\text{current additional}\\ \text{HEW contribution}\end{array}\right)$$

where:

apportioned supply contribution, for the surface water SDL resource unit, has the meaning given by subsection S6A.02(1).

current efficiency contribution, for the surface water SDL resource unit and the water accounting period, has the meaning given by subsection S6A.02(1).

current additional HEW contribution, for the surface water SDL resource unit and the water accounting period, has the meaning given by subsection S6A.02(1).

Note: The current additional HEW contribution for a surface water SDL resource unit might vary between water accounting periods, as relevant water access rights, water delivery rights or irrigation rights are acquired.

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Schedule 7—Targets to measure progress towards objectives

Note: See Part 3 of Chapter 8.

Targets to measure progress towards the overall environmental objectives for water-dependent ecosystems
Intermediate targets up to 30 June 2019 (1) There is no loss of, or degradation in, the following: (a) flow regimes which include relevant flow components set out in paragraph 8.51(1)(b); (b) hydrologic connectivity between the river and floodplain and between hydrologically connected valleys; (c) river, floodplain and wetland types including the condition of priority environmental assets and priority ecosystem functions; Note: See section 1.07 for the meaning of the terms ***priority environmental asset*** and ***priority ecosystem function***. (d) condition of the Coorong and Lower Lakes ecosystems and Murray Mouth opening regime; (e) condition, diversity, extent and contiguousness of native water-dependent vegetation; (f) recruitment and populations of native, water-dependent species including vegetation, birds, fish and macroinvertebrates. *Longer term targets from 1 July 2019* (2) There are improvements in the following: (a) flow regimes which include relevant flow components set out in paragraph 8.51(1)(b); Note: The improvements in flow regimes will be measured by progress towards natural flow regimes, having regard to the Basin-wide environmental watering strategy. (b) hydrologic connectivity between the river and floodplain and between hydrologically connected valleys; (c) river, floodplain and wetland types including the condition of priority environmental assets and priority ecosystem functions; (d) condition of the Coorong and Lower Lakes ecosystems and Murray Mouth opening regime; (e) condition, diversity, extent and contiguousness of native water-dependent vegetation; (f) recruitment and populations of native water-dependent species, including vegetation, birds, fish and macroinvertebrates; (g) the community structure of water-dependent ecosystems.

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Schedule 8—Criteria for identifying an environmental asset

Note: See section 8.49.

Item	Criteria
Criterion 1: The water-dependent ecosystem is formally recognised in international agreements or, with environmental watering, is capable of supporting species listed in those agreements	
1	Assessment indicator: A water-dependent ecosystem is an environmental asset that requires environmental watering if it is: (a) a declared Ramsar wetland; or (b) with environmental watering, capable of supporting a species listed in or under the JAMBA, CAMBA, ROKAMBA or the Bonn Convention.
Criterion 2: The water-dependent ecosystem is natural or near-natural, rare or unique	
2	Assessment indicator: A water-dependent ecosystem is an environmental asset that requires environmental watering if it: (a) represents a natural or near-natural example of a particular type of water-dependent ecosystem as evidenced by a relative lack of post-1788 human induced hydrologic disturbance or adverse impacts on ecological character; or (b) represents the only example of a particular type of water-dependent ecosystem in the Murray-Darling Basin; or (c) represents a rare example of a particular type of water-dependent ecosystem in the Murray-Darling Basin.
Criterion 3: The water-dependent ecosystem provides vital habitat	
3	Assessment indicator: A water-dependent ecosystem is an environmental asset that requires environmental watering if it: (a) provides vital habitat, including: (i) a refugium for native water-dependent biota during dry spells and drought; or (ii) pathways for the dispersal, migration and movements of native water-dependent biota; or (iii) important feeding, breeding and nursery sites for native water-dependent biota; or (b) is essential for maintaining, and preventing declines of, native water-dependent biota.
Criterion 4: Water-dependent ecosystems that support Commonwealth, State or Territory listed threatened species or communities	
4	Assessment indicator: A water-dependent ecosystem is an environmental asset that requires environmental watering if it: (a) supports a listed threatened ecological community or listed threatened species; or Note: See the definitions of ***listed threatened ecological community*** and ***listed threatened species*** in section 1.07. (b) supports water-dependent ecosystems treated as threatened or endangered (however described) under State or Territory law; or (c) supports one or more native water-dependent species treated as threatened or

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	endangered (however described) under State or Territory law.
Criterion 5: The water-dependent ecosystem supports, or with environmental watering is capable of supporting, significant biodiversity	
5	Assessment indicator: A water-dependent ecosystem is an environmental asset that requires environmental watering if it supports, or with environmental watering is capable of supporting, significant biological diversity. This includes a water-dependent ecosystem that: (a) supports, or with environmental watering is capable of supporting, significant numbers of individuals of native water-dependent species; or (b) supports, or with environmental watering is capable of supporting, significant levels of native biodiversity at the genus or family taxonomic level, or at the ecological community level.

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Schedule 9—Criteria for identifying an ecosystem function

Note: See section 8.50.

Item	Criteria
Criterion 1: The ecosystem function supports the creation and maintenance of vital habitats and populations	
1	Assessment indicator: An ecosystem function requires environmental watering to sustain it if it provides vital habitat, including: (a) a refugium for native water-dependent biota during dry periods and drought; or (b) pathways for the dispersal, migration and movement of native water-dependent biota; or (c) a diversity of important feeding, breeding and nursery sites for native water-dependent biota; or (d) a diversity of aquatic environments including pools, riffle and run environments; or (e) a vital habitat that is essential for preventing the decline of native water-dependent biota.
Criterion 2: The ecosystem function supports the transportation and dilution of nutrients, organic matter and sediment	
2	Assessment indicator: An ecosystem function requires environmental watering to sustain it if it provides for the transportation and dilution of nutrients, organic matter and sediment, including: (a) pathways for the dispersal and movement of organic and inorganic sediment, delivery to downstream reaches and to the ocean, and to and from the floodplain; or (b) the dilution of carbon and nutrients from the floodplain to the river systems.
Criterion 3: The ecosystem function provides connections along a watercourse (longitudinal connections)	
3	Assessment indicator: An ecosystem function requires environmental watering to sustain it if it provides connections along a watercourse or to the ocean, including longitudinal connections: (a) for dispersal and re-colonisation of native water-dependent communities; or (b) for migration to fulfil requirements of life-history stages; or (c) for in-stream primary production.
Criterion 4: The ecosystem function provides connections across floodplains, adjacent wetlands and billabongs (lateral connections)	
4	Assessment indicator: An ecosystem function requires environmental watering to sustain it if it provides connections across floodplains, adjacent wetlands and billabongs, including: (a) lateral connections for foraging, migration and re-colonisation of native water-dependent species and communities; or (b) lateral connections for off-stream primary production.

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Schedule 10—Key causes of water quality degradation

Note: See section 9.02.

Item	Type of water quality degradation	Key causes of water quality degradation for that type
1	Elevated levels of salinity	(1) The process of mobilisation of salt stores in the landscape and geological predisposition to salinity development, including by: (a) the following processes and activities relating to water flow or water management: (i) saline groundwater and surface water discharges into surface water systems; (ii) increased deep drainage below irrigated agricultural land displacing saline groundwater to surface water systems; (iii) saline surface and shallow groundwater drainage from irrigated agricultural land into surface water systems; (iv) irrigation at high salinity risk locations without adequate drainage management; Example: Locations where there is a high risk of recharge to groundwater resulting in saline discharges to surface waters. (v) de-watering of saline groundwater which mobilises salt into surface water systems; (vi) reduction in stream flows, limiting the dilution of salinity; (b) land management practices involving the replacement of deep-rooted vegetation with shallow-rooted crops and pastures, resulting in increased rainfall recharge displacing saline groundwater to surface water systems. (2) The use of groundwater for irrigation purposes at locations where highly saline upper aquifer water drains to the lower aquifer. (3) With respect to soil degradation, the use of water with a high ratio of sodium to calcium and magnesium for irrigation.

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Item	Type of water quality degradation	Key causes of water quality degradation for that type
2	Elevated levels of suspended matter	Sediments entering Basin water resources, which is contributed to by: (a) the following land management practices: (i) inappropriate frequency, timing and location of cultivation; Example: Cultivation taking place at times of the year when the risk of erosion is high (e.g. during the high rainfall season), excessive frequency of cultivation, and cultivation of steep slopes. (ii) overgrazing of catchments and grazing of riverbanks and floodplains; Example: The riparian zone along watercourses kept in permanent vegetation can effectively mitigate the movement of sediment within farmlands and from farmlands. (iii) poor soil conservation practices; Example: Practices that fail to use management strategies that prevent soil erosion, acidification, salinisation or other chemical soil contamination, or fail to adopt proven soil conservation technologies such as the construction of contour banks. (iv) practices that over the long-term cause decline of stream morphology, leading to near stream processes of gully erosion, side wall cut and head migration; and (b) the following water management practices: (i) rapid drawdown of water within a surface water resource; Example: Rapid drawdown of water in a dam. (ii) the volume or manner of release of water, resulting in back or bed erosion; and (c) wave wash (for example, that caused by speedboats).
3	Elevated levels of nutrients	Nutrients entering Basin water resources through both point and diffuse sources. The key sources of nutrients are: (a) soil and organic matter; (b) animal waste; (c) fertilisers; (d) sewage and industrial discharges; (e) nutrients from water storages released as a result of storage management practices.

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Item	Type of water quality degradation	Key causes of water quality degradation for that type
4	Elevated levels of cyanobacteria cell counts or biovolume and toxins and odour compounds	The interaction of the following factors: (a) a water body with little or no flow; (b) stratification in the water body; (c) sunlight; (d) the availability of phosphorus and nitrogen in the water; (e) seeding from up-stream (although cyanobacteria blooms may occur without this factor).
5	Water temperature outside natural ranges	(1) The key cause of water temperature of Basin water resources below natural ranges is the release of stored water from below the thermocline from large water storages in spring, summer and autumn. (2) The key causes of water temperature of Basin water resources above natural ranges are the following: (a) the release of stored water from large water storages in winter; (b) the removal of shading riparian vegetation; (c) reduced flow.
6	Dissolved oxygen outside natural ranges	(1) Micro-organisms consuming organic matter and depleting oxygen at a rate faster than it can be replenished. Example: This can arise when there is a discharge from sewage treatment plants or the flushing of natural organic material from the floodplain. (2) Bottom release from, or overturn within, a stratified water storage. (3) Eutrophication leading to excessive plant growth causing high diurnal variations in dissolved oxygen levels, both above and below natural ranges.
7	Elevated levels of pesticides and other contaminants	Poor management practices including the following: (a) pesticide spray drift; (b) allowing pesticides or other contaminants into surface water runoff; (c) allowing pesticides or other contaminants to leach into groundwater; (d) allowing erosion of contaminated soil; (e) inappropriate disposal of pesticides; (f) inappropriate disposal and management of industrial and other waste (including from mining and coal-seam gas extraction).
8	pH outside natural ranges	(1) The exposure to the air of soils containing iron sulfide minerals. Note: When iron sulfide minerals are exposed to air natural oxidation processes can result in the release of acid, which can be flushed into Basin water resources. (2) Agricultural practices that lead to the acidification of soils.

Item	Type of water quality degradation	Key causes of water quality degradation for that type
		(3) Eutrophication leading to excessive plant growth causing high diurnal variation in pH.
9	Elevated pathogen counts	Pathogens entering Basin water resources through both point and diffuse sources. The key sources of pathogens are: (a) human and animal waste; and (b) sewage discharges.

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Schedule 11—Target values for target application zones

Note: See section 9.16.

Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
B1 (Condamine and Warrego valleys; Upland zone)	Declared Ramsar wetlands	Streams and rivers	40	200	1350	>5.0 mg/L; or 60–110%	6.5–8.0		between the 20%ile and the 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	100	25	1000	90–110%	6.5-9.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	270	450	2000	60-110%	7.0-8.5		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
A1 (Condamine, Paroo and Warrego valleys; Lowland zone)	Declared Ramsar wetlands	Streams and rivers	450	220	890	>5.0 mg/L; or 60–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	100	25	1000	90–110%	6.5-9.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	700	300	1000	>5.0 mg/L; or 60–110%	6.5–8.0	End-of-Valley targets for salinity in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
B2 (Border Rivers, Gwydir and Namoi valleys; Upland zone)	Declared Ramsar wetlands	Streams and rivers	15	45	490	90–110%	7.5-8.5		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	30	80	750	60–110%	7.5-8.5		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
A2 (Border Rivers, Gwydir, and Namoi valleys; Lowland zone)	Declared Ramsar wetlands	Streams and rivers	75	130	890	>5.0 mg/L; or 65–110%	7.0–8.3		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

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Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	200	200	1000	>5.0 mg/L; or 65–110%	7.0–8.3	End-of-Valley targets for salinity in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
C2 (Border Rivers, Gwydir, and Namoi valleys; Montane zone)	Declared Ramsar wetlands	Streams and rivers	25	20	250	90-110%	6.5-7.5		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	25	20	250	90-110%	6.5-7.5		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
Dml (Darling valley; Middle and lower zones)	Declared Ramsar wetlands	Streams and rivers	50	50	500	85–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

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Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	50	50	500	85–110%	6.5–8.0	End-of-Valley targets for salinity in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
B3 (Castlereagh, Macquarie, Lachlan and Murrumbidgee valleys; Upland zone)	Declared Ramsar wetlands	Streams and rivers	5	20	310	>8 mg/L; or 90-110%	7.0-8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	20	35	600	>8 mg/L; or 90-110%	7.0-8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
A3 (Castlereagh, Macquarie, Lachlan and Murrumbidgee valleys; Lowland zone)	Declared Ramsar wetlands	Streams and rivers	20	30	320	>7.0 mg/L; or 80-110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	35	50	600	>7.0 mg/L; or 80-110%	6.5–8.0	End-of-Valley targets for salinity in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
Du (Darling; Upper zone)	Declared Ramsar wetlands	Streams and rivers	95	150	480	>7 mg/L; or 80-110%	7.0-8.1		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	230	250	900	>7 mg/L; or 80-110%	7.0-8.1		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
C3 (Lachlan and Murrumbidgee valleys Montane zone)	Declared Ramsar wetlands	Streams and rivers	5	20	250	>8.5 mg/L; or 90-110%	6.5-7.5		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	10	20	250	>8.5 mg/L; or 90-110%	6.5-7.5		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
cMum (Murray Valley Central; Upper and Middle zones)	Declared Ramsar wetlands	Streams and rivers	15	40	500	>7.7 mg/L; 90–110%	6.5–7.5		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	15	40	500	>7.7 mg/L; 90–110%	6.5–7.5	End-of-Valley targets for salinity in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species

Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
B4 (Avoca, Wimmera, Loddon and Campaspe valleys; Upland zone)	Declared Ramsar wetlands	Streams and rivers	10	25	600	80-110%	6.5–8.3		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	10	25	600	80-110%	6.5–8.3		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
A4 (Avoca, Wimmera, Loddon and Campaspe valleys; Lowland zone)	Declared Ramsar wetlands	Streams and rivers	5	15	320	80-110%	6.5–8.3		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	30	45	900	80-110%	6.5–8.3	End-of-Valley targets for salinity in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
C5 (Ovens valley; Montane zone)	Declared Ramsar wetlands	Streams and rivers	5	25	150	95-110%	6.4-7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	5	25	150	95-110%	6.4-7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
B5 (Broken, Goulburn and Ovens valleys; Upland zones)	Declared Ramsar wetlands	Streams and rivers	5	15	290	>8.0 mg/L; or 90-110%	6.4-7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	10	30	600	>8.0 mg/L; or 90-110%	6.4-7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
A5 (Broken, Goulburn and Ovens valleys; Lowland zone)	Declared Ramsar wetlands	Streams and rivers	10	25	350	>7.5 mg/L; or 85-110%	6.4–7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	30	45	600	>7.5 mg/L; or 85-110%	6.4–7.7	End-of-Valley targets for salinity in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
C6 (Mitta Mitta and Upper Murray; Montane)	Declared Ramsar wetlands	Streams and rivers	5	25	150	>9 mg/L; or 95-110%	6.4–7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

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Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	5	25	150	>9 mg/L; or 95-110%	6.4–7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
B6 (Kiewa, Mitta Mitta and Upper Murray; Upland)	Declared Ramsar wetlands	Streams and rivers	5	20	230	>8.5 mg/L; or 85-110%	6.4–7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	5	30	350	>8.5 mg/L; or 85-110%	6.4–7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
A6 (Kiewa; Lowland)	Declared Ramsar wetlands	Streams and rivers	5	30	290	>7.5 mg/L; or 85-110%	6.4–7.7		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

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Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	10	45	600	>7.5 mg/L; or 85-110%	6.4–7.7	End-of-Valley targets for salinity in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
cMl (Central Murray; Lower)	Declared Ramsar wetlands	Streams and rivers	35	80	700	>8.0 mg/L; or 90-110%	6.8-8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	35	80	700	>8.0 mg/L; or 90-110%	6.8-8.0	End-of-Valley targets for salinity in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species
lM (Lower Murray)	Declared Ramsar wetlands	Streams and rivers	50	100	1000	85-110%	6.5-9.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species

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Target application zones (Target assessment)	Water-dependent ecosystem	Ecosystem Type	Turbidity (NTU) (Annual median)	Total Phosphorus (µg/L) (Annual median)	Total Nitrogen (µg/L) (Annual median)	Dissolved oxygen (mg/L; or saturation (%)) (Annual median within the range)	pH (Annual median within the range)	Salinity	Temperature (Monthly median within the range)	Pesticides, heavy metals and other toxic contaminants (values in table 3.4.1 of the ANZECC Guidelines for) (Must not be exceeded)
		Lakes and wetlands	20	10	350	90–110%	6.5–8.0		between the 20%ile and 80%ile of natural monthly water temperature	the protection of 99% of species
	Other water-dependent ecosystems	Streams, rivers, lakes and wetlands	50	100	1000	85-110%	6.5-9.0	End-of-Valley targets in Appendix 1 of Schedule B to the Agreement	between the 20%ile and 80%ile of natural monthly water temperature	the protection of 95% of species

Schedule 12—Matters for evaluation and reporting requirements

Note 1: The matters listed in this Schedule relate to the objectives and outcomes against which the effectiveness of the Basin Plan will be evaluated (see section 13.05). The matters are also matters on which the Authority, the Basin States, the Department and the CEWH are required to report (see section 13.14). The Authority may publish guidelines under section 13.16, and enter into agreements under section 13.15, in relation to the reporting requirements.

Note: 2 Category A matters are subject to 5 yearly reporting and Category B matters are subject to annual reporting, subject to an agreement being made under section 13.15.

In this Schedule, ***CEWH*** means the Commonwealth Environmental Water Holder.

Item	Matter	Reporter	Category	Relevant Chapter
	Basin Plan as a whole			
1	The transparency and effectiveness of the management of the Basin water resources.	Authority	A	Chapter 5
2	The protection and restoration of water-dependent ecosystems and ecosystem functions in the Murray-Darling Basin, including for the purposes of strengthening their resilience in a changing climate.	Authority	A	Chapter 5
3	The extent to which the Basin Plan has affected social, economic and environmental outcomes in the Murray-Darling Basin.	Department, Authority	A	Chapter 5
4	The effectiveness of the management of risks to Basin water resources.	Basin States, Authority	B	Chapters 4, 5 and 10
5	The transition to long-term average sustainable diversion limits.	Department	B	Chapters 5 and 6
6	The extent to which local knowledge and solutions inform the implementation of the Basin Plan.	Basin States, Authority, CEWH	B	Chapters 6, 8 and 10
	Environmental watering plan			
7	The achievement of environmental outcomes at a Basin scale, by reference to the targets in Schedule 7.	Authority, CEWH	A	Chapter 8

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Item	Matter	Reporter	Category	Relevant Chapter
8	The achievement of environmental outcomes at an asset scale.	Basin States	A	Chapter 8
9	The identification of environmental water and the monitoring of its use.	Basin States, CEWH, Authority	B	Chapter 8
10	The implementation of the environmental management framework (Part 4 of Chapter 8).	Basin States, CEWH, Authority	B	Chapter 8
	Water quality and salinity			
11	The fitness for purpose of the Basin water resources.	Authority	A	Chapters 5 and 9
12	Progress towards the water quality targets in Chapter 9.	Basin States, Authority	A	Chapter 9
13	The implementation, where necessary, of the emergency response process for critical human water needs.	Basin States, Authority, Department	B	Chapter 11
14	The implementation of the water quality and salinity management plan, including the extent to which regard is had to the targets in Chapter 9 when making flow management decisions.	Basin States, Authority, CEWH	B	Chapter 9
	Water trading rules			
15	The facilitation, by efficient and effective water markets, of tradeable water rights reaching their most productive use.	Authority	A	Chapters 5 and 12
16	The implementation of water trading rules.	Basin States, Authority	B	Chapter 12
	Water resource planning			
17	The certainty of access to Basin water resources.	Authority	A	Chapters 5 and 10
18	The efficiency and effectiveness of the operation of water resource plans, including in providing a robust framework under a changing	Basin States, Authority	A	Chapter 10

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Item	Matter	Reporter	Category	Relevant Chapter
	climate.			
19	Compliance with water resource plans.	Basin States	B	Chapter 10
20	The prioritisation of critical human water needs.	Basin States	B	Chapters 10 and 11
21	The accountability and transparency of arrangements for water sharing.	Basin States	B	Chapter 10

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Endnotes

Endnote 1—About the endnotes

The endnotes provide information about this compilation and the compiled law.

The following endnotes are included in every compilation:

Endnote 1—About the endnotes
Endnote 2—Abbreviation key
Endnote 3—Legislation history
Endnote 4—Amendment history

Abbreviation key—Endnote 2
The abbreviation key sets out abbreviations that may be used in the endnotes.

Legislation history and amendment history—Endnotes 3 and 4
Amending laws are annotated in the legislation history and amendment history.

The legislation history in endnote 3 provides information about each law that has amended (or will amend) the compiled law. The information includes commencement details for amending laws and details of any application, saving or transitional provisions that are not included in this compilation.

The amendment history in endnote 4 provides information about amendments at the provision (generally section or equivalent) level. It also includes information about any provision of the compiled law that has been repealed in accordance with a provision of the law.

Editorial changes
The *Legislation Act 2003* authorises First Parliamentary Counsel to make editorial and presentational changes to a compiled law in preparing a compilation of the law for registration. The changes must not change the effect of the law. Editorial changes take effect from the compilation registration date.

If the compilation includes editorial changes, the endnotes include a brief outline of the changes in general terms. Full details of any changes can be obtained from the Office of Parliamentary Counsel.

Misdescribed amendments
A misdescribed amendment is an amendment that does not accurately describe how an amendment is to be made. If, despite the misdescription, the amendment can be given effect as intended, then the misdescribed amendment can be incorporated through an editorial change made under section 15V of the *Legislation Act 2003*.

If a misdescribed amendment cannot be given effect as intended, the amendment is not incorporated and "(md not incorp)" is added to the amendment history.

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Endnote 2—Abbreviation key

ad = added or inserted

am = amended

amdt = amendment

c = clause(s)

C[x] = Compilation No. x

Ch = Chapter(s)

def = definition(s)

Dict = Dictionary

disallowed = disallowed by Parliament

Div = Division(s)

ed = editorial change

exp = expires/expired or ceases/ceased to have effect

F = Federal Register of Legislation

gaz = gazette

LA = *Legislation Act 2003*

LIA = *Legislative Instruments Act 2003*

(md) = misdescribed amendment can be given effect

(md not incorp) = misdescribed amendment cannot be given effect

mod = modified/modification

No. = Number(s)

o = order(s)

Ord = Ordinance

orig = original

par = paragraph(s)/subparagraph(s) /sub-subparagraph(s)

pres = present

prev = previous

(prev…) = previously

Pt = Part(s)

r = regulation(s)/rule(s)

reloc = relocated

renum = renumbered

rep = repealed

rs = repealed and substituted

s = section(s)/subsection(s)

Sch = Schedule(s)

Sdiv = Subdivision(s)

SLI = Select Legislative Instrument

SR = Statutory Rules

Sub-Ch = Sub-Chapter(s)

SubPt = Subpart(s)

underlining = whole or part not commenced or to be commenced

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Endnote 3—Legislation history

Name	Registration	Commencement	Application, saving and transitional provisions
Basin Plan 2012	23 Nov 2012 (F2012L02240)	Ch 12: 1 July 2014 (s 1.04(2)) Remainder: 24 Nov 2012 (s 1.04(1))	
Basin Plan Amendment Instrument 2017 (No. 1)	13 Nov 2017 (F2017L01462)	Sch 1 (items 61–66): disallowed before commencing (s 2(a)) Remainder: 14 Nov 2017 (s 2(b)) Note: disallowed by the Senate at 7.15 pm on 14 Feb 2018	—
Basin Plan Amendment (SDL Adjustments) Instrument 2017	12 Jan 2018 (F2018L00040)	13 Jan 2018 (s 2(1) item 1)	—
Basin Plan Amendment Instrument (No. 1) 2018	2 July 2018 (F2018L00982)	Sch 1 (items 1–61 and 68–95): 3 July 2018 (s 2(b)) Sch 1 (items 62–67): 1 Jan 2020 (s 2(a))	—

Act	Number and year	Assent	Commencement	Application, saving and transitional provisions
Water Amendment Act 2015	133, 2015	13 Oct 2015	Sch 1 (items 1–3): 13 Apr 2016 (s 2(1) item 2)	—
Water Legislation Amendment (Sustainable Diversion Limit Adjustment) Act 2016	72, 2016	23 Nov 2016	24 Nov 2016 (s 2(1) item 1)	—
Water Legislation Amendment (Inspector-General of Water Compliance and Other Measures) Act 2021	74, 2021	30 June 2021	Sch 2: 5 Aug 2021 (s 2(1) item 1)	—
Water Amendment (Restoring Our Rivers) Act 2023	111, 2023	7 Dec 2023	Sch 2: 8 Dec 2023 (s 2(1) item 3) Sch 4 (items 1–4): 1 July 2024 (s 2(1) items 8, 9) Sch 4 (items 5–8): awaiting commencement (s 2(1) item 10)	—

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Endnote 4—Amendment history

Provision affected	How affected
Chapter 1	
Part 1	
s 1.04	rep LA s 48D
Part 2	
s 1.05	am F2018L00040
Part 3	
s 1.07	am F2017L01462 (disallowed); F2018L00040; F2018L00982; Act No 111, 2023 (Sch 4 items 5, 6)
s 1.08	am Act No 111, 2023
Chapter 3	
Part 1	
s. 3.03	am F2017L01462 (disallowed); F2018L00982
Part 2	
s 3.06	rs F2017L01462 (disallowed); F2018L00982
s 3.07	am F2017L01462 (disallowed); F2018L00982
Chapter 6	
Part 2	
Division 1	
s 6.02	am F2017L01462 (disallowed); F2018L00982
s 6.03	am F2017L01462 (disallowed); F2018L00982
Division 2	
s 6.04	am F2017L01462 (disallowed); F2018L00982
s 6.05	rs F2017L01462 (disallowed); F2018L00982
s 6.05A	ad F2018L00040
s 6.06	am F2017L01462 (disallowed); F2018L00982
Part 4	
Division 1	
Division 1 heading	rs Act No 111, 2023
s 6.08	am F2017L01462 (disallowed); F2018L00982
s 6.08A	ad Act No 111, 2023
s 6.08B	ad Act No 111, 2023
s 6.08C	ad Act No 111, 2023
Division 1A	
Division 1A	ad Act No 111, 2023
s 6.08D	ad Act No 111, 2023
s 6.08E	ad Act No 111, 2023
s 6.08F	ad Act No 111, 2023
s 6.08G	ad Act No 111, 2023

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Provision affected	How affected
Division 2	
Division 2 heading	am F2017L01462 (disallowed); F2018L00982
s 6.09	am F2017L01462 (disallowed); F2018L00982
s 6.11	am F2017L01462 (disallowed); F2018L00982
s 6.12	am F2017L01462 (disallowed); F2018L00982; Act No 74, 2021; Act No 111, 2023
Division 3	
Division 3	ad F2017L01462 (disallowed); F2018L00982
s 6.12A	ad F2017L01462 (disallowed); F2018L00982
s 6.12B	ad F2017L01462 (disallowed); F2018L00982
s 6.12C	ad F2017L01462 (disallowed); F2018L00982
	am Act No 74, 2021; Act No 111, 2023
Part 5	
s 6.13	am Act No 111, 2023
Chapter 7	
Chapter 7	am Act No 72, 2016; F2017L01462 (disallowed); F2018L00982; Act No 111, 2023
Part 1	
s 7.01	am F2017L01462 (disallowed); F2018L00982; Act No 111, 2023
	ed C9
s 7.02	am Act No 72, 2016; Act No 111, 2023
s 7.07	am F2017L01462 (disallowed); F2018L00982
s 7.08	am Act No 111, 2023
s 7.08A	ad Act No 111, 2023
s 7.08B	ad Act No 111, 2023
Part 2	
Part 2 heading	am Act No 111, 2023
Division 1	
s 7.09	am Act No 111, 2023
Division 2	
s 7.10	am Act No 72, 2016
s 7.11	am Act No 111, 2023
Division 3	
s 7.12	am Act No 72, 2016; Act No 111, 2023
s 7.13	rs Act No 111, 2023
Division 4	
s 7.14	am F2017L01462 (disallowed); F2018L00982; Act No 111, 2023
s 7.14A	ad F2017L01462 (disallowed); F2018L00982
	am Act No 111, 2023
s 7.15	am Act No 72, 2016; Act No 111, 2023
	ed C9
s 7.16	am Act No 72, 2016; Act No 111, 2023

Endnote 4—Amendment history

Provision affected	How affected
s 7.16A	ad Act No 111, 2023
s 7.17	am Act No 133, 2015; Act No 111, 2023
s 7.18	am Act No 111, 2023
s 7.19	am Act No 111, 2023
s 7.20	am Act No 72, 2016
s 7.21	rs Act No 111, 2023
Part 3	rep F2017L01462 (disallowed); F2018L00982
s 7.22	rep F2017L01462 (disallowed); F2018L00982
s 7.23	rep F2017L01462 (disallowed); F2018L00982
Part 5	
s 7.27	am Act No 111, 2023
Chapter 9	
Part 3	
s 9.06	am F2017L01462 (disallowed); F2018L00982
Chapter 10	
Part 2	
s 10.04	am F2017L01462 (disallowed); F2018L00982
Part 3	
Division 2	
s 10.10	am F2017L01462 (disallowed); F2018L00982; Act No 111, 2023
s 10.11	am F2017L01462 (disallowed); F2018L00982
Division 3	
s 10.15	am F2017L01462 (disallowed); F2018L00982
Part 4	
Division 3	
s 10.20	am F2017L01462 (disallowed); F2018L00982
s 10.21	rs F2017L01462 (disallowed); F2018L00982
Part 7	
Division 1	
Division 1 heading	ad F2017L01462 (disallowed); F2018L00982
s 10.29	rs F2017L01462 (disallowed); F2018L00982
Division 2	
Division 2 heading	ad F2017L01462 (disallowed); F2018L00982
Division 3	
Division 3	ad F2017L01462 (disallowed); F2018L00982
s 10.35A	ad F2017L01462 (disallowed); F2018L00982
s 10.35B	ad F2017L01462 (disallowed); F2018L00982
s 10.35C	ad F2017L01462 (disallowed); F2018L00982
s 10.35D	ad F2017L01462 (disallowed); F2018L00982

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Provision affected	How affected
Part 10	
s 10.44	am F2017L01462 (disallowed); F2018L00982
Part 11	
s 10.47A	ad F2017L01462 (disallowed); F2018L00982
Chapter 12	
Part 1	
s 12.05	am F2017L01462 (disallowed); F2018L00982
Part 2	
Division 2	
Subdivision B	
s 12.16	am F2017L01462 (disallowed); F2018L00982
s 12.17	rep F2017L01462 (disallowed); F2018L00982
s 12.18	am F2017L01462 (disallowed); F2018L00982
s 12.19	am F2017L01462 (disallowed); F2018L00982; Act No 74, 2021
s 12.20	am F2017L01462 (disallowed); F2018L00982; Act No 74, 2021
s 12.22	am Act No 74, 2021
s 12.23	am Act No 111, 2023
Part 5	
Division 3	
s 12.47	am F2017L01462 (disallowed); F2018L00982
Division 4	
Division 4	rep Act No 111, 2023
s 12.48	rep Act No 111, 2023
Division 5	
s 12.49	rep Act No 111, 2023
s 12.50	rep Act No 111, 2023
s 12.51	rep Act No 111, 2023
s 12.52	rep Act No 111, 2023
Chapter 13	
Part 1	
s 13.01	am Act No 74, 2021
Part 3	
Part 3 heading	am Act No 74, 2021
Division 1	
s 13.05	am F2017L01462 (disallowed); F2018L00982
Division 2	
Division 2 heading	rs F2018L00982
s 13.07	rs F2018L00982
s 13.08	am F2018L00982
s 13.09	am F2018L00982

Endnote 4—Amendment history

Provision affected	How affected
s 13.09A	ad F2018L00982
Division 3	rep Act No 74, 2021
s 13.10	rep Act No 74, 2021
Division 5	
s 13.12	am Act No 74, 2021
Part 5	
s 13.20	rep Act No 74, 2021
Part 6	
s 13.23	am F2018L00982
Schedule 2	
Schedule 2	am F2017L01462 (disallowed); F2018L00040; F2018L00982
Schedule 3	
Schedule 3	am F2017L01462 (disallowed); F2018L00982
Schedule 4	
Schedule 4	am F2017L01462 (disallowed); F2018L00982
Schedule 6A	
Schedule 6A	ad F2018L00040
Part 1	
S6A.01	ad F2018L00040
	am Act No 111, 2023
S6A.02	ad F2018L00040
	am Act No 111, 2023
S6A.03	ad F2018L00040
Part 2	
S6A.04	ad F2018L00040
	am Act No 111, 2023
S6A.05	ad F2018L00040
	am Act No 111, 2023
S6A.06	ad F2018L00040
	am Act No 111, 2023

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Endnote 5—Editorial changes

In preparing this compilation for registration, the following kinds of editorial change(s) were made under the *Legislation Act 2003*.

Paragraph 7.01(2)(a)

Kind of editorial change

Change to punctuation

Details of editorial change

Schedule 2 item 13 of the *Water Amendment (Restoring Our Rivers) Act 2023* provides as follows:

13 After paragraph 7.01(2)(a)

Insert:

; (b) new acquisitions of held environmental water that was previously used for consumptive purposes (Part 2); or

This amendment results in a redundant semicolon at the end of paragraph 7.01(2)(a).

This compilation was editorially changed to omit the redundant semicolon at the end of paragraph 7.01(2)(a) to correct the punctuation.

Subsection 7.15(1) (note)

Kind of editorial change

Changes to punctuation

Details of editorial change

Schedule 2 item 36 of the *Water Amendment (Restoring Our Rivers) Act 2023* provides as follows:

36 Subsection 7.15(1) (note)

After “section 7.12”, insert “The additional supply measures were not included in this provision at the time adjustments were proposed under section 7.10.”.

This amendment results in no full stop after “section 7.12” in the note to subsection 7.15(1) and two full stops at the end of the note to subsection 7.15(1).

This compilation was editorially changed to insert a full stop after “section 7.12” in the note to subsection 7.15(1) and to omit the redundant full stop at the end of the note to subsection 7.15(1) to correct the punctuation.

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Subsection 7.15(2) (paragraph (b) of the definition of *applicable method*)

Kind of editorial change

Give effect to the misdescribed amendment as intended

Details of editorial change

Schedule 2 item 37 of the *Water Amendment (Restoring Our Rivers) Act 2023* provides as follows:

37 Paragraph 7.15(2)(b)

Repeal the paragraph, substitute:

(b) if the Authority, having consulted the Basin Officials Committee, decides that another method is preferable—that method.

Paragraph 7.15(2)(b) appears three times in subsection 7.15(2).

This compilation was editorially changed to repeal and substitute paragraph (b) of the definition of ***applicable method*** in subsection 7.15(2) to give effect to the misdescribed amendment as intended.

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