

EXPLANATORY STATEMENT

Basin Plan 2012

Water Act 2007

Issued by authority of the Minister for Sustainability, Environment, Water, Population and Communities

GENERAL OVERVIEW

The Basin Plan provides a high level framework that sets standards for the Australian Government, Basin States and the Murray-Darling Basin Authority (Authority) to manage the Murray-Darling Basin's water resources in a coordinated and sustainable way in collaboration with the community. It is based on managing Basin water resources in the national interest rather than on jurisdictional or sectoral based views. The Basin Plan builds on the past milestone agreements made by the Basin States that remain current today, such as the Murray-Darling Basin Agreement, the 2004 National Water Initiative and the 2008 Intergovernmental Agreement on Murray-Darling Basin Reform.

The purpose of the Basin Plan is to provide for the integrated management of the Basin water resources in a way that promotes the objects of the *Water Act 2007* (Cth) (Act), in particular by providing for:

- giving effect to relevant international agreements, including the Biodiversity Convention and the Ramsar Convention, to the extent they relate to the use and management of Basin water resources;
- establishment and enforcement of environmentally sustainable limits on the quantities of surface water and groundwater that may be taken from Basin water resources;
- Basin-wide environmental objectives for water-dependent ecosystems, and water quality and salinity objectives;
- use and management of Basin water resources in a way that optimises social, economic and environmental outcomes;
- water to meet its most productive use through the development of an efficient water trading regime across the Murray-Darling Basin;
- requirements that must be met by water resource plans; and
- improved water security for all uses of Basin water resources.

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

- communities with sufficient and reliable water supplies that are fit for a range of intended purposes, including domestic, recreational and cultural use;
- productive and resilient water-dependent industries, and communities with confidence in their long-term future; and

- healthy and resilient ecosystems with rivers and creeks regularly connected to their floodplains and, ultimately, the ocean (section 5.02).

Section 21 of the Act sets out the general basis on which the Basin Plan is to be developed and section 22 specifies mandatory content of the Basin Plan. Information relating to each Chapter of the Basin Plan below sets out further details of the legislative basis of the Chapter's provisions.

STRUCTURE

This Explanatory Statement sets out general introductory material relating to the Basin Plan, followed by an overview and discussion of individual sections for each Basin Plan Chapter. The Schedules to the Basin Plan are addressed at the end of the Explanatory Statement.

The Basin Plan is divided into the following parts:

- Chapter 1 sets out how the Basin Plan should be cited, its scope and its commencement dates. It provides an overview of the structure of the Basin Plan consisting of 13 Chapters and 12 Schedules and the definitions of terms. It also addresses agreements with regard to jurisdictional obligations.
- Chapter 2 provides a description of Basin water resources and the context in which those resources are used.
- Chapter 3 identifies water resource plan areas and the water accounting periods for each area.
- Chapter 4 identifies the risks to the condition or continued availability of Basin water resources, and sets out strategies to be used to manage or address those risks.
- Chapter 5 lists the management objectives and outcomes to be achieved by the Basin Plan.
- Chapter 6 sets out the limits on how much water can be taken from the Basin water resources and describes the long-term average sustainable diversion limits, the temporary diversion provisions, and how compliance with the limits will be determined. It also includes matters relating to the allocation of risks in relation to reductions in water availability.
- Chapter 7 relates to proposals for adjustments to the long-term average sustainable diversion limits that will be made by amendment to the Basin Plan under section 23B of the Act, as well as matters regarding the development of a constraints management strategy.
- Chapter 8 is the Basin Plan's environmental watering plan which includes a strategic framework for the management of environmental water in the Basin.
- Chapter 9 is the water quality and salinity management plan which sets out water quality and salinity objectives and targets and identifies the key causes of water quality degradation.
- Chapter 10 sets out the requirements that water resource plans must meet to be accredited or adopted under the Act, thereby providing a framework to establish a consistent Basin-wide approach to the management of Basin water resources.
- Chapter 11 sets out matters relating to critical human water needs.

- Chapter 12 sets out the rules for the trading of water rights relating to Basin water resources.
- Chapter 13 sets out the program for monitoring and evaluating the effectiveness of the Basin Plan.
- Schedule 1 describes the Basin water resources and the context for their use and relates to section 2.01.
- Schedule 2 sets out matters relating to surface water SDL resource units and relates to sections 6.02, 6.04 and 6.05, Schedule 3, the definition of BDL in section 1.07, and Part 3 of Chapter 10.
- Schedule 3 sets out baseline diversion limits for surface water SDL resource units and relates to Schedule 2 and the definition of BDL in section 1.07.
- Schedule 4 sets out matters relating to groundwater SDL resource units and relates to sections 6.03 and 6.04, the definition of BDL in section 1.07, and Part 3 of Chapter 10.
- Schedule 5 lists the enhanced environmental outcomes referred to in paragraph 7.09(e).
- Schedule 6 sets out the default method by which the supply contribution is calculated for Chapter 7.
- Schedule 7 sets out the targets to measure progress towards objectives and relates to Part 3 of Chapter 8, and section 13.09.
- Schedule 8 sets out the criteria for identifying an environmental asset and relates to section 8.49.
- Schedule 9 sets out the criteria for identifying an ecosystem function and relates to section 8.50.
- Schedule 10 outlines key causes of water quality degradation and relates to section 9.02.
- Schedule 11 identifies specific water target values for target application zones and relates to section 9.16.
- Schedule 12 lists matters for evaluation and reporting requirements and relates to sections 13.05, 13.14, 13.15 and 13.16.

STATEMENT OF COMPATIBILITY WITH HUMAN RIGHTS

Prepared in accordance with Part 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011* (Cth)

Basin Plan 2012

The Basin Plan is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011* (Cth).¹

OVERVIEW OF THE LEGISLATIVE INSTRUMENT

The *Water Act 2007* (Cth) requires the preparation and adoption of a Basin Plan which provides for the integrated management of the Basin water resources. Important functions of the Basin Plan include providing for:

- giving effect to relevant international agreements to the extent they relate to the use and management of Basin water resources;
- establishment and enforcement of environmentally sustainable limits on the quantities of surface water and groundwater that may be taken from Basin water resources;
- Basin-wide environmental objectives for water-dependent ecosystems, and water quality and salinity objectives;
- requirements that must be met by water resource plans; and
- giving effect to the priority of critical human water needs.

HUMAN RIGHTS IMPLICATIONS

The Basin Plan engages the following human rights:

Right to adequate standard of living and right to health

The right to an adequate standard of living, including adequate food, clothing and housing is protected in article 11 of the International Covenant on Economic, Social and Cultural Rights (ICESCR). The right to the highest attainable standard of physical and mental health is protected in article 12 of the ICESCR.

The Committee on Economic, Social and Cultural Rights, established to oversee the implementation of the ICESCR, has interpreted these articles as encompassing an entitlement to ‘sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses’.²

Access to sufficient, safe, acceptable and physically accessible water for personal and domestic uses is supported by the purpose of the Basin Plan generally, as reflected in the stated management objectives and outcomes to be achieved by the Basin Plan. It is also

¹ The international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011* (Cth) are the International Convention on the Elimination of all Forms of Racial Discrimination; International Covenant on Economic, Social and Cultural Rights; International Covenant on Civil and Political Rights; Convention on the Elimination of All Forms of Discrimination Against Women; Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment; Convention on the Rights of the Child; and Convention on the Rights of Persons with Disabilities.

² CESCR General Comment No. 15: The Right to Water E/C 12/2002/11.

supported through specific provisions relating to critical human water needs and water quality.

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

The Act requires the Basin Plan to promote the objects of the Act, in particular by providing for matters including the use and management of Basin water resources in a way that optimises environmental, social and economic outcomes, and improving water security for all uses of Basin water resources. These purposes are reflected in the management objectives and outcomes set out in Chapter 5 of the Basin Plan.

The following objectives support articles 11 and 12 of the ICESCR:

- to optimise social, economic and environmental outcomes arising from the use of Basin water resources in the national interest (paragraph 5.02(1)(c));
- to improve water security for all uses of Basin water resources (paragraph 5.02(1)(d));
- to maintain appropriate water quality, including salinity levels, for environmental, social, cultural and economic activity in the Murray-Darling Basin (subsection 5.04(1)); and
- 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 to achieve certain specified purposes (subsection 5.05(1)).

Outcomes associated with these objectives include:

- a healthy and working Murray-Darling Basin that includes communities with sufficient and reliable water supplies that are fit for a range of intended purposes, including domestic, recreational and cultural use (paragraph 5.02(2)(a));
- Basin water resources that remain fit for purpose (subsection 5.04(2)); and
- greater certainty of access to Basin water resources (paragraph 5.05(2)(c)).

Chapter 9 –Water quality and salinity management plan

Chapter 9 of the Basin Plan sets out the water quality and salinity management plan for the Murray-Darling Basin. This plan provides a Basin-wide framework of objectives for Basin water to be ‘fit for purpose’, for example, suitable for irrigation and recreational uses, for maintaining aquatic ecosystems, and being treated for drinking water.

The water quality and salinity management plan also contains science-based water quality targets. These targets are aspirational; monitoring progress towards their achievement will identify trends that can inform actions to address the causes of water quality decline associated with water resource management. Achieving the targets will help to maintain appropriate water quality for environmental, social, cultural and economic activities in the Basin.

Chapter 10—Water resource plan requirements

Chapter 10 of the Basin Plan sets out water resource plan requirements including those relating to critical human water needs and water quality. Part 7 of Chapter 10 requires each water resource plan to include a water quality management plan which identifies water quality target values, and measures to address the water quality of fresh water-dependent ecosystems, irrigation water and recreational purposes. Part 13 of Chapter 10 requires water resource plans to describe how extreme dry periods and certain water quality events will be

managed. If those dry periods or events would compromise a Basin State's ability to meet critical human water needs, the water resource plan must set out measures to ensure critical human water needs are met.

Chapter 11—Critical human water needs

Critical human water needs are addressed in Chapter 11 of the Basin Plan. The Act requires critical human water needs be taken into account in the preparation of the Basin Plan (section 86A). The Commonwealth and Basin States have agreed that these needs are the highest priority water use for the communities dependant on Basin water resources (subsection 86A(1)). Critical human water needs are defined in the Act at subsection 86A(2) as the needs for a minimum amount of water, that can only reasonably be provided from Basin water resources, required to meet core human consumption requirements in urban and rural areas, and those non-human consumption needs that a failure to meet would cause prohibitively high social, economic or national security costs.

According to this definition, water for critical human water needs includes that required for core human needs (such as drinking, food preparation and hygiene), essential community services (including emergency services, hospitals and schools) and for limited commercial and industrial purposes.

After the Basin Plan commences, Basin State governments will remain responsible for securing and providing water for critical human water needs. However, the Basin Plan includes measures to help ensure critical human water needs are met during times of drought or other exceptional circumstances that affect water quality or quantity. For communities dependent on the River Murray system, it specifies a volume to meet the critical human water needs in New South Wales, Victoria and South Australia, as well as the amount of conveyance water required – that is, water required to ensure sufficient flow in the river system to physically deliver water for critical human water needs. The Basin Plan also sets out arrangements to ensure priority is given to conveyance water, including by reserving water to help ensure conveyance water can be provided in the driest of seasons. The Basin Plan includes the trigger points at which salinity and water quality in the River Murray System becomes unsuitable for critical human water needs. Once the trigger points are reached, the Act requires remedial actions to address the problem.

Right to enjoy and benefit from culture

Article 15 of the ICESCR protects the right to take part in cultural life. Article 27 of the International Covenant on Civil and Political Rights protects the right for ethnic, religious or linguistic minorities to enjoy their own culture.

In preparing the Basin Plan, the Authority has worked closely with two Traditional Owner organisations: the Murray Lower Darling Rivers Indigenous Nations (MLDRIN) and the Northern Murray-Darling Basin Aboriginal Nations (NBAN). MLDRIN and NBAN have helped provide an Indigenous perspective on natural resource management and cultural issues for the Basin Plan. The Authority published the document *A Yarn on the River – Getting Aboriginal Voices into the Basin Plan* and organised a tailored Indigenous consultation process in more than 30 communities across the Murray-Darling Basin. The Basin Plan Consultation Report summarises the submissions received, how the Authority addressed the submissions and alterations made as a result of consideration of those submissions. The report contains a section specifically addressing Indigenous values and uses and other related matters. *Handbook 7: Participatory skills establishing and strengthening local communities*

and Indigenous people's participation in the management of wetlands under the Ramsar Convention has been used as reference when engaging with Indigenous communities.

The Basin Plan aims to ensure Indigenous people are able to participate in water resource planning and management and that their values, aspirations and views about the impacts of various decisions are fully considered. Indigenous participation in the development of water resource plans and environmental water planning, as prescribed in the Basin Plan, assist in meeting this aim. Improved environmental conditions in the Basin as a result of the Basin Plan will contribute to cultural values, uses and obligations.

The provisions relating to water quality and access to water discussed in relation to the right to an adequate standard of living and right to health support Indigenous and non-Indigenous cultural uses of water in the Murray-Darling Basin. In addition, the Basin Plan contains further provisions relevant to rights to enjoy and benefit from culture as set out below.

Acknowledgement of the Traditional Owners of the Murray-Darling Basin

The Basin Plan includes an acknowledgement of the Traditional Owners of the Murray-Darling Basin.

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

The management outcomes for the Basin Plan include a provision relating to cultural use. Under subsection 5.02(2), the outcome for the Basin Plan as a whole is a healthy working Murray-Darling Basin that includes “communities with sufficient and reliable water supplies that are fit for a range of intended purposes, including domestic, recreational and cultural use”.

Chapter 8—Environmental watering plan

The environmental watering plan in Chapter 8 includes requirements relating to Indigenous values and Indigenous uses. Paragraph 8.15(4)(e) requires the Authority to have regard to Indigenous values and Indigenous uses when preparing the Basin-wide environmental watering strategy. Paragraph 8.29(3)(g) requires the Authority to have regard to Indigenous values and Indigenous uses when preparing Basin annual environmental watering priorities. Subparagraph 8.35(b)(iv) requires that environmental watering is undertaken in a way which maximises its benefits and effectiveness by having regard to Indigenous values.

Chapter 10—Water resource plan requirements

Part 14 of Chapter 10 of the Basin Plan sets out water resource plan requirements relating to Indigenous values and uses.

Subsection 10.52(1) requires water resource plans to identify the objectives of Indigenous people in relation to managing water resources of the water resource plan areas and the outcomes for management of those water resources that are desired by Indigenous people. Under subsection 10.52(2):

- Indigenous values are the social, spiritual and cultural values of Indigenous people that relates to the water resources of the water resource plan area; and
- Indigenous uses are the social, spiritual and cultural uses of the water resources of the water resource plan area by Indigenous people.

These must be determined through consultation with relevant Indigenous organisations, including (where appropriate) MLDRIN and NBAN. If opportunities to strengthen the

protection of Indigenous values and Indigenous uses are identified by the person or body preparing the water resource plan, these must be specified in the water resource plan (subsection 10.52(3)).

Section 10.53 requires water resource plans to be prepared having regard to the views of relevant Indigenous organisations with respect to the matters identified in section 10.52 and additional listed matters. These include native title rights, native title claims and Indigenous Land Use Agreements; registered Aboriginal heritage; and inclusion of Indigenous representation in the preparation and implementation of the plan. Other matters listed are Indigenous social, cultural, spiritual and customary objectives and strategies for achieving them; encouragement of active and informed participation of Indigenous people; and risks to Indigenous values and Indigenous uses arising from the use and management of the water resources of the water resource plan area. Examples of the principles that may be applied in relation to the participation of Indigenous people are set out in the document *MLDRIN and NBAN Principles of Indigenous Engagement in the Murray-Darling Basin*.

Section 10.54 requires that water resource plans are prepared having regard to the views of Indigenous people with respect to cultural flows.

Section 10.55 requires that water resource plans provide at least the same level of protection to Indigenous values and Indigenous uses as provided in a transitional or interim water resource plan for a water resource plan area.

Chapter 13—Program for monitoring and evaluating the effectiveness of the Basin Plan

Cultural knowledge has been incorporated into the principles to be applied in monitoring and evaluating the effectiveness of the Basin Plan. Principle 7 at subsection 12.04(6) states “The best available knowledge (including scientific, local and cultural knowledge), evidence and analysis should be used where practicable to ensure credibility, transparency and usefulness monitoring and evaluation findings.”.

Schedule 1—Basin water resources and the context for their use

Paragraphs 30 and 31 of Schedule 1 of the Basin Plan set out the following:

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.

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 Basin Aboriginal Nations and the Murray-Lower Darling Rivers Indigenous Nationals: “Water entitlements that are legally and beneficially owned by the Indigenous Nations and are of a sufficient and adequate quantity and quality 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.

The Basin Plan helps to facilitate greater enjoyment of the right to enjoy and benefit from culture. Through the provisions in the Basin Plan there is opportunity for Indigenous Australians to have input into decision making and development priorities in relation to water resource planning.

Conclusion

The Legislative Instrument is compatible with human rights because it advances the protection of human rights, specifically in relation to the right to an adequate standard of living, the right to the highest attainable physical and mental health and the right to enjoy and benefit from culture, in the manner described.

CONSULTATION

The Basin Plan is the culmination of more than 3 years of gathering feedback, seeking out views and exploring ideas in relation to the integrated management of Basin water resources. Following the Authority's engagement with Basin communities and stakeholders during the development of the *Guide to the Proposed Basin Plan*, considerable effort was devoted to improving consultation concerning the proposed Basin Plan.

The Act sets out a prescribed consultation process to be followed by the Authority in preparing the Basin Plan. All statutory requirements relating to consultation were complied with in the development of the Basin Plan. The prescribed process included consultation with Basin States, the Basin Officials Committee and the Basin Community Committee, in addition to obtaining and having regard to advice of the ACCC in preparing the water trading rules (subsections 42(1) and (2) of the Act).

The Act also allows the Authority to undertake such other consultation as it considers appropriate in preparing the Basin Plan (subsection 42(3) of the Act). The Authority worked closely with community leaders to tailor a consultation approach according to the needs and preferences of specific communities.

Once the Authority prepared a proposed Basin Plan, the Act required the Authority to seek public submissions on the proposed Basin Plan for a minimum 16 weeks consultation period (subsection 43(4) of the Act). The Authority decided to invite formal submissions over a 20 week period.

On 28 November 2011, the invitation for submissions was published in the *Gazette*, a newspaper circulating generally in each Basin State and on the Authority's website in compliance with subsection 43(5) of the Act. In addition to the statutory requirements, the Authority publicised the submissions process through a press conference, media releases, social media and publishing the invitation for submissions in a total of 34 state and regional newspapers. The Authority also released a plain English summary of the proposed Basin Plan (including an outline of the scientific knowledge and socio-economic analysis on which the proposed Basin Plan was based) as required by subsection 43(2) of the Act.

During the 20 weeks of formal consultation, the Authority held a total of 24 public meetings, 56 round table and technical meetings, 18 social and economic briefings for representatives from rural financial organisations, 5 regional briefings on water trading issues, and 31 bilateral and working group meetings with Basin States. Further, a tailored Indigenous consultation process took place in more than 30 towns in the Basin.

The Authority received positive feedback on the format of public meetings during the consultation process, particularly in regard to the opportunity for local community leaders and key local stakeholder group representatives to present their thoughts on the proposed Basin Plan before general questions and answers from the floor.

Open house meetings were well received by attendees who were able to have in-depth discussions with senior Authority technical staff and managers about concerns, questions, or comments on the proposed Basin Plan.

The Authority worked with community groups and leaders to tailor the consultation to ensure that everyone who wanted to be part of the development of the Basin Plan had the opportunity to be involved.

It was important to remain flexible and to adapt to the changing needs of different Basin communities by fitting in with the meeting schedules of key local organisations, availability

of community leaders and conditions caused by extreme weather events, such as the floods of February and March 2012.

By the end of the formal consultation period on 16 April 2012, the Authority had received nearly 12,000 submissions from individuals, organisations and governments across Australia, as well as some from overseas. As a result of this further feedback, more than 300 changes were made to the proposed Basin Plan. These ranged from adding new provisions to the proposed Basin Plan to redrafting it to improve clarity. All submissions were published on the Authority's website unless the submitter specifically requested confidentiality, in accordance with subsection 43(7) of the Act. A summary of the submissions the Authority received, how it addressed the submissions and amendments made as a result of consideration of submission is set out in the *Proposed Basin Plan Consultation Report* as required by paragraph 43(11)(a) of the Act. The report is available on the Authority's website.

The Authority also used social media such as Twitter, Facebook and the Authority's website and blog to engage with the broader Australian community. These forums enable individuals or groups to ask questions, make comments or seek further information on the proposed Basin Plan in easily accessible ways.

The Authority provided a copy of the proposed Basin Plan to the relevant State Minister for each of the Basin States for comment at the outset of the formal consultation process under subsection 43(3) of the Act. In addition, the Authority sought comments from the Murray-Darling Basin Ministerial Council on the proposed Basin Plan developed following the public consultation process in accordance with section 43A of the Act. As required by subsection 43A(3), a report on the likely socio-economic implications of any reductions in the long-term average sustainable diversion limits proposed in the proposed Basin Plan was also given to Murray-Darling Basin Ministerial Council members.

On 9 July 2012, the Murray-Darling Basin Ministerial Council gave a notice under subsection 43A(4) of the Act setting out comments in relation to the proposed Basin Plan from the Council as a whole and each of its members. The notice was published on the Authority's website. The Authority considered the matters in the notice and undertook consultations it considered necessary or appropriate under subsection 43A(6) of the Act including meetings with key stakeholder groups representing affected interests. A report summarising the submissions the Authority received in response to the consultations, how the Authority addressed those submissions and the extent to which consideration of those submissions affected the proposed Basin Plan prepared under paragraph 43A(6)(d) is published on the Authority's website. The report entitled *Proposed Basin Plan — Authority's views and consultation on the matters raised by the Murray-Darling Basin Ministerial Council* also includes the Authority's views on the matters in the notice provided under paragraph 43A(4)(b).

On 6 August 2012, the Authority gave the altered proposed Basin Plan, together with the report, to each member of the Murray-Darling Basin Ministerial Council. On 27 August 2012, the Murray-Darling Basin Council provided a notice under paragraph 43A(7)(b) of the Act setting out the views of Council members on the proposed Basin Plan. On 28 August 2012, the Authority provided the Basin Plan to the Minister under section 44(1) of the Act, together with the reports prepared under paragraphs 43(11)(a) and 43A(6)(d) of the Act.

On 13 September 2012, the Minister wrote to the Authority under s44(1)(b)(ii) of the Act setting out his initial suggestion for consideration in relation to the proposed Basin Plan. The Minister's initial suggestion was that the Authority consider the consensus issues raised by the Murray-Darling Ministerial Council in their notice of 27 August 2012. On 1 November

2012 the Minister provided to the Authority with further suggestions for consideration in relation to the proposed Basin Plan. In preparing the suggestions the Minister consulted with the Basin states via a number of bilateral and multilateral meetings between state officials and officials from the Department of Sustainability, Environment, Water, Populations and Communities (the Department). Authority staff were invited to the multilateral and bilateral meetings to advise the Department on technical matters as they related to the development of the Minister's suggestions. In addition, the Minister, in his 1 November 2012 letter, suggested that the MDBA consult further with governments in finalising options for safety nets for floodplains. This consultation was undertaken and assisted the Authority with the development of Schedule 6 of the Basin Plan.

On 20 November 2012 the Minister wrote to the Authority reiterating his suggestions provided on 13 September 2012 and 1 November 2012. After considering the suggestions, the Authority provided the Minister with an altered version of the Basin Plan together with the Authority's views on the Minister's suggestions under paragraph 44(2)(c) of the Act. As considerable consultation had previously taken place in relation to the matters the subject of the suggestions it was considered that no further formal consultation was necessary or appropriate. Subsection 44(3) of the Act provides that within 6 weeks after the Authority gives the altered version of the Basin Plan and its views to the Minister, the Minister must consider the Basin Plan and the views. The Minister then adopted the plan pursuant to subparagraph 44(3)(b)(i).

More detail on consultation undertaken in the development of the Basin Plan can be found on the Authority's website and in the attached Regulation Impact Statement.

EXTERNAL REFERENCE MATERIAL

Definitions

Many terms used in this Explanatory Statement have special meanings as defined in the Act or the Basin Plan. Those defined terms have the same meaning in this Explanatory Statement.

Documents incorporated by reference

Documents incorporated by reference within the Basin Plan are listed below. Following each document are the relevant Basin Plan Chapter or Schedule references.

GUIDELINES AND OTHER REFERENCE DOCUMENTS	
Document	Basin Plan reference
AS/NZS ISO 31000:2009 <i>Risk Management – Principles and Guidelines</i>	Chapters 4 and 10
<i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> 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 (ANZECC Guidelines)	Chapters 1 and 10 and Schedule 11
<i>Australian Drinking Water Guidelines</i> published by the National Health and Medical Research Council and the Natural Resource Management Ministerial Council in 2011 (ADWG)	Chapters 1, 9 and 11

<i>Comparison of Watercourse Diversion Estimates in the Proposed Basin Plan with other Published Estimates</i> Version 2 published by the Authority in 2011 (MDBA Technical Report 2011/01)	Chapter 1
<i>Guidelines for Managing Risks in Recreational Water</i> published by the National Health and Medical Research Council in 2008	Chapter 1
<i>Guidelines for the method to determine priorities for applying environmental water</i> published by the Authority in 2012	Chapter 8
<i>National Water Quality Management Strategy</i> endorsed by the Natural Resource Management Ministerial Council in 1998	Chapter 9
<i>MLDRIN and NBAN Principles of Indigenous Engagement in the Murray-Darling Basin</i> endorsed by the joint gathering of MLDRIN and the NBAN in Canberra in 2011	Chapter 10
<i>NRM MERI Framework</i> published by the Commonwealth Department of Environment, Heritage and the Arts in 2009	Chapter 13
<i>Water Resource Assessments for Without Development and Baseline Conditions</i> Version 2 published by the Authority in 2011 (MDBA Technical Report 2010/20)	Chapter 1
LEGISLATION AND LEGISLATIVE INSTRUMENTS	
Document	Basin Plan reference
<i>Acts Interpretation Act 1901</i> (Cth)	Chapters 8 and 12
<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)	Chapter 1
<i>Legislative Instruments Act 2003</i> (Cth)	Chapters 1 and 10
<i>Murray-Darling Basin Agreement (Adjusting Valley Accounts and State Transfer Accounts) Protocol 2010</i> (Cth)	Chapter 12
<i>Native Title Act 1993</i> (Cth)	Chapters 1 and 10
<i>Privacy Act 1988</i> (Cth)	Chapter 13
<i>Snowy Hydro Corporatisation Act 1997</i> (NSW)	Chapters 1 and 11
<i>Water Act 2007</i> (Cth)	All Chapters
<i>Water Charge (Infrastructure) Rules 2010</i> (Cth)	Chapter 12
<i>Water Charge (Termination Fees) Rules 2009</i> (Cth)	Chapter 12
<i>Water Management Act 2000</i> (NSW)	Chapter 1

INTERNATIONAL AGREEMENTS	
Document	Basin Plan reference
Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment done at Canberra on 20 October 1986 (CAMBA)	Chapter 8 and Schedule 8
Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment done at Tokyo on 6 February 1981 (JAMBA)	Chapter 8 and Schedule 8
Agreement between the Government of Australia and the Government of Republic of Korea on the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment on 6 December 2006 (ROKAMBA)	Chapter 8 and Schedule 8
Convention on the Conservation of Migratory Species of Wild Animals on 23 June 1979 (Bonn Convention)	Schedule 8
Convention on Wetlands of International Importance especially as Waterfowl Habitat on 2 February 1971 (Ramsar Convention)	Chapters 8, 9 and 10 and Schedules 1, 8 and 11

The documents incorporated by reference are available from the Authority's website at www.mdba.gov.au.

Financial Impact Statement

The financial impact of the Basin Plan is set out in the attached Regulation Impact Statement.

CHAPTER 1—INTRODUCTION

CHAPTER OVERVIEW

1. This Chapter deals with preliminary matters, including citation, the water resources to which the instrument applies, and interpretation of the Basin Plan.

NOTES ON INDIVIDUAL SECTIONS

Chapter 1—Introduction

Part 1—Preliminary

Section 1.01 – Name of instrument

2. This section provides that the instrument is the *Basin Plan 2012* (Basin Plan).

Section 1.02 – Making and effect of Basin Plan

3. Subsection (1) states that the Basin Plan is made under Part 2 of the Act.
4. Subsection (2) provides that the Basin Plan has legal effect on certain bodies (including governments and their agencies) and individuals, as set out in sections 34, 35, 36, 37, 86G and 86H of the Act.

Section 1.03 – Application of Basin Plan

5. This section provides that the Basin Plan applies to Basin water resources. The term ‘Basin water resources’ is defined in subsection 4(1) of the Act to mean all the water resources within or beneath the Murray-Darling Basin, except those excluded by regulations, and except groundwater that forms part of the Great Artesian Basin. Basin water resources, and the context for their use, are described in Schedule 1. The reason for the exclusion of the Great Artesian Basin is that despite there being an overlap between the southern Great Artesian Basin and northern Murray-Darling Basin, the Great Artesian Basin is part of a much larger resource extending significantly beyond the Murray-Darling Basin. Therefore, it is not useful to include groundwater that forms part of the Great Artesian Basin.

Section 1.04 – Commencement

6. This section deals with commencement of the Basin Plan. Subsection (1) provides that the Basin Plan, apart from Chapter 12 (water trading rules), will commence on the day after it is registered on the Federal Register of Legislative Instruments. Subsection (2) provides that Chapter 12 will commence on 1 July 2014. Arising from consultation with Basin States and Irrigation Infrastructure Operators, a commencement date of 1 July 2014 has been chosen to enable affected parties to align their arrangements with the requirements under Chapter 12.

Part 2—Structure of the Basin Plan

Section 1.05 – Simplified outline

7. This section sets out a simplified outline of the Basin Plan. The Basin Plan consists of 13 Chapters and 12 Schedules. Most of the Chapters of the Basin Plan are divided into numbered Parts, Divisions and Subdivisions, with sections containing specific

provisions. Section numbers continue through a Chapter regardless of the Parts, Divisions and Subdivisions.

Part 3—Interpretation

8. This Part deals with interpretation of the Basin Plan.

Section 1.06 – Where terms are defined

9. Many terms used in the Basin Plan have special meanings. Definitions of these terms are located either in the Act or in this Part.

Section 1.07 – Definitions

10. This section sets out the definition of special terms that are used throughout the Basin Plan. Some provisions of the Basin Plan define additional terms that are used only in a particular Chapter, Part, Division, Subdivision or section.
11. The definition of the term ‘adaptive management’ in this section contains the phrase ‘having regard to’. A number of provisions of the Basin Plan require decision-makers to ‘have regard to’ certain matters when performing functions and making decisions. For example, section 9.14 requires the Authority, Basin States and other bodies to have regard to water quality targets when performing functions under the Agreement relating to the management of water flows. Similarly certain provisions require functions to be undertaken ‘having regard to’ certain matters or stating that ‘regard must be had’ to certain matters. For example, Part 4 of Chapter 10 contains a number of provisions requiring that a water resource plan must be prepared having regard to whether it is necessary for the plan to include rules addressing particular matters.
12. As set out in the note to section 1.07, the phrases ‘have regard to’ and similar phrases in the Basin Plan are intended to be interpreted so that the decision-maker will give those matters proper, genuine and realistic consideration, though they are not ultimately bound to act in accordance with those matters.
13. Further, 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, for section 9.14, there will be other matters that the Authority, Basin States and other bodies can legitimately take into account when managing water flows under the Agreement.
14. By way of further example, subsection 10.17(1) states that 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.
15. Without limiting the obligation in subsection 10.17(1), under subsection 10.17(2) regard must be had to whether it is necessary for the rules to prescribe the times, places and rates at which water is permitted to be taken from a surface water SDL resource unit, and how water resources in the water resource plan area must be managed and used.
16. In fulfilling the obligations to ‘have regard to’ these matters and prepare the water resource plan ‘having regard to’ the matter specified, the decision-maker must give proper, genuine and realistic consideration to each matter. Regard may be had to other

matters and the decision-maker is not bound to act in accordance with each of them, but if the outcome of the consideration is that such rules are necessary, the water resource plan must include those rules under subsection 10.17(3).

17. This approach is consistent with the general case law in relation to decision-making.
18. Creating and retaining appropriate documentation of relevant decisions will assist decision-makers in providing evidence of compliance with requirements to 'have regard to' specified matters and would be considered best practice. The Basin Plan contains reporting obligations relating to certain requirements to 'have regard to' specified matters and further guidance in relation to appropriate documentation may be provided in guidelines issued by the Authority.

Section 1.08 – Basin Plan not to be inconsistent with Snowy Water Licence

19. This section provides that the Basin Plan has no effect to the extent to which it is inconsistent with the Snowy Water Licence, being the licence issued under section 22 of the *Snowy Hydro Corporatisation Act 1997* (NSW). This is consistent with subsection 21(6) of the Act, which requires the Basin Plan to be consistent with the Snowy Water Licence. This requirement reflects the previous commitments made by the Commonwealth, New South Wales and Victorian Governments to allow water within the Snowy Scheme to be managed to meet the rights and obligations set out in the Snowy Water Licence and the principles set out in the *Heads of Agreement on the Outcomes of the Snowy Water Inquiry*.
20. Subsection 21(7) of the Act provides that variations to the licence made after the date that Part 2 of the Act commenced are to be disregarded unless the variation is prescribed by regulations. Part 2 of the Act commenced on 3 March 2008. Regulation 2.01 of the *Water Regulations 2008* (Cth) prescribes variations to the licence issued on 29 April 2010 and 4 October 2011.

Section 1.09 – Construction of provisions imposing obligations on States

21. The Basin Plan has been drafted so as to be supported by the legislative power of the Commonwealth and not to exceed that power. In addition, this section has been included as a specific reading-down provision. This section applies if the Basin Plan purports to impose an obligation on a Basin State to do a particular thing, and the imposition of that obligation would contravene a constitutional doctrine restricting the obligations that the Commonwealth may impose on a State. In that case, this section provides that the Basin Plan is taken, instead of imposing an obligation, to confer a discretion on the Basin State to do the thing.
22. This reading-down provision operates alongside section 15A of the *Acts Interpretation Act 1901* (Cth) and section 13 of the *Legislative Instruments Act 2003* (Cth).

Section 1.10 – Reasonable excuse for not producing or providing information etc

23. This section provides that where any provision of the Basin Plan requires a person or a body to produce or provide information, a notice or a document, the person or body need not comply with the requirement if they have a reasonable excuse for non-compliance. An example of a reasonable excuse for the purposes of this provision would be if the giving or the production of the information, notice or document might tend to incriminate the person or make the person liable to a penalty.

Section 1.11 – Avoidance of double counting of forms of take

24. This section provides that, for the purposes of the Basin Plan, in ascribing a particular quantity of water to a particular form of take, the quantity of water must be ascribed to only one form of take. It will often be possible to ascribe a quantity of water that is taken under basic rights to either to take under basic rights, or to another form of take. This section aims to avoid double counting of forms of take. The 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.

Part 4—Agreements with regard to jurisdictional implementation obligations

Section 1.12 – Agreements with regard to jurisdictional implementation obligations

25. This section relates to agreements with Basin States in relation to implementation obligations the Basin Plan purports to impose. Subsection (1) provides that the Authority may enter into an agreement with a Basin State with respect to any implementation obligation the Basin Plan purports to impose on that Basin State. The Authority must consult the Commonwealth and other Basin States in relation to such an agreement. The Authority and the Basin State must use their best endeavours to enter into any such agreement within 2 years after the commencement of the Basin Plan.
26. Any agreement must be prepared having regard to any relevant agreement made, or in the process of being made, with another Basin State, the relevant circumstances of that Basin State and any relevant Commonwealth-State agreements. The Authority must publish the agreement on its website. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

CHAPTER 2—BASIN WATER RESOURCES AND THE CONTEXT FOR THEIR USE

CHAPTER OVERVIEW

27. This Chapter and Schedule 1 to the Basin Plan provide a description of the Basin water resources and the context in which those resources are used. Item 1 of the table to subsection 22(1) of the Act requires a description of the Basin water resources and the context in which those resources are used. The description must include information about:
- 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.
28. 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 ongoing, resulting in a highly variable set of circumstances across different parts of the Murray-Darling Basin at any given time. The description in Schedule 1 considers the Basin water resources and the context in which those resources are used, primarily from a Basin-wide perspective.
29. The description is based upon the best information available to the Authority when preparing the Basin Plan. The information used in the preparation of Schedule 1 is available from the Authority's website at www.mdba.gov.au.

NOTES ON INDIVIDUAL SECTIONS

Section 2.01 – Description located in Schedule 1

30. This section refers to Schedule 1 to the Basin Plan, which describes the Basin water resources, their uses and users, and the social and economic circumstances of Basin communities dependent on the Basin water resources. Schedule 1 fulfils the requirement set out in item 1 of the table in subsection 22(1) of the Act.

CHAPTER 3—WATER RESOURCE PLAN AREAS AND WATER ACCOUNTING PERIODS

CHAPTER OVERVIEW

31. This Chapter identifies water resource plan areas and water accounting periods as required by item 2 of the table in subsection 22(1) of the Act.
32. Section 54 of the Act requires there to be a water resource plan for each water resource plan area. Water resource plans set out how water resources will be managed, usually for a 10-year period. They will be developed by the Basin States or in certain circumstances by the Authority, for accreditation or adoption for the purposes of the Water Act by the Commonwealth Water Minister. For further information see Division 2 of Part 2 of the Act.
33. This Chapter also specifies the water resources to which any water resource plan for the area will apply.
34. Item 6 of the table in subsection 22(1) of the Act requires that the Basin Plan specify the maximum long-term annual average quantity of water that can be taken, on a sustainable basis, from the water resources or parts of the water resources, of each water resource plan area. The Basin Plan does this by identifying for each water resource plan area one or more SDL resource units (see Chapter 6). The Basin Plan sets an SDL for each SDL resource unit. The terms ‘SDL’ and ‘SDL resource unit’ are defined in section 1.07. An SDL must reflect an environmentally sustainable level of take. An environmentally sustainable level of take is the level of take at which water can be taken from a water resource which, if exceeded, would compromise key environmental assets, key ecosystem functions, the productive base, or key environmental outcomes of the water resource (subsections 4(1) and 23(1) of the Act; see also Chapter 6).
35. Water resource plan areas, where possible, are aligned with existing state water planning areas. However, in some cases existing boundaries have been varied, for example, to include water resources that are not currently covered by water planning areas, or as a result of consultation with Basin States.
36. Surface water resource plan areas are largely based on catchment boundaries, while groundwater water resource plan areas are based on geological formations and aquifers or state planning boundaries. Thus, in most cases, different boundaries have been set for surface water and groundwater.
37. Each water resource plan area is wholly contained in a single Basin State. Individual states may develop water resource plans for each area, providing detailed arrangements for water management, and meeting the water resource plan requirements in Chapter 10.

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

Section 3.01 – Simplified outline

38. This section sets out a simplified outline of this Chapter. This Chapter identifies water resource plan areas and water accounting periods for water resource plan areas, as required by item 2 of the table in subsection 22(1) of the Act.

Section 3.02 – Time at which area becomes water resource plan area

39. Item 2 of subsection 22(1) provides that the Basin Plan may also provide that an area is a water resource plan area from the time specified in the Basin Plan. This section provides that the geographical areas set out in Part 2 of this Chapter become water resource plan areas at the same time the Basin Plan commences.

Section 3.03 – Datasets for identification of water resource plan areas

40. A water resource plan area is a geographical area, of which there are 14 for surface water, 16 for groundwater, and an additional 6 for surface water and groundwater combined. This section matches the water resource plan areas set out in this Chapter to their respective polygons, or boundaries, in datasets titled, *Murray-Darling Basin Water Resources Plan Areas – Surface Water* and *Murray-Darling Basin Water Resource Plan Areas – Groundwater*. The datasets are held by the Authority at the commencement of the Basin Plan and are effectively the information conveyed in maps that identify the boundaries of water resource plan areas.
41. The Authority must publish on its website maps, prepared using the dataset identified in this section, that display the water resource plan areas (subsection (4)).

Section 3.04 – Flexibility relating to boundaries of water resource plans

42. This section relates to water resource plan areas with a boundary which also makes up the boundary of the Murray-Darling Basin. For the purpose of efficient management, the water resource plans for these areas may use a different boundary than the one that determines the perimeter of the Murray-Darling Basin, as set out in this Chapter. The alteration is allowed provided that the resultant water resource plan area meets the requirements of item 2 of the table in subsection 22(1) of the Act, and no material change is made to the water resources to which the water resource plan area applies.
43. This section allows small variations between the datasets held by the Authority and water resource plan boundaries used by the Basin States to be resolved. Any departures from the boundary of the Murray-Darling Basin in water resource plans, no matter how small, are constrained by the requirement that there be no material change. For further information in relation to the boundary of the Murray-Darling Basin, see the definition in section 18A of the Act.

Part 2—Water resource plan areas

Section 3.05 – Water resource plan areas—surface water

44. This section identifies the 14 water resource plan areas for surface water and identifies the water resources to which any water resource plan for the area will apply.

Section 3.06 –Water resource plan areas—groundwater

45. This section identifies the 16 water resource plan areas for groundwater, and identifies the specific groundwater to which any water resource plan for the area will apply.

Section 3.07 – Water resource plan areas—surface water and groundwater

46. This section identifies the 6 water resource plan areas which contain both surface water and groundwater. The section identifies the specific surface water and groundwater resources to which any water resource plan for the area will apply. It is important to

note that groundwater in the Great Artesian Basin is not included in water resource plan areas. (The term ‘Basin water resources’ is defined in section 4 of the Act).

Part 3—Water accounting periods

Section 3.08 – Water accounting period for each water resource plan area

47. This section defines the term ‘water accounting period’ as a financial year, from 1 July to 30 June. In Chapter 11 (critical human water needs), ‘water accounting period’ means a means a period of 12 months beginning on 1 June of any year (see section 11.02).

CHAPTER 4—IDENTIFICATION AND MANAGEMENT OF RISKS TO BASIN WATER RESOURCES

CHAPTER OVERVIEW

48. This Chapter identifies the risks to the condition or continued availability of Basin water resources, and sets out high-level strategies to be used to manage or address those risks. Items 3 and 5 of the table in subsection 22(1) of the Act require an identification of the risks to the condition or continued availability of Basin water resources, and strategies to be adopted to manage or address those risks.
49. Risks dealt with must include the risks to the availability of water resources that arise from the following:
 - the taking and use of water (including through interception activities);
 - the effects of climate change;
 - changes to land use; and
 - the limitations on the state of knowledge on the basis of which estimates about matters relating to Basin water resources are made.
50. The strategies to manage risks provide a framework within which risks can be flexibly managed and allow for the adaptive management of risk over time.
51. This Chapter also provides for the development of guidelines that detail actions that may be taken to implement the strategies listed.
52. This Chapter will guide future activity by the Authority with regard to the identified risks and associated management strategies. The Chapter does not impose obligations to carry out particular activities or to incur costs. The Authority may in future publish guidelines, to be developed in consultation with Basin States and communities, in relation to specific actions to implement strategies. Water resource plans must be prepared having regard to any such guidelines published (see subsection 10.43(3)).
53. The risk management set out in this Chapter is supported by requirements for water resource plans to be prepared having regard to risks to the condition and availability of water resources and the strategies to manage or address those risks (see subsections 10.41(1) and 10.43(3)).

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

Section 4.01 – Simplified outline

54. This section sets out a simplified outline of this Chapter. This Chapter identifies the risks to the condition, or continued availability, of Basin water resources, and the high-level strategies that aim to manage or address those risks, as required by items 3 (risks) and 5 (strategies) of the table in subsection 22(1) of the Act.

Part 2—Risks and strategies to address risks

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

55. This section states the risks to the condition, or the continued availability, of Basin water resources are:
- that there is insufficient water available for the environment (paragraph (1)(a));
 - that water is of a quality unsuitable for use (paragraph (1)(b); and
 - that there is poor health of water-dependent ecosystems (paragraph (1)(c).
56. The consequences of these risks eventuating include:
- insufficient water is available, or the water is not suitable, for consumptive and economic uses (paragraph (2)(a)); and
 - insufficient water is available, or the water is not suitable, to maintain social, cultural, Indigenous and other public benefit values (paragraph (2)(b)).

Section 4.03 – Strategies to manage, or address, identified risks

57. This section sets out broad strategies to manage or address the risks identified in section 4.02. Subsection (2) provides that the Authority must have regard to these strategies when carrying out its full range of functions. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.
58. These strategies must also be considered when water resource plans are prepared (see subsection 10.43(3)).
59. Subsection (3) provides that the strategies to manage risks to Basin water resources are to:
- implement the Basin Plan, including its key elements: the environmental watering plan, the water quality and salinity management plan, the water trading rules and water resource planning;
 - develop water resource plans and amendments to the Basin Plan based on the best available knowledge and in consultation with relevant stakeholders;
 - promote a risk-based approach to water resource planning and management;
 - manage flows to optimise outcomes across the range of water uses in the Murray-Darling Basin;
 - ensure effective monitoring and evaluation of the implementation of the Basin Plan;
 - promote and enforce compliance with the Basin Plan and water resource plans;
 - improve knowledge of water requirements within the Murray-Darling Basin, including:
 - environmental watering requirements,
 - social, spiritual and cultural uses of Basin water resources by Indigenous people,
 - the impact of climate change on environmental watering requirements,
 - water needed to deliver social and economic benefits to Basin communities;

- improve knowledge of the impact on Basin water resources from:
 - interception activities and land use changes,
 - floodplain harvesting, and water taken for peri-urban i.e. urban/rural fringe water use and industrial water use,
 - climate change; and
- improve knowledge of:
 - surface water and groundwater resources, including through improved measurement,
 - the causes of water quality degradation and the effects of water quality on environmental assets and ecosystem functions.

Section 4.04 – Authority may publish guidelines

60. This section provides that the Authority may publish guidelines setting out specific actions that may be taken when implementing risk management strategies in subsection 4.03(3). These guidelines may be reviewed and, if necessary, updated at any time (subsection (2)). The guidelines must be prepared having regard to Australian/New Zealand standards, specifically AS/NZS ISO 31000:2009 *Risk Management – Principles and Guidelines* (subsection (3)). This is a document incorporated by reference available at www.mdba.gov.au. The note draws attention to the requirement in subsection 10.43(3) that water resource plans must be prepared having regard to any guidelines published in accordance with this section. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory statement at section 1.07.

CHAPTER 5—MANAGEMENT OBJECTIVES AND OUTCOMES TO BE ACHIEVED BY BASIN PLAN

CHAPTER OVERVIEW

61. This Chapter sets out the management objectives and outcomes of the Basin Plan. Item 4 of the table in subsection 22(1) of the Act requires the inclusion of management objectives and outcomes. The objectives and outcomes must be consistent with the purposes of the Basin Plan set out in section 20 of the Act. The objectives and outcomes must address:
 - environmental outcomes;
 - water quality and salinity;
 - long-term average sustainable diversion limits and temporary diversion limits; and
 - trading in water access rights.
62. This Chapter covers the objectives and outcomes for the Basin Plan as a whole, as well as in relation to the environmental outcomes, water quality and salinity, long-term average sustainable diversion limits (SDLs), the operation of the SDL adjustment mechanism and trading in the water market.
63. Objectives are the goals that the Basin Plan aims to achieve, whereas outcomes are the intended results if the goals are achieved.
64. The objectives and outcomes detailed in this Chapter relate to the entire Basin Plan. All subsequent Chapters of the Basin Plan should be interpreted in light of these objectives and outcomes.
65. The objectives and outcomes in this Chapter are linked to the specific objectives in Chapter 8, which sets out a framework for managing environmental water, and Chapter 9, which addresses water quality and salinity management. The objectives and outcomes in those Chapters are subsidiary objectives in addition to the objectives set out in this Chapter.
66. The objectives and outcomes in this Chapter provide the outcomes to be monitored and reported on to measure the effectiveness of the Basin Plan as set out in the monitoring and evaluation program in Chapter 13.

NOTES ON INDIVIDUAL SECTIONS

Section 5.01 – Simplified outline

67. This section sets out a simplified outline of this Chapter.
68. This Chapter describes what should be achieved if all of the provisions of the Basin Plan are implemented. There are objectives and outcomes for:
 - the Basin Plan as a whole;
 - the environment;
 - water quality and salinity;
 - long-term average sustainable diversion limits (SDLs);
 - operation of the SDL adjustment mechanism; and

- trading in the water market.
69. There are no objectives and outcomes in relation to the temporary diversion provision because the temporary diversion provision for each SDL resource unit is zero (see section 6.07).

Section 5.02 – Objectives and outcome for Basin Plan as a whole

70. Subsection (1) provides that the objectives of the Basin Plan are for the Basin's water resources to be managed in a way that:
- gives effect to relevant international agreements;
 - provides a sustainable and long-term adaptive management framework for Basin water resources;
 - optimises economic, social and environmental outcomes; and
 - improves security for the uses of the Basin's water resources.
71. The term 'relevant international agreements' is defined in subsection 4(1) of the Act. They include the Biodiversity Convention and the Ramsar Convention. The term 'adaptive management' is defined in section 1.07.
72. If these objectives are achieved, subsection (2) provides that the outcome will be a healthy and working Basin where:
- communities are provided with sufficient and reliable water supplies that are fit for a range of intended uses;
 - water-dependent industries are productive and have confidence in their long-term future; and
 - Murray-Darling Basin ecosystems are healthy and resilient with rivers and creeks regularly connected to their floodplains and, ultimately, the ocean.

Section 5.03 – Objectives and outcome in relation to environmental outcomes

73. Subsection (1) sets out the environmental objectives of the Basin Plan, which are to:
- protect and restore water-dependent ecosystems of the Basin;
 - protect and restore the ecosystem functions of water-dependent ecosystems;
 - ensure that water-dependent ecosystems are resilient to risks and threats, including climate change; and
 - 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.
74. These objectives are intended to be applied in the context of a working Basin (referred to in the outcome for the Basin Plan as a whole in subsection 5.02(2)). The fact that water storages and property (including floodplains) are under the control of various parties restricts the capacity to actively manage all water-dependent ecosystems.
75. Subsection (2) provides that 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.

76. Part 2 of Chapter 8 contains subsidiary objectives in addition to those set out in section 5.03.

Section 5.04 – Objective and outcome in relation to water quality and salinity

77. Subsection (1) sets out the objective in relation to water quality and salinity. The objective is to maintain appropriate water quality, including salinity levels, for environmental, social, cultural and economic activity in the Basin.
78. If this objective is achieved, subsection (2) provides that the outcome will be that Basin water resources will remain fit for purpose. This includes environmental, social, cultural and economic purposes.
79. Part 3 of Chapter 9 contains subsidiary objectives in addition to those set out in this section.

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

80. This section sets out the objective and outcomes in relation to SDLs. Subsection (1) provides that the objective in relation to SDLs is to establish environmentally sustainable limits on the amount of surface water and groundwater that may be taken from Basin water resources having regard to social and economic impacts, and in doing so:
- inform environmental water recovery measures, including water purchasing and infrastructure, that improves efficiency of water usage;
 - provide greater certainty for all water users, including in times of drought and low water availability; and
 - provide time for water access entitlement holders and communities to adjust to SDLs.
81. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.
82. If this objective is achieved, subsection (2) provides that the outcomes will be that:
- water-dependent ecosystems in the Basin are protected and restored and remain healthy in a variable and changing climate;
 - well-informed water recovery measures, such as water purchasing and upgrading infrastructure, enable the transition to the SDLs;
 - there is greater certainty of access to available Basin water resources; and
 - entitlement holders and communities become better adapted to less available water.

Section 5.06 – Objective and outcome for operation of the SDL adjustment mechanism

83. This section sets out the objective and outcome in relation to the operation of the SDL adjustment mechanism. Subsection (1) provides that 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.
84. Part 2 of Chapter 7 specifies the particular objectives relating to different kinds of measures.

85. If this objective is achieved, subsection (2) provides that the outcome in relation to the operation of the SDL adjustment mechanism is a healthy and working Murray-Darling Basin that includes the outcome specified in subsection 5.02(2).

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

86. Subsection (1) sets out the objectives in relation to trading in the water market, which are to:
- facilitate the operation of efficient water markets;
 - minimise transaction costs on water trades;
 - enable the appropriate mix of water products to be developed;
 - recognise and protect the needs of the environment; and
 - provide appropriate protection of third-party interests.
87. If these objectives are achieved, subsection (2) provides that the outcome will be an efficient and effective water market that: facilitates tradeable water access rights to reach their most productive use; enhances productivity and growth of water-dependent industries; enables water-dependent industries to better manage extreme events; and strengthens the capacity of those industries to adapt to future climate change.

CHAPTER 6—WATER THAT CAN BE TAKEN

CHAPTER OVERVIEW

88. This Chapter:

- sets limits on quantities of water that can be taken on a sustainable basis from the Basin water resources (as required by item 6 of the table in subsection 22(1) of the Act), which take effect on 1 July 2019;
- provides for the Authority to undertake research and investigations into long-term average sustainable diversion limits and any other aspects of the Basin Plan to inform future reviews of the Basin Plan;
- requires the Authority to arrange reviews of specified groundwater SDL resource units;
- sets a temporary diversion provision (as required by item 7 of the table in subsection 22(1) of the Act);
- describes the method for determining compliance with the long-term average sustainable diversion limits specified in the Chapter (as required by item 8 of the table in subsection 22(1) of the Act);
- identifies the Commonwealth's share of risks in relation to the reductions in diversion limits, and changes in reliability of water allocations (as required by Division 4 of Part 2 of the Act which deals with the allocation of risks).

89. A key term in this Chapter is the sustainable diversion limit (SDL) which is defined in section 1.07 to mean the long-term average sustainable diversion limit. 'Long-term average sustainable diversion limit' means the maximum long-term annual average quantities of water that can be taken, on a sustainable basis, from the Basin water resources as a whole, and the water resources, or particular parts of the water resources of each water resource plan area (item 6 of subsection 22(1) of the Act). Each long-term average sustainable diversion limit must reflect an environmentally sustainable level of take (subsection 23(1) of the Act). An environmentally sustainable level of take (ESLT) is the level of take at which water can from be taken from a water resource without compromising key environmental assets, key ecosystem functions, the productive base or key environmental outcomes for the water resource (subsection 4(1) of the Act).

90. The surface water ESLTs and surface water SDLs in the Basin Plan were informed by detailed hydrologic modelling of environmental water requirements using an 'indicator sites' approach. The indicator site method to determine an ESLT was considered a robust approach because it took into account the specific ecological targets and flow requirements for indicator sites, as well as opportunities and constraints for environmental water delivery. The models also allowed a thorough assessment of different water availability conditions, water sharing arrangements and environmental flows over the past 114 years of climate records and variability. The indicator site method and its components have been the subject of a number of peer-review steps in the period 2009-2011, including a CSIRO-led science review in 2011. Further information regarding the choice of indicator sites, the ESLT and SDLs can be found in the following reports: *The proposed 'environmentally sustainable level of take' for surface water of the Murray-Darling Basin: Method and Outcomes, November 2011*

and *Hydrologic modelling to inform the proposed Basin Plan: Methods and Results, February 2012*, both of which are available on the Authority website at www.mdba.gov.au.

91. As noted, the Authority has determined the SDL for all Basin surface water SDL units to be, 10,873 GL per year representing a total reduction of 2,750 GL per year from the Authority's estimate of the baseline diversion limit (BDL) for all surface water SDL resource units. The Authority estimates that, as of 30 June 2012, 1,547 GL per year has been recovered for the environment.
92. Groundwater SDLs have been specified as particular volumes (gigalitres) of water per year. The SDLs for groundwater in the Basin Plan have been based on assessments of ESLTs, themselves based on assessed risks of groundwater extraction on:
- the ability of aquifers to continue to be productive over time;
 - groundwater dependent ecosystems;
 - surface water resources that are fed from groundwater; and
 - the water quality (salinity) of groundwater.

The groundwater SDLs were informed by the use of numerical groundwater models and where models were not available, an analytical risk assessment method was used to determine the preliminary extraction limits for each of the SDL resource units. The MDBA then applied a groundwater assessment framework to determine the groundwater SDLs that reflect an environmentally sustainable level of take. This framework considered: existing planning arrangements and reduction programs, connections between surface water and groundwater resources, the depth of the groundwater resource and whether the groundwater resource is non-renewable.

93. Further information regarding the methods used to determine the groundwater SDLs can be found in the following reports: *The proposed Groundwater Baseline and Sustainable Diversion Limits: Methods Report (2012)* and *Addendum to the proposed Groundwater Baseline and Sustainable Diversion Limits: Methods Report 2012*, both of which are available on the Authority website at www.mdba.gov.au.

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

Section 6.01 – Simplified outline

94. This section sets out a simplified outline of this Chapter. In addition to Part 1, the Chapter contains 4 other parts dealing with matters under the Act as set out in items 6, 7 and 8 of the table in subsection 22(1), as well as, Division 4 of Part 2 of the Act. Those matters are:
- the long-term average sustainable diversion limits (Part 2);
 - the temporary diversion provision (Part 3);
 - the method for determining compliance with the long-term annual diversion limit (Part 4);
 - allocation of risks in relation to reductions in diversion limits (Part 5); and
 - risks arising from other changes to the Basin Plan (Part 5).

95. As provided in the note, Chapter 7 deals with adjustments to the long-term average sustainable diversion limits.

Part 2—Long-term average sustainable diversion limits.

96. This Part provides for the identification of SDL resource units (Division 1), and the determination of long-term average sustainable diversion limits (Division 2). An SDL resource unit describes a geographical area which contains a set of water resources. Boundaries of surface water SDL resource units are generally based on catchments, while boundaries of groundwater SDL resource units are based on hydrogeology and existing state planning boundaries. There may be one or more SDL resource units in a water resource plan area.

Division 1—Identification of SDL resource units

Section 6.02 – Identification of surface water SDL resource units

97. This section identifies a surface water SDL resource unit by reference to column 1 of the table in Schedule 2; it is all of the surface water resources within the area described by the polygon of the same name in the dataset entitled *Surface Water SDL Resource Units*, of a dataset scale of 1:250,000 (termed ‘surface water SDL resource unit’) and held by the Authority at the date the Basin Plan commences. The Authority must publish on its website a map using the dataset identifying each surface water SDL resource unit. There are 29 surface water SDL resource units.

Section 6.03 - Identification of groundwater SDL resource units

98. This section identifies a groundwater SDL resource unit by reference to column 1 of the table in Schedule 4; it is all the groundwater resources described by column 2 of Schedule 4 lying beneath the area described by the polygon of the same name in the dataset entitled *Groundwater SDL Resource Units* of a dataset scale of 1:250,000 (termed ‘groundwater SDL resource unit’) and held by the Authority at the date the Basin Plan commences. The Authority must publish on its website a map using the dataset identifying each groundwater SDL resource unit. There are 81 groundwater SDL resource units.

Division 2—Long-term average sustainable diversion limits

Section 6.04 – Long-term average sustainable diversion limits

99. 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)).
100. Subsection (1) provides that the long-term average sustainable diversion limits take effect on 1 July 2019.
101. Subsection (2) provides that 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.
102. Subsection (3) provides that 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. Subsection (4) provides that 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.

Section 6.05 – SDL resource unit shared reduction amount

103. This section provides a default distribution of shared reduction amounts within zones to SDL resource units of that zone. It is expected that Basin States will, by 30 June 2016, request adjustments under Part 3 of Chapter 7 that will result in a different distribution than that which would arise from the default approach.
104. In the northern and southern connected Basin the long-term average sustainable diversion limit for each surface water SDL resource unit is determined by the following formula (see column 2 of the table in Schedule 2): the relevant BDL reduced by the local reduction amount (if any) and reduced by the SDL resource unit shared reduction amount (if any). The term ‘local reduction amount’ is defined in section 1.07.
105. The BDL is set out in Schedule 3, and the local reduction amount is the quantity of water identified in column 2 of the table in Schedule 2 as the local reduction amount for the unit or if no quantity is identified, zero. BDLs establish a baseline from which to determine required reductions in diversions.
106. Subsection (1) provides that the SDL resource unit shared reduction amount for each surface water SDL resource unit in a zone is the amount, in GL per year, calculated in accordance with subsection (4). The zones referred to are the northern Basin zone (made up of the SDL resource units listed in paragraph (2)(a)), the southern Basin Victoria zone (made up of SDL resource units listed in paragraph (2)(b)), the southern Basin New South Wales zone (made up of SDL resource units listed in paragraph (2)(c)), the southern Basin South Australia zone (made up of SDL resource units listed in paragraph 2(d)), and the southern Basin Australian Capital Territory zone (made up of the SDL resource units listed in paragraph 2(e)).
107. Subsection (3) sets out the reduction target for each zone as follows:
- for the northern Basin zone, 143 GL per year (paragraph 3(a));
 - for the southern Basin Victoria zone, 425.3 GL per year (paragraph (3)(b));
 - for the southern Basin New South Wales zone, 458 GL per year (paragraph (3)(c));
 - for the southern Basin South Australia zone, 82.8 GL per year (paragraph (3)(d));
 - and
 - for the southern Basin Australian Capital Territory zone, 4.9 GL per year (paragraph (3)(e)).
108. Subsection (4) provides that the shared reduction target for a zone is calculated, as at 31 December 2016, by allocating the shared reduction target in proportion to the amount of the unit’s BDL, including any component of diverted urban use water but excluding any component due to interception activities. This default approach is subject to any request made by a Basin State under Part 3 of Chapter 7.

Section 6.06 – Reviews of the Basin Plan

109. Subsection (1) provides that 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 other aspects of the Basin Plan in order to inform any reviews of the Basin Plan or other aspects of the Plan, including in relation to whether there should be changes to the long-term average sustainable diversion limits. The Authority is required to publish reports of any research and investigations on its website (see subsection (4)). As the note indicates as an example, the Authority intends to

undertake research into aspects of the Basin Plan in the northern Basin, including SDLs in that region.

110. Subsection (2) provides that the Murray-Darling Basin Ministerial Council may request the Authority to undertake a review.
111. 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 connectivity of surface water and groundwater, the outcomes of environmental watering and the effectiveness of environmental works and measures (subsection (3)).
112. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.
113. Subsection (5) states that nothing in this section limits the powers of the Authority or the Ministerial Council. 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).
114. Subsection (6) requires the Authority to arrange reviews of certain groundwater SDL resource units namely, Western Porous Rock and Goulburn-Murray Sedimentary Plain, as well as, resource units in the Eastern Porous Rock water resource plan area. Such reviews must be conducted within 2 years after the commencement of the Basin Plan (subsection (7)).
115. Subsection (8) requires the Authority to ensure that each of these groundwater resource unit reviews considers all of the relevant information about the SDL resource units to which the review relates, including modelling, state planning and policy arrangements, and an evaluation of the appropriateness of any precautionary factors associated with setting the long-term diversion limit.
116. Subsection (9) sets out the requirements for the appointment of experts to participate in the groundwater SDL resource unit reviews. The Authority must consult with the relevant state over the appointment of the experts.

Part 3—Temporary diversion provision

Section 6.07 – Temporary diversion provision

117. The Basin Plan must specify the amount of water that may be taken on a temporary basis from part or all of the water resources of a water resource plan, in addition to the long-term average sustainable diversion limit for part or all of the water resources of a water resource plan (item 7 of the table in subsection 22(1) of the Act). The purpose of the temporary diversion provision is to provide for a transition period to minimise social and economic impacts when the long-term average sustainable diversion limit for those water resources (or that part of those resources) is lower than the long-term average quantity of water that has in fact been being taken from those water resources (or that part of those water resources) (see section 24 of the Act).
118. The Commonwealth is undertaking water recovery programs with the intention of ‘bridging the gap’ between the SDLs and the BDLs. Water is recovered only from farmer who choose to participate in the relevant programs. In light of these programs and the long-term sustainable diversion limits coming into effect on 1 July 2019, the

need to augment this transition further through providing for a temporary diversion provision is not considered necessary.

119. This section specifies the temporary diversion provision for each SDL resource unit is zero.
120. The sum of the long-term average sustainable diversion limit and the temporary diversion provision for a water resource is the long-term annual diversion limit for the water resource (item 7 of the table in subsection 22(1)). As the temporary diversion provision is zero, the long-term annual diversion limit is the same as the long-term average sustainable diversion limit for that resource unit.

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

121. This Part sets out the method for determining compliance with the long-term annual diversion limit (termed ‘register of take’). ‘Long-term annual diversion limit’ is defined in section 4 of the Act.
122. Division 1 of this Part provides for the establishment and maintenance of registers of take. A register will be kept for each SDL resource unit, and is a key tool for determining whether, for each water accounting period (a ‘water accounting period’ is a financial year; see section 3.08), there has been compliance with the long-term annual diversion limit for the SDL resource unit and the extent of any non-compliance.
123. Division 2 details a 3 step method for determining compliance with the long-term annual diversion limit for an SDL resource unit.

Division 1—Register of take

Section 6.08 – Register of take

124. This section requires the Authority to establish, maintain and publish on its website a register for each SDL resource unit.
125. The purpose of the register is to assist in determining 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 (subsection (2)).
126. Subsections (3) and (4) set out what each register of take must include for an SDL resource unit:
 - a debit column to record any amount by which annual actual take is greater than annual permitted take (see subsections 6.11(1) and (3));
 - a credit column to record any amount by which annual actual take is less than annual permitted take (see subsections 6.11(2) and (3));
 - a cumulative balance column to record the cumulative balance of the difference between the annual permitted take and annual actual take (see subsection 6.11(4)); and
 - any other matters the Authority considers relevant in determining whether there has been compliance with the long-term annual diversion limit.
127. Subsection (5) provides that for each SDL resource unit, the register commences in the first water accounting period after 30 June 2019 following the commencement of a water resource plan relating to the area. Upon commencement, the register of take must

record a cumulative balance of zero for an SDL resource unit (subsection (6)). A water resource plan is a plan that is developed by a Basin State and accredited by the Commonwealth Water Minister for the purposes of the Act, or, in certain circumstances, developed by the Authority at the request of the Commonwealth Water Minister and adopted by the Minister (see section 54 of the Act).

Division 2—Method for determining compliance

128. This Division sets out the 3 step method for determining compliance with the long-term annual diversion limit.

Section 6.09 – Method for determining compliance with long-term annual diversion limit

129. This section provides that the method for determining compliance is to follow the steps set out in this Division. 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 (subsection (2)).

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

130. This section sets out the first step in the compliance method, to determine for each SDL resource unit, in a water accounting period, the annual permitted take and the annual actual take.
131. Subsection (1) sets out how the annual permitted take is calculated. The annual permitted take is the sum of the maximum quantity of water permitted to be taken by each form of take for consumptive use from the SDL resource unit using the method identified under section 10.10 (termed ‘annual permitted take’). Section 10.10 requires a water resource plan to set out a method for determining the maximum quantity of water that the water resource plan permits to be taken by each form of take for consumptive use in each water accounting period. The method in 10.10 must be shown to meet, over any repeat of the historical climate conditions, the SDL (including the SDL as amended following an SDL adjustment made under Chapter 7).
132. Subsection (2) sets out how the annual actual take is calculated. The annual actual take is the sum of the quantity of water actually taken by each form of take for consumptive use from the SDL resource unit. Section 10.15 requires a water resource plan to set out how actual take is to be determined, and that actual take be determined using the best information available at the time. 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 measuring the quantity of water actually taken, or estimating the quantity of water actually taken, or a combination of the two. Where take is measured and that information is available it should be used to determine actual take. 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 that relates to that form of take
133. The method for determining annual take allows for the use of a combination of approaches as appropriate to the forms of take in the water resource plan area and the applicable types of measurement available. For instance, it may be impossible or impractical to measure all forms of take relevant to a particular SDL resource unit by metering. It is not intended that the provision in section 10.15 will require

measurement to be undertaken where it is not currently undertaken, or that only one approach be used for every form of take within the SDL resource unit.

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

134. This section provides for step 2 of the compliance method, recording the difference between the annual actual take and the annual permitted take.
135. Step 2 requires a comparison between the annual actual take and the annual permitted take. If the annual actual take exceeds the annual permitted take, the Authority records a debit on the register of take established under section 6.08. If the annual actual take is less than the annual permitted take a credit is recorded on the register. Where there is no difference between the annual actual take and the annual permitted take, a zero is recorded in both the debit and credit columns of the register.
136. After the annual difference is recorded, the new cumulative balance for the SDL resource unit must be determined and recorded on the register as a cumulative debit, cumulative credit or a zero. The cumulative balance reflects all water years following the commencement of the register under subsection 6.08(5).

Section 6.12 – Step 3—Determine whether there is non-compliance

137. Paragraphs 71(1)(g) and (h) of the Act impose reporting obligations on Basin States relating to assessments of compliance and if there is non-compliance, the actions that the Basin State proposes to take to ensure that the long-term annual diversion limit is complied with in the future.
138. This section provides for step 3 of the compliance method, determining whether there has been non-compliance. Step 3 of the method requires comparing the cumulative balance of an SDL resource unit against the long-term annual diversion limit for the SDL resource unit, adjusted to account for any disposal or acquisition of held environmental water. Non-compliance occurs when the cumulative balance for an SDL resource unit is in debit, and that cumulative debit is equal to or greater than 20% of the long-term annual diversion limit for the SDL resource unit and the Basin State does not have a reasonable excuse for this excess. That is, the cumulative balance accumulating across all years is equal to or greater than 20% of a single year's SDL.
139. Non-compliance will not occur if the Basin State has a reasonable excuse for the excess. Subsection (3) provides a Basin State may not claim that there is a reasonable excuse unless it has provided a report to the Authority setting out the reasons for the excess and the steps it will take to reduce the cumulative balance of the register to zero or a credit.
140. Subsection (4) provides that a Basin State is taken to have a reasonable excuse for an excess if the excess arises as the result of the operation of the water resource plan for the SDL resource unit or circumstances beyond the Basin State's control. Such circumstances include for example where, for reasons beyond a Basin State's control, the Commonwealth has not achieved the water recovery target necessary to meet the SDL for the SDL resource unit. Another example may be where, for reasons beyond a Basin State's control, anticipated works associated with any SDL adjustments are not completed as scheduled. The reasonable excuse provision cannot be used as an excuse if a Basin State government fails to meet its own obligations.

141. The note indicates the Authority's intention to conduct audits in relation to compliance using its powers under the Act. The findings of such audits, including the steps the Authority believes should be taken to bring the SDL resource unit back into balance may be published on the Authority's website. The findings of such audits may also lead to further action being taken by the Authority to ensure compliance with sections 34, 35, 58 and 59 of the Act.

Adjustment to account for any disposal or acquisition of held environmental water

142. Non-compliance with the long-term annual diversion limit for an SDL resource unit in a water accounting period is determined after the cumulative balance for that unit is adjusted to account of any disposal or acquisition of held environmental water (see paragraph 6.12(1)(a)). Held environmental water (HEW) is defined by the Act to mean water available under a water access right, a water delivery right or an irrigation right for the purposes of achieving environmental outcomes (including water that is specified in a water access right to be for environmental use) (subsection 4(1) of the Act).
143. Subject to certain restrictions set out in Division 1 of Part 6 of the Act, the Commonwealth Environmental Water Holder (CEWH) may dispose of and acquire HEW. Other holders of HEW are also free to trade this water into the consumptive pool free from restriction based on the class of person or the purpose for which the water is used (see sections 12.07 and 12.08).
144. It should be noted that accounting for trade, that is not a disposal or acquisition of HEW, is provided for in the water resource plan requirements rather than as part of the compliance method (see paragraph 10.12(1)(d)).

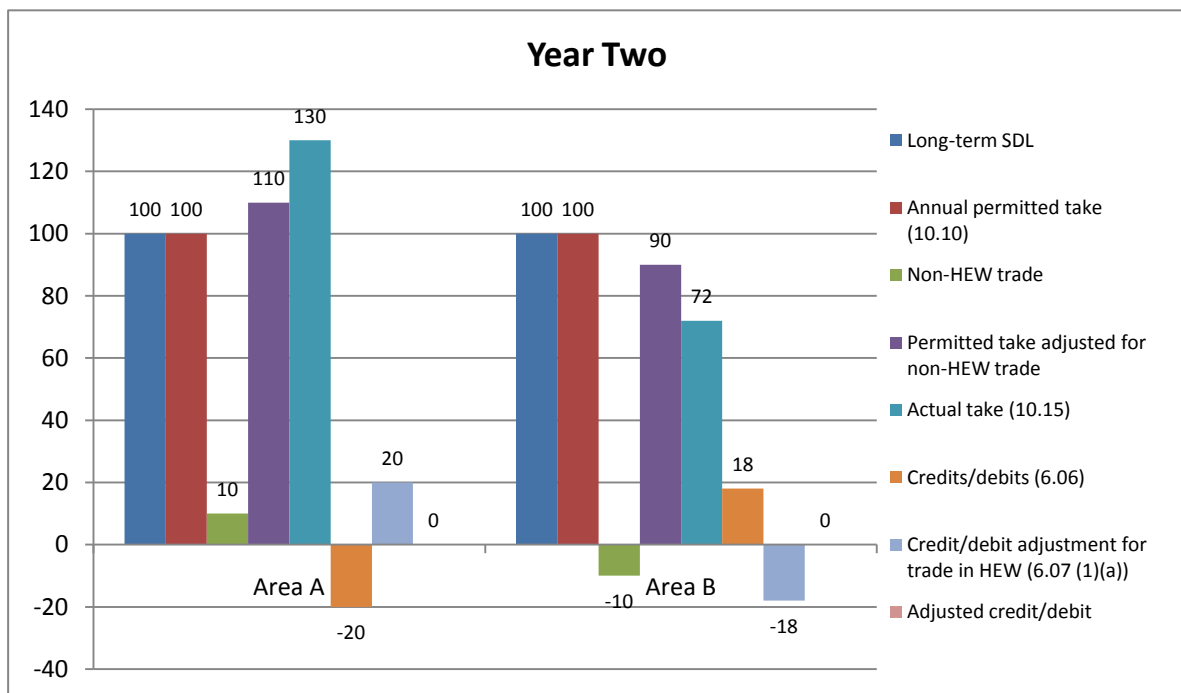
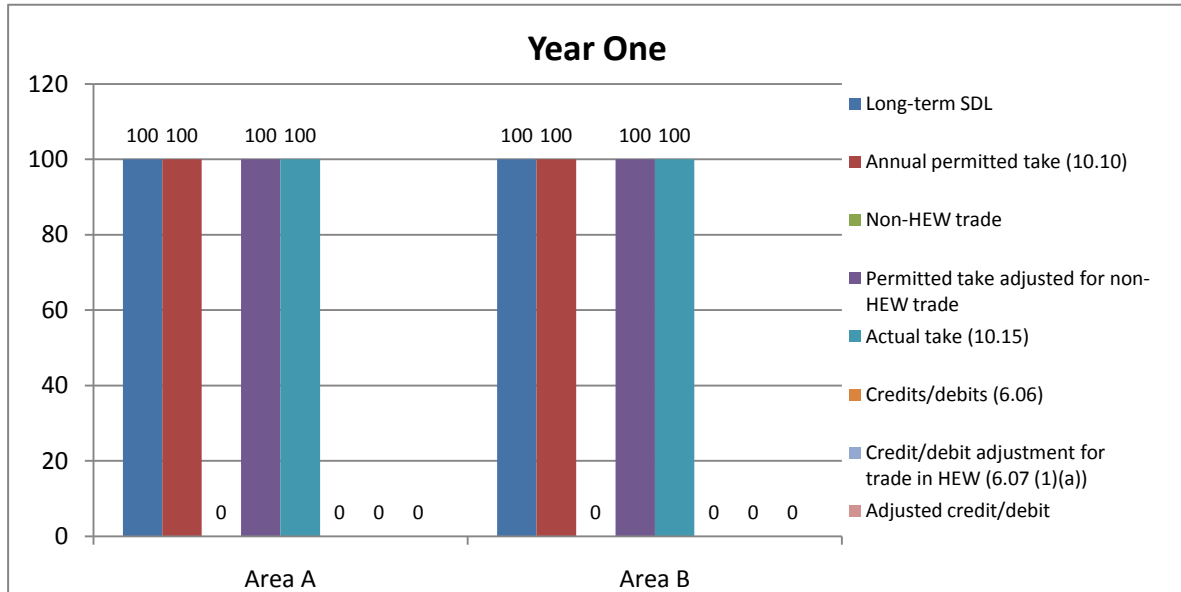
Example of an adjustment

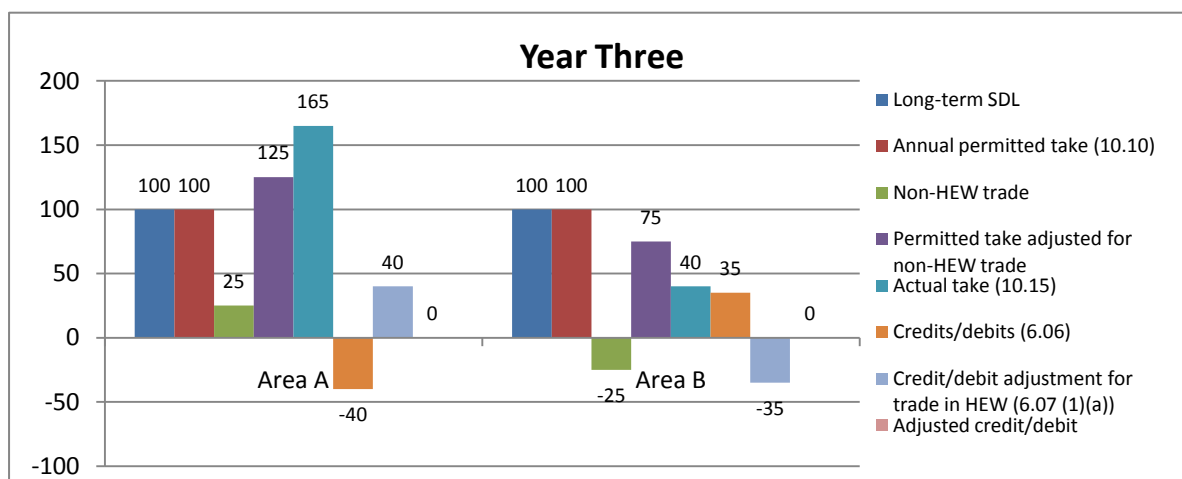
145. Following is a worked example of how, over 3 water accounting periods, for Step 3 of the compliance method, the cumulative balance is adjusted to account for trade of HEW. The example concerns the permanent trade of an entitlement between two SDL resource units, A and B, each with a long-term annual average diversion limit of 100GL.
146. The example is set out in tabular and graphic form below. For both Area A and Area B there is compliance with the long-term annual diversion limit; however, water for consumptive use over the two areas increases by 5GL and HEW decreases by 5 GL over the course of three years.
147. The provisions under section 6.12 can also be applied to temporary trades of HEW into water for consumptive use, which is not covered in the following example. The accounting for temporary trades is a simplified version of that presented below for permanent trades. This is because an adjustment is made only for the HEW that has been temporarily traded in that water year, whereas accounting and adjusting for permanent trades must consider trades that have occurred in previous water years

Accounting for disposal and acquisition of HEW

		Year 1		Year 2		Year 3	
		Area A	Area B	Area A	Area B	Area A	Area B
Step	Long-term SDL	100	100	100	100	100	100
1	Determine annual permitted take for the SDL resource unit ³(10.10)	100	100	100	100	100	100
2	Determine actual take for the SDL resource unit (10.15)	100	100	130	72	165 ³	40
3	Calculate annual permitted take and annual actual take (6.10; using information from 10.10 and 10.15)	-	-	-	-	-	-
4	Compare actual take to annual permitted take (compares 10.15 to 10.10)	100/100	100/100	130/110	72/90	165/125	40/75
5	Record credits/debits for the SDL resource unit (6.11)⁴	0	0	-20	18	-40	35
6	Account for disposal and acquisition of HEW impacting the SDL resource unit (10.12(3))³	No trade in HEW		20GL sold in A, 18GL purchased in B		Another 20GL sold in A, 17GL purchased in B	
7	Adjust credits/debits for trade in HEW (6.12(1)(a))	0	0	20	-18	40	-35
8	Adjusted credit/debit	0	0	0	0	0	0
9	SDL resource unit compliant (6.12)	Y	Y	Y	Y	Y	Y

- 1 Paragraph 10.10(3)(a) requires accounting for a range of matters when determining permitted take (these matters are set out in subsection 10.12(1)). This example is only concerned with the treatment of trade between environmental and consumptive uses (paragraph 10.12 (1)(d) and subsection 10.12(3)).
- 2 This example demonstrates the accounting in a situation where HEW in area A has been sold and a lesser volume purchased in Area B on the basis that this action provides a neutral or beneficial environmental outcome (ie the difference is not because of an exchange rate).
- 3 The volume of HEW that has entered consumptive use is accounted for as part of actual take each year, i.e. in year 2 20GL of former HEW entitlement has been permanently traded into consumptive use so there is 20GL of actual take above permitted take, in year 3 there has been a total of 40GL of HEW entitlement traded into consumptive use so there is 40GL of actual take above permitted take. It is important to keep track of the total amount of HEW that has been disposed of into consumptive use over the life of the plan because SDLs and permitted take are not adjusted for this purpose, so this information is needed to make adjustments to actual take when determining compliance each year.





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

Section 6.13 – Risks arising from reduction in diversion limits

148. This section sets out the matters required by Subdivision A of Division 4 of Part 2 of the Act. That Subdivision deals with the Commonwealth share (if any) of reductions in long-term average sustainable diversion limits for the water resources of a water resource plan area. The Subdivision generally reflects provisions about risk assignment contained in the *National Water Initiative* and the *Agreement on Murray-Darling Basin Reform* of 3 July 2008.
149. Where a transitional or interim water resource plan made by a Basin State is in effect before the Basin Plan first takes effect, the Authority is required to estimate the diversion limit that is established by those transitional or interim plans immediately before they cease to have effect so as to determine whether there is any reduction under the Basin Plan. The terms 'transitional water resource plans' and 'interim water resource plans' are defined by sections 241 and 242 of the Act.
150. Section 75 of the Water Act requires the Basin Plan to specify the reductions of the long-term average sustainable diversion limit as a result of the Basin Plan SDLs and the amount of those reductions (if any) that is the Commonwealth Government policy component, the new knowledge component and the Commonwealth's share. Section 76 of the Act requires the Commonwealth to endeavour to manage the impact of its share of any reduction on the holders of water access entitlements.
151. Subsection (2) provides that the Authority is satisfied that the quantity of water that can be taken from an SDL resource unit immediately before a transitional or interim water resource plan ceases to have effect is the BDL for the SDL resource unit. Subsection (3) specifies the amount of the reduction is the amount by which the BDL for each SDL resource unit exceeds the long-term annual diversion limit for that unit. Subsection (4) specifies the Commonwealth Government policy component of this reduction is 100% of the reduction. The share of the new knowledge component of the reduction is zero (subsection (5)) and the Commonwealth's share of the reduction is 100% (subsection (6)).

Section 6.14 – Risks arising from other changes to the Basin Plan

152. This section provides that 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.

CHAPTER 7—ADJUSTMENT OF SDLs

CHAPTER OVERVIEW

153. This Chapter provides a mechanism under section 23A of the Act for the Authority to propose adjustments to the SDLs on the basis of any of the following:
- new measures that will increase the supply of water or the efficiency of water use (Part 2);
 - a request by a Basin State to re-allocate the SDL resource unit shared reduction amounts among surface water SDL resource units within the State (Part 3); or
 - new or improved information relating to groundwater SDL resource units (Part 4).
154. The proposed adjustments will be made by amendment of the Basin Plan under section 23B of the Act.
155. The SDL adjustment mechanism allows SDLs to be adjusted based on new initiatives which achieve better environmental outcomes, or reduced social and economic impacts, relative to those considered in setting initial SDLs.
156. Part 2 of this Chapter enables surface water SDLs to be adjusted to reflect the effects of measures that increase the supply of water ('supply measures') or the efficiency of water use ('efficiency measures'). The intended effects of surface water SDL adjustments under Part 2 are that environmental outcomes are maintained or improved whilst social and economic outcomes are also maintained or improved.
157. A 'supply measure' is a measure that increases the quantity of water available before consumptive take. The measure may do this either by making water available for environmental use without reducing the volume of water available for consumptive take (e.g. through reducing evaporation losses at suitable storages) or by allowing environmental managers to achieve the same environmental outcomes more efficiently, thus reducing the volume of water needing to be recovered 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.
158. 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.
159. There is a range of ways in which these measures, and water resulting from them, could be determined to impact on SDLs and enable their adjustment. The Basin Plan gives effect to one of those possible ways, which seeks to appropriately address and balance the range of considerations involved. For supply measures, the additional water will be counted towards water available for consumptive use. This is because the supply measure effectively replaces water that was to have been recovered from consumptive use and made available for environmental use. The supply measure therefore reduces the gap between the BDL and the level of consumptive take that is environmentally sustainable, and so can be directed to consumptive uses without having any adverse effect on environmental outcomes. Accordingly, the contribution made by supply measures will be used towards an increase in the SDL (a decrease in the reduction amount).

160. For efficiency measures the water saved will be counted towards environmental use. This is because the water saved is, by definition of the efficiency measure, no longer required for consumptive use. It can therefore be used for environmental purposes while achieving neutral or improved social and economic impacts. An SDL adjustment resulting from efficiency measures will therefore count towards a decrease in the SDL (increase in the reduction amount).
161. Contributions from supply measures and efficiency measures will be determined by the Authority in the way set out in this Chapter with additional detail for supply adjustment calculations provided in Schedule 6.
162. SDL adjustments resulting from application of the SDL adjustment mechanism must operate in the net range of plus or minus 5% of the surface water SDL for the Basin. Adjustments resulting from supply and efficiency measures will be netted against one another to provide the total adjustment amount while maintaining the plus or minus 5% limit.
163. Constraints, such as dam outlet capacities limit the ability to deliver environmental flows through active environmental water management. A constraint measure is 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. For example, raising of bridges to allow higher regulated flows in watercourses and floodplains. While a constraint measure is not a supply or an efficiency measure, it may be related to an efficiency measure in respect of which the Authority proposes an adjustment.
164. Under Part 2 of this Chapter, there are two occasions for a proposed adjustment: first, initial adjustment, as soon as practicable after 30 June 2016; and second, final adjustment by 30 June 2024. In either case, the Authority may only make a final determination of the amounts of the proposed adjustments if it has considered advice from the Basin Officials Committee and is satisfied those adjustments meet the criteria set out in section 7.17. Public consultation is also required before finalisation of the determination of the adjustment.
165. Procedurally, the Authority will consider the supply and efficiency measures that have been notified by the Basin Officials Committee before 30 June 2016. After this time, the Authority must consider any additional efficiency measures notified by the Commonwealth or a Basin State.
166. The Authority then calculates the contribution of supply measures and efficiency measures to a change in the SDL for the surface water SDL resource units affected by the measures.
167. If the Authority is not satisfied that a determination of proposed adjustments satisfies the applicable criteria set out in subsection 7.17, the calculation will be revised to reduce the total supply contribution or the efficiency contribution of the affected unit to a level at which such a determination may be made.
168. The Authority must apportion the total supply contribution for the notified measures to each affected unit in accordance with the requirements of section 7.18.
169. The net effect of the total supply contribution and total efficiency contributions cannot exceed 5% of the total surface water SDL for the Basin as it stood at the reference time (defined in section 23A(5) of the Act).

170. Under section 23B of the Act, after determining the amounts of the proposed adjustments and proposing adjustments of the SDLs under section 23A of the Act, the Authority is required to prepare appropriate amendments of the Plan, for adoption by the Minister.
171. Adjustments proposed under Part 3 operate to re-allocate the SDL resource unit shared reduction amounts for a zone set under section 6.05, amongst the SDL resource units in that zone. Part 3 operates to allow States to request a re-allocation of the amounts amongst different SDL resource units within that State, and for the Authority to invite a State to make a request, and inform the State of the shared reduction amounts that are expected to apply to SDL resource units in the State if no request for a re-allocation is received from the State. In either case, the total shared reduction amount for each zone will remain the same.
172. An adjustment proposal under Part 3 must be made as soon as practicable after 30 June 2016.
173. Proposals under Part 4 may be made if better information becomes available about groundwater SDLs and may be made as soon as practicable after 30 June 2016 or at any time after 30 June 2019. Determination of the size of the adjustment is on the basis of whether the Authority is satisfied the change in the SDL means the new SDL represents an environmentally sustainable level of take (subsection 7.25(2)).
174. The Authority must seek and consider advice from the Basin Officials Committee, and consult the public, before proposing an adjustment.

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

Section 7.01 – Simplified outline

175. This section sets out a simplified outline of this Chapter. In addition to Part 1, the Chapter contains 3 other parts dealing with that aspect of item 6 of the table in subsection 22(1) of the Act (read with sections 23A and 23B of the Act) that deals with the adjustments to the long-term average sustainable diversion limits.
176. This Chapter provides a mechanism under s 23A of the Act for the Authority to propose adjustments to the SDLs on the basis of any of the following:
- new measures that will increase the supply of water available to be taken or the efficiency of water use (Part 2);
 - a request by a Basin State to re-allocate the SDL resource unit shared reduction amounts among surface water SDL resource units within the state (Part 3); or
 - new or improved information relating to groundwater SDL resource units (Part 4).

Section 7.02 – Interpretation

177. This section sets out definitions particular to this Part.
178. ‘Additional efficiency measure’ and ‘additional efficiency entitlement’ are explained further below at the definitions of ‘efficiency measure’, ‘efficiency entitlement’ and ‘measure’.

179. An 'affected unit' is 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).
180. An 'anticipated measure' is a measure that is part of the 'benchmark conditions of development'. This includes various measures expected to be in operation 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 per year.
181. '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. The 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 (the anticipated measures expected to recover the equivalent of at least 600 GL per year). (For further detail, see Schedule 6.)
182. 'Benchmark environmental outcomes' has the meaning set out in subsection 7.15(2); it means the environmental outcomes that, in accordance with the applicable method, would be achieved if the SDLs were at the levels set at the commencement of the Plan and the benchmark conditions of development applied in the Basin.
183. '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. Examples of a constraint measure include the raising of bridges to allow higher regulated flows in watercourses and floodplains or the acquisition of easements to allow inundation of private land in conjunction with making regulated releases of environmental water.
184. 'Efficiency contribution' is set out in Division 4 of Part 2; it is the amount of adjustment that will result from efficiency measures. By default, it is the decrease in the SDL for each affected unit equal to the quantity of water, in GL per year, that is registered as being available under the relevant efficiency entitlements for that unit. 'Registered' means shown on the register the Authority is required to establish and maintain under section 7.13 (subsection 7.16(3)).
185. 'Efficiency entitlement', for a surface water SDL resource unit, means a water access entitlement that is sourced from the unit and is held environmental water and is acquired by the Commonwealth or another person in conjunction with, or to take advantage of the water savings achieved by, a notified measure. An additional efficiency entitlement is the same as an efficiency entitlement save that it arises in relation to an additional efficiency measure.
186. 'Efficiency measure' has the meaning set out in section 7.04; it is one that makes savings in the amount of water required for consumptive purposes. See further the definition at section 7.04. An additional efficiency measure is an efficiency measure a Basin State or the Commonwealth notifies (after 30 June 2016 but on or before 31 December 2023) the Authority that it should take into account in proposing adjustments.
187. 'Measure' means a set of works or measures undertaken or funded by the Commonwealth or a Basin State including changes to water infrastructure, changes to other infrastructure that affect the hydrology of the Basin, changes to legal requirements, including to Commonwealth or State laws that affect the way water is

used, changes in river management and river operational practices and changes in methods of delivering water.

188. 'Notified measure' means that the measure has been notified under subsection 7.12(1); that is that the Basin Officials Committee has notified the Authority by 30 June 2016 of that measure that, in the view of the Committee, should be taken into account in proposing adjustments.
189. 'Reference time' is defined in subsection 23A(5) of the Act. The reference time will initially be the time when the Basin Plan first takes effect. If the Basin Plan has been reviewed under Subdivision G in Division 1 of Part 2 of the Act, the reference time refers to the most recent review. If the Minister adopts an amendment to one or more SDLs as a result of the review the reference time will be the time when the amendment or amendments are adopted. If however the Authority advises the Minister when it provides the report of the results of the review under subsection 50(5) that the Authority has decided not to prepare an amendment of any SDLs the reference time will be the time when the report is provided to the Minister
190. 'Supply contribution' has the meaning given by Division 4 of Part 2; it is the amount of an adjustment that will be made because of notified supply measures. Broadly, the total supply contribution is the increase in the SDLs for affected units that ensures that in accordance with specified assumptions there are, as compared with the benchmark environmental outcomes, equivalent environmental outcomes and no net detrimental impacts on reliability of water supply to holders of water access rights.
191. 'Supply measure' has the meaning given by section 7.03; it is one that increases the quantity of water available before take. See further the definition at section 7.03.

Section 7.03 – Meaning of supply measure

192. This section defines a supply measure.
193. A supply measure is a measure that, for a set of surface water SDL resource units (affected units), results in more water being available to be taken within that set compared with the quantity of water available under the benchmark conditions of development. (A set may be comprised of a single SDL resource unit.) A supply measure may do this by:
194. reducing losses of water, for example by reducing evaporation from a suitable lake or public storage system;
195. reducing the amount of water required to deliver water at a particular place, for example by improving river operation rules so that the same quantity of water can be delivered from a public storage system either for consumptive or environmental use more efficiently; or
196. changing methods of environmental watering so that equivalent environmental outcomes can be achieved with a smaller quantity of water than was required under the benchmark conditions of development.

Section 7.04 – Meaning of efficiency measure

197. This section defines an efficiency measure.
198. An efficiency measure is a measure that, for a set of surface water SDL resource units, operates so that it is possible to use a smaller quantity of water for one or more

consumptive uses compared with the quantity of water required under the benchmark conditions of development. (A set may be comprised of a single SDL resource unit.) An efficiency measure may do this by lining irrigation channels to reduce water losses within an irrigation network, or replacing less efficient irrigation methods with drip irrigation.

Section 7.05 – Consultation with Basin Officials Committee

199. This section obliges the Authority, in determining the amounts of a proposed adjustment in accordance with this Chapter, to seek and consider advice from the Basin Officials Committee. The advice must be sought at least one month before proposing adjustments.

Section 7.06 – Public consultation

200. This section requires the Authority, before finalising a determination of the amounts of the proposed adjustments in accordance with Parts 2, 3 and 4 of this Chapter:
- to publish a draft determination with an account of how the amounts were arrived at and reasons for decisions made in arriving at the draft determination; and
 - invite the public to make submissions about the draft determination within a period of not less than 1 month.

Section 7.07 – Combined proposals

201. This section clarifies that the Authority may make proposals under more than one of Parts 2, 3 and 4 simultaneously and may treat the proposals as a single proposal. Where this is done, the Authority may prepare a set of amendments under section 23B of the Act that gives effect to the cumulative effect of the proposals.

Section 7.08 – Constraints management strategy

202. This section sets out the requirements for a constraints management strategy.
203. Subsection (1) requires the Authority to prepare a constraints management strategy within 12 months after the commencement of the Basin Plan that:
- identifies and describes the physical, operational and management constraints that are affecting, or have the potential to affect, environmental water delivery;
 - 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;
 - 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;
 - 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
 - identifies mechanisms whereby impacts on third parties can be addressed.
204. It is important that the strategy is developed in consultation with stakeholders. Subsection (2) sets out consultation requirements for the preparation of the strategy and

any substantive amendments to the strategy. The parties to be consulted are the Basin States and the public.

205. Subsection (3) requires the Authority to annually give a progress report on the matters covered in the strategy to the Ministerial Council.

206. Subsection (4) requires the Authority to publish the strategy on its website.

Part 2—Adjustment of surface water SDLs for notified measures

Division 1—Objective

Section 7.09 – Objective

207. This section sets out the objective for this Part to allow SDLs to be adjusted to reflect the effects of notified measures that increase the supply of water or the efficiency of water use so that:

- for efficiency measures—environmental outcomes are increased while maintaining or improving social and economic outcomes;
- for supply measures—equivalent environmental outcomes are achieved with a lower volume of held environmental water than would otherwise be required. Some jurisdictions anticipate that supply measures may be able to provide the equivalent of 650 GL per year of water, reducing the quantity of water rights the Commonwealth will need to acquire to ‘bridge the gap’;
- where constraints on the capacity to deliver environmental water are removed or eased—available environmental water can be used to maximum effect;
- 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
- 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, allows the enhanced environmental outcomes as set out in Schedule 5 to be pursued as compared to the benchmark environmental outcomes.

208. Note 1 clarifies that the Commonwealth program to ease or remove capacity constraints and deliver 450GL 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 and results, MDBA publication no: 76/12, Murray–Darling Basin Authority, Canberra.
<http://download.mdba.gov.au/alterd-PBP/Hydrologic-modelling-relaxed-constraints-October-2012.pdf>

Division 2—When Authority must propose appropriate adjustments

209. This Division sets out requirements as to when the Authority must, under section 23A of the Act, propose an adjustment of the SDL for the water resources (or part) of a water resource plan area and an adjustment of the long-term average sustainable diversion limit for the Basin water resources by an amount determined by the Authority.

Section 7.10 – Initial adjustments to be proposed in 2016

210. This section requires the Authority, after receipt of a notification under section 7.12, to, as soon as practicable after 30 June 2016:

- determine the amounts of proposed adjustments for each affected unit resulting from the notified measures in accordance with Division 4; and
- propose accordingly, under section 23A of the Act, an adjustment of the SDL for each affected unit and for the Basin water resources equal to the net effect of the adjustments for all the affected units.

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

212. This section also requires the Authority to advise the Minister on the implications of a proposal for any declared Ramsar wetland.

Section 7.11 – Reconciliation adjustments to be proposed in 2024

213. This section requires the Authority to, in effect, revise the proposed adjustments made under section 7.10 if it appears to the Authority a new determination of the appropriate adjustment amounts resulting from the notified measures and any additional efficiency measures, as at 30 June 2024, would produce a result different from that earlier determination. If this is the case, the Authority must, by 30 June 2024:

- determine the amounts of proposed adjustments for each affected unit resulting from the notified measures and any additional efficiency measures in accordance with Division 4; and
- propose accordingly, under section 23A of the Act, an adjustment of the SDL for each affected unit and for the Basin water resources equal to the net effect of the adjustments for all the affected units.

214. Under section 23B of the Act the Authority is then required to prepare appropriate amendments to the Basin Plan for adoption by the Minister. As note 3 clarifies, it is expected that the Authority will propose adjustments under this section in sufficient time for the amendments to commence by 30 June 2024.

215. This section might apply if, for example, a notified measure has been withdrawn or an additional efficiency measure has been registered.

216. Subsection (2) requires the Authority to advise the Minister on the implications of a proposal for any declared Ramsar wetland.

Division 3—Notification and recording of relevant matters

Section 7.12 – Notification of measures relevant to adjustment of SDLs

217. This section prescribes notification opportunities:

- for the Basin Officials Committee, by 30 June 2016, in relation to supply and efficiency measures (notified measures); and
- for the person (being a Basin State or the Commonwealth) funding or undertaking an additional efficiency measure, after 30 June 2016 but on or before 31 December 2023 (additional efficiency measures)

that, in the view of the Committee or of the person, should be taken into account in proposing adjustments under section 7.10 or 7.11.

218. Notification may only be made for a measure if it will enter into operation by 30 June 2024, it is not an anticipated measure (a measure that was assumed in the benchmark model described in Schedule 6 when the model was used to set the unadjusted SDLs for the Plan) and the person (being a Basin State or the Commonwealth) funding or undertaking the measure agrees with the notification (subsection (3)).
219. Subsection (4) specifies that the notification is required to include, for each measure, details of the measure, the affected units for the measure, details of any relevant constraint measure and the date on which the notified measure will enter into or has entered into operation.
220. If this information changes, amendments of notifications must be made as soon as practicable (subsection (5)). If a measure will not enter into operation by 30 June 2024, the notification must be amended to withdraw that notified measure (subsection (6)).
221. Subsection (7) provides that amendments to notifications under subsections (5) and (6) must be made on or before 31 December 2023.

Section 7.13 – Register of measures

222. This section requires the Authority to establish and maintain a register, to be published on the Authority's website, of notified measures and additional efficiency measures.
223. Subsections (1) and (2) require the register to include:
 - the information mentioned in section 7.12;
 - for each surface water SDL resource unit, the efficiency entitlements and additional efficiency entitlements for the unit from time to time, and the long-term average quantity of water, in GL per year, that is available under the efficiency entitlements and additional efficiency entitlements for the unit from time to time. Subsection (4) clarifies that these requirements apply to a water access entitlement regardless of whether it becomes held environmental water before or after the measure is notified; and
 - if the Authority is likely to propose an adjustment under section 7.10 or 7.11, estimates of the likely supply contribution, efficiency contribution and overall SDL adjustment amount and, to the extent practicable, the likely SDL adjustment amounts for the affected units.

Division 4—Determining amounts of adjustments

Section 7.14 – Preliminary

220. Subsection (1) clarifies that this Division sets out the steps the Authority must take to determine the amounts of adjustments to SDLs that it will propose under section 23B of the Act because of the notified measures or additional efficiency measures.
221. Subsection (2) clarifies the order of calculations if the Authority has proposed SDL adjustments relating to the shared reduction amounts under Part 3. If this has happened, the Authority must assess the contributions under Division 4 as if the proposed adjustments have been made.

Section 7.15 – Contribution to adjustments from supply measures

222. This section specifies the supply contribution of the notified supply measures as the *total increase* in the SDLs for all the units affected by the supply measures that will ensure that, calculated in accordance with the applicable method (defined in subsection (2)) on the basis of:

- a repeat of historical climate conditions; and
- the benchmark conditions of development modified by:
 - the addition of the notified supply measures; and
 - the removal of any unimplemented policy measures (defined in subsection (2))

the following results occur, as compared with the benchmark environmental outcomes (defined in subsection (2)):

- there are equivalent environmental outcomes; and
 - any detrimental impacts on reliability of supply of water to the holders of water access rights are offset or negated.
223. The note clarifies that the supply contribution, as at 30 June 2016, is limited to registered notified supply measures as at that time.
224. Subsection (2) defines the meaning of terms used in subsection (1):
- ***applicable method*** is the default method set out in Schedule 6 unless the Authority and the Basin Officials Committee agree to use another method.
 - ***benchmark environmental outcomes*** means the environmental outcomes that, in accordance with the applicable method, would be achieved if the SDLs were those set in the Basin Plan when it commenced and the benchmark conditions of development applied in the Basin.
 - ***unimplemented policy measure*** means an anticipated measure consisting of a policy to credit environmental return flows for downstream environmental applications, or allow the call of held environmental water from storage during un-regulated flows events, which is not expected to come into effect by 30 June 2019.

Section 7.16 – Contribution to adjustments from efficiency measures

Efficiency contribution for 2016 determination

225. Subsection (1) specifies that for the determination of proposed adjustments required under section 7.10 the efficiency contribution of the notified measures of each affected unit is at a particular time is a *decrease in the SDL of 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.
226. The notes clarify that efficiency contributions are expected to vary over time as relevant water access entitlements are acquired and that 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 2024 determination

227. Subsection (2) specifies that for the determination of proposed adjustments required under section 7.11, the efficiency contribution of the notified measures and additional efficiency measures of each affected unit is a *decrease in the SDL of 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 on 30 June 2024.
228. Subsection (3) clarifies that in this section **registered** means shown on the register established and maintained under section 7.13.

Section 7.17 – Ensuring that criteria for amounts of adjustments are satisfied

229. If the Authority's initial calculations of the total supply and efficiency contributions in accordance with the specifications of sections 7.15 and 7.16 nevertheless mean that the Authority is not satisfied that a determination of proposed adjustments based on those amounts can be made under this Division that satisfies the criteria set out in subsection (2), the Authority may reduce the total supply contribution or the efficiency contribution for any affected unit, to a level at which such a determination may be made.
230. Subsection (2) sets out the applicable criteria as follows:
- *Equivalent environmental outcomes* – paragraph (2)(a) specifies the first criterion: that the supply contributions to the proposed adjustments achieve equivalent environmental outcomes compared with the benchmark environmental outcomes;
 - *Neutral or improved socio-economic outcomes* – paragraph (2)(b) specifies the second criterion: that 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:
 - the participation of consumptive water users in projects that recover water through works to improve irrigation water use efficiency on their farms; or
 - alternative arrangements proposed by a Basin State, that are assessed by that State as achieving water recovery with neutral or improved socio-economic outcomes;
 - *Use of approval process* – paragraph (2)(c) specifies the third and final criterion: that any processes approved by the Murray-Darling Basin Ministerial Council for

developing initiatives for satisfying the 3 criteria, including opportunities for public consultation, have been observed.

Section 7.18 – Apportionment of supply contribution to affected units

231. This section obliges the Authority to apportion the total supply contribution for the notified measures to give each affected unit a supply contribution in a way that satisfies the following:

- the sum of the supply contributions is the total supply contribution; and
- the apportionment complies with any agreement between the Commonwealth and the Basin States relating to the apportionment of supply contributions.

Section 7.19 – Overall limitation on size of adjustment amounts

232. This section specifies what happens when, at a particular time, the net effect of the total supply contribution and the total efficiency 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 as it stood at the reference time. In this case, the size of the supply contribution and the efficiency contribution for each affected unit are reduced in proportion so that the net effect is equal to that amount.

233. The note clarifies that this section allows a supply contribution or an efficiency contribution of more than 5% of the total surface water SDL to each be given full effect in an adjustment, provided the net effect across the Basin is within the 5% limit.

Section 7.20 – Final determination of amounts in 2016

234. This section sets out the circumstances in which the Authority may make a determination to propose adjustments for the purpose of section 7.10:

- it must have considered any advice from the Basin Officials Committee; and
- it must be satisfied that the proposed adjustments meet the criteria under section 7.17.

235. Supply contributions must be determined by the Authority as at 30 June 2016 (subsection (2)).

236. Under subsection (3), the amounts of the proposed adjustments must be determined by the Authority as:

- an adjustment of the SDL of each affected unit equal to the net effect of supply and efficiency contributions for the unit; and
- an adjustment of the SDL for the Basin equal to the net effect of the adjustments for all affected units.

237. Subsection (4) requires a proposed adjustment to 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:

- the relevant efficiency contributions; and
- the operation of the overall limit on adjustments in section 7.19.

Section 7.21 – Final determination of amounts in 2024

238. This section sets out the circumstances in which the Authority may make a determination to propose adjustments for the purpose of section 7.11:
- it must have considered any advice from the Basin Officials Committee; and
 - it must be satisfied that the proposed adjustments meet the criteria under section 7.17.
239. Supply contributions and efficiency contributions must be determined by the Authority as at 30 June 2024 (subsection (2)).
240. Subsection (3) sets out the process for calculating the amounts for the final determination. The Authority must:
- determine the adjustments that would be appropriate to reflect the notified measures and additional efficiency measures if no adjustment had been made as a result of a proposal under section 7.10 (the *overall adjustments*) (paragraph (3)(a)); and Calculate for each affected unit the difference between the overall adjustment and any adjustment actually made as a result of a proposal under section 7.09 (the *difference* for the unit) (paragraph (3)(b)); and
 - determine the amounts of the proposed adjustments as an adjustment of the SDL for each affected unit equal to the difference for the unit (subparagraph (3)(c)(i)); and
241. An adjustment of the SDL for the Basin equal to the net effect of the adjustments for all the affected units (subparagraph (3)(c)(ii)). This section provides for correcting the 2016 SDL adjustment based on the final implementation of supply projects. This recognises that some projects may not be completed or that the impact of the some projects on SDLs may vary post 2016.

Part 3—Adjustments relating to shared reduction amounts

Section 7.22 – Objective

242. This section sets out the objective for this Part, which is to allow SDLs to be adjusted to re-allocate the SDL resource unit shared reduction amounts among surface water SDL resource units within a Basin State. Section 6.05 establishes a default method for allocating the shared reduction amounts between individual SDL resource units. Under this part States may request a different allocation within a zone under their jurisdiction.

Section 7.23 – Adjustments relating to shared reduction amounts

243. A re-allocation adjustment for a Basin State may be initiated by the State requesting the Authority to make a re-allocation adjustment. Subsection (4) defines *re-allocation adjustment* for a Basin State to mean a set of adjustments to the SDLs of the state's SDL resource units that are within a zone mentioned in section 6.05 with the effect that:
- the total of the SDLs for each zone remains unchanged; and
 - no resource unit has an SDL larger than would result from replacing its shared reduction amount with zero.
244. Subsection (2) requires the Authority, where a State has not made a request by 31 May 2016, to invite a State to make a request, and inform the State of the shared reduction amounts that are expected to apply to SDL resource units in the State if no request for a

re-allocation is received from the State. The amounts that will apply (if no re-allocation adjustment is made at a State's request) from 31 December 2016 are those calculated in accordance with subsection 6.05(4).

245. Subsection (3) requires the Authority to propose, under section 23A of the Act, as soon as practicable after 30 June 2016, re-allocation adjustments in relation to the SDL resource units of each Basin State in accordance with any requests received from Basin States by that date.

246. The notes clarify that:

- following the making of a proposal, the Authority is required, under section 23B of the Act, to prepare appropriate amendments of the Basin Plan for adoption by the Minister. If no other adjustments were made, the appropriate amendments would be expected to be a repeal of section 6.05 and the replacement of references in Schedule 2 to shared reduction amounts by the specified amounts;
- SDL adjustments proposed under this Part will be used for the purpose of calculating any adjustment amounts under Part 2; and
- for adjustments relating to a zone that lies in two Basin States (e.g. the northern Basin zone which lies in both NSW and Queensland), both States will need to request a proposal to ensure that paragraph (b) of the definition of re-allocation adjustment is satisfied.

Part 4—Adjustments relating to groundwater

Section 7.24 – Objective

247. This section sets out the objective for this Part, which is to allow SDLs of groundwater SDL resource units to be adjusted to reflect new or improved information about their groundwater resources.

Section 7.25 – Adjustments relating to groundwater

248. This section sets out the process by which proposals for adjustments of SDLs of groundwater SDL resource units are made. Subsection (3) provides the proposal may be made as soon as practicable after 30 June 2016 or at any time after 30 June 2019.

249. If better information becomes available about the groundwater resources and the factors relevant to setting the SDL, such as recharge rates, connectivity with surface water or usage patterns, or Basin State policy and planning settings, the Authority may propose an adjustment of the SDL for a groundwater SDL resource unit.

250. For a proposed adjustment, the Authority must be satisfied that in light of the better information, the SDL for the unit:

- may be increased by the amount of the proposed adjustment and still represent an environmentally sustainable level of take; or
- should be decreased by the amount of the proposed adjustment to represent an environmentally sustainable level of take.

251. The note explains the Authority is required, under section 23B of the Act, after making a proposal, to prepare appropriate amendments of the Plan for adoption by the Minister.

Section 7.26 – Overall limitation on size of groundwater adjustment amounts

252. This section obliges the Authority not to propose a groundwater adjustment if the result would be that the net effect of all groundwater adjustments since the reference time would represent an increase or decrease of more than five percent of the total groundwater SDL for the Basin as it stood at the reference time.

Part 5—Independent audit of calculations

Section 7.27 – Independent audit of Authority’s calculations

253. This section provides the Authority may appoint or establish a person or body independent of the Authority to audit its calculations under Parts 2 and 4.
254. Subsection (2) requires the auditor to produce a report setting out the findings of the audit. Prior to finalising the report the auditor must give the Authority, Commonwealth and each Basin State an opportunity to comment on the proposed findings.

CHAPTER 8—ENVIRONMENTAL WATERING PLAN

CHAPTER OVERVIEW

255. This Chapter sets out the environmental watering plan requirements. Item 9 of the table in subsection 22(1) of the Act requires the Basin Plan to include an environmental watering plan. Section 28 of the Act sets out the specific requirements with which this part of the plan must comply. Subsection 28(1) of the Act sets out the purposes of the environmental watering plan. Subsections 28(2) and (3) set out various matters that the environmental watering plan must specify. These are:
- the overall environmental objectives for the water-dependent ecosystems of the Murray-Darling Basin (this is set out in Part 2);
 - targets by which to measure progress towards achieving these environmental objectives (this is set out in Part 3);
 - an environmental management framework for planned environmental water and held environmental water (this is set out in Part 4);
 - the methods to be used to identify environmental assets in the Murray-Darling Basin that will require environmental watering (this is set out in Part 5);
 - the principles to be applied, and methods to be used, to determine the priorities for applying environmental water (including applying that water to environmental assets that are identified using the methods specified in accordance with the previous bullet point) (this is set out in Part 6); and
 - the principles to be applied in environmental watering (these have been incorporated into the environmental management framework, and are set out in Division 6 of Part 4).
256. Subsection 28(4) of the Act states that, in preparing the environmental watering plan, the Authority must have regard to any other programs for water recovery and environmental watering in the Murray-Darling Basin.
257. The Explanatory Memorandum to the Water Bill 2007 indicated at paragraph 63, that the environmental watering plan would be ‘a strategic document that specifies the environmental objectives, watering priorities and targets for Basin water resources’. The environmental watering plan is a strategic framework for the planning and management of environmental water in the Murray-Darling Basin. It provides for the co-ordinated management of environmental water at a Basin scale, in order to protect and restore environmental assets and biodiversity dependent on Basin water resources, and achieve other environmental outcomes for the Basin as a whole.
258. Because it is a strategic framework, the environmental watering plan has a strong emphasis on setting overall objectives and establishing principles and methods to guide decision-making on the use of environmental water. The framework sets out the way environmental watering will be managed, including Basin- and regional-scale planning and Basin- and regional-scale annual prioritisation.
259. The environmental watering plan aims for sustainable ecosystems that can retain their ecological integrity so that they are healthy and resilient to future stressors. Given the inherent variability within the Basin, the environmental watering plan is not prescriptive about what must be watered, or where and when watering is to occur.

260. Because it is impossible to accurately predict the future, a prescriptive plan would inevitably lead to sub-optimal outcomes and would probably result in watering being mandated in ways and at times that were not the most beneficial for the environment, and possibly even harmful to the environment and the community. Rather, the environmental watering plan is a statutory framework for decision making, and adapting to new information and better ways of operating, in the context of climatic and other variables.
261. Achievement of the overall objectives for the Basin's water-dependent ecosystems will require consultation and co-ordination. Accordingly, the framework also sets out arrangements for consultation and co-ordination.
262. The environmental watering plan will also require periodic reviews to ensure that the best practices and knowledge are being used. These reviews are built into the Basin Plan.
263. As the environmental watering plan is implemented, a greater understanding of the needs of ecosystems, communities and water managers will emerge, and use of environmental water will be continuously refined.
264. The environmental watering plan is of particular significance in relation to environmental watering schedules. The term 'environmental watering schedule' is defined in section 4 of the Act. The Act envisages that the Authority will enter into environmental watering schedules, which are agreements to co-ordinate the use of environmental water to maximise the benefits of environmental watering. Section 29 of the Act requires the Authority, in implementing the environmental watering plan, to consult with certain persons to develop periodic environmental watering schedules. Section 30 of the Act requires that environmental watering schedules developed for the environmental watering plan identify environmental watering priorities for that schedule, and that those priorities be consistent with the environmental watering plan. Section 31 of the Act provides that the Authority may co-ordinate the delivery of environmental water in accordance with the environmental watering schedules developed for the environmental watering plan.

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

Section 8.01 – Simplified outline

265. This section sets out a simplified outline of this Chapter.

Section 8.02 – Purpose of Chapter

266. This section sets out the purpose of this Chapter, which is to achieve the objectives set out in Part 2 and give effect to the principles in Division 6 of Part 4. Subsection (1) sets out the high-level elements of this Chapter that ensure the purpose can be met. These are:
- co-ordinating the planning, prioritisation and use of environmental water on both an annual and long term basis;
 - enabling adaptive management to be applied in relation to the planning, prioritisation and use of environmental water;

- facilitating the consultation, co-ordination and co-operative arrangements, where possible, between the Authority, the Commonwealth Environmental Water Holder and Basin States; and
 - enabling the sharing of information between the Authority, the Commonwealth, Basin States, holders of held environmental water and managers of planned environmental water to ensure environmental water is used efficiently and effectively.
267. Subsection (2) provides that this section does not limit the operation of this Chapter. In this sense, the section is purposive rather than operational. The note re-iterates the fact that subsection 1.02 (2) states that the effect of the Basin Plan reflects the provisions in sections 34, 35, 36, 37, 86G and 86H of the Act.

Section 8.03 – Effect of environmental watering plan on Commonwealth Environmental Water Holder

268. This section outlines the effect of the environmental watering plan on the Commonwealth Environmental Water Holder. Under the Act, the Commonwealth Environmental Water Holder has a range of obligations in relation to the environmental watering plan, under sections 34, 105, 106 and 114.
269. This section also requires that the Commonwealth Environmental Water Holder must perform its functions and exercise its powers:
- in a way that is consistent with the environmental watering plan and the Basin-wide environmental watering strategy made by the Authority under Division 2 of Part 4; and
 - having regard to the Basin annual environmental watering priorities under Division 5 of Part 4.
270. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

Part 2—Overall environmental objectives for water-dependent ecosystems

271. This Part sets out the overall environmental objectives for the water-dependent ecosystems of the Murray-Darling Basin, as required by paragraph 28(2)(a) of the Act. Section 8.04 sets out three overall objectives, and sections 8.05, 8.06 and 8.07 set out particular objectives that relate to each of these three overall objectives. These objectives will be met in part by the provision of environmental water, but they will also be supported by other management actions.
272. Chapter 13 requires that an evaluation of the effectiveness of the Basin Plan be undertaken against various matters, including the objectives set out in this Chapter (see subsection 13.05(1)). This Part sets out the relevant objectives. Chapter 13 also requires that regular reviews of the environmental watering plan, be carried out (see section 13.09). The purpose of such reviews is to assess the effectiveness of the environmental watering plan in contributing to the achievement of the objectives set out in this Part (see section 13.07).

Section 8.04 – Overall environmental objectives

273. This section sets out the overall environmental objectives for the water-dependent ecosystems of the Murray-Darling Basin, which are:

- to protect and restore water-dependent ecosystems of the Murray-Darling Basin;
 - to protect and restore the ecosystem functions of water-dependent ecosystems; and
 - to ensure that water-dependent ecosystems are resilient to climate change and other risks and threats.
274. The objectives are consistent with the basis on which the Authority determined the environmentally sustainable level of take for the purposes of the long-term average sustainable diversion limits specified in the Basin Plan. Accordingly, the ecosystem functions that underpin the ecosystem services and the productive base of the water resource have some prominence in the objectives.
275. These objectives are also consistent with the management objectives set out in paragraphs 5.03(1)(a) to (c), and with the objectives for water-dependent ecosystems that are set out in section 9.04 of the water quality and salinity management plan.
276. These objectives express the desired state of the water-dependent ecosystems of the Basin. Accordingly they are broadly framed and apply across the entire Basin, over the long-term.
277. The overall objectives for the water-dependent ecosystems of the Murray-Darling Basin give effect to the objects of the Act (see section 3 of the Act), the purpose of the Basin Plan (see section 20 of the Act), the general basis on which the Basin Plan is to be developed (see section 21 of the Act) and the purposes of the environmental watering plan (see section 28 of the Act).
278. The Murray-Darling Basin's water-dependent ecosystems are highly variable. They are 'spatially variable', meaning that their form and nature are very different from one part of the Basin to another, along the length of rivers, and within each region. They are also 'temporally variable', meaning that their state changes over time, often in response to variable wetting and drying cycles. This variability is an intrinsic trait, driven to a great extent by climate variability. Accordingly, objectives are not framed relative to a particular ecological state. Rather, some prominence is given to objectives that ensure that water-dependent ecosystems are resilient to climate change and other risks and threats.
279. These objectives are central to several provisions of the Basin Plan:
- section 8.11 provides that the environmental management framework is intended to co-ordinate the planning, prioritisation and use of environmental water on both a long-term and an annual basis, enable adaptive management to be applied to the planning, prioritisation and use of environmental water and facilitate consultation between the Authority, the Commonwealth Environmental Water Holder and Basin States, in order to achieve these objectives;
 - subsections 8.15(4), 8.29(3) and (6) also emphasise these objectives when preparing the Basin-wide environmental watering strategy and the Basin annual environmental watering priorities;
 - principles 2, 10 and 11 to be applied in environmental watering (sections 8.34, 8.42 and 8.43), and principles 2 and 5 to be applied to determine priorities for applying environmental water (sections 8.54 and 8.57); and

- section 10.26 requires water resource plans to provide for environmental watering to occur in a way that, among other things, contributes to the achievement of these objectives.
280. A note to this section points out that water storages and properties (including floodplains) are under the control of various persons which currently restricts the capacity to actively manage all water-dependent ecosystems. The environmental watering plan is designed to be effective in a broad range of circumstances, including when restrictions of this nature are in place, and where these current restrictions are removed.

Section 8.05 – Protection and restoration of water-dependent ecosystems

281. This section sets out particular objectives that relate to the protection and restoration of the water-dependent ecosystems of the Murray-Darling Basin. These particular objectives relate to the overall objective set out in paragraph 8.04(a). The particular objective for Ramsar wetlands (set out at paragraph 8.05(2)(a)) is supported by the water quality objectives for those wetlands set out in subsection 9.04(1).

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

282. This section sets out particular objectives that relate to the protection and restoration of the ecosystem functions of water-dependent ecosystems. These particular objectives relate to the overall objective set out in paragraph 8.04(b).

Section 8.07 – Ensuring water-dependent ecosystems are resilient to climate change and other risks and threats

283. This section sets out particular objectives that relate to ensuring that water-dependent ecosystems are resilient to climate change and other risks and threats. These particular objectives relate to the overall objective set out in paragraph 8.04(c).

Part 3—Targets by which to measure progress towards objectives

284. This Part and Schedule 7 specify the targets by which to measure progress towards achieving the environmental objectives specified in accordance with paragraph 28(2)(a) of the Act (Part 2 of this Chapter), as required by paragraph 28(2)(b) of the Act.
285. Section 13.09 requires the Authority to conduct a review of the environmental watering plan every 5 years after the commencement of the Basin Plan. Subsection 13.09(2) requires the review to include a review of these targets.
286. Section 13.14 requires that, for each matter listed in Schedule 12 to the Basin Plan, the reporter identified in that Schedule produce a report in accordance with that provision. Item 7 of the table in Schedule 12 refers to the achievement of environmental outcomes at a Basin scale, by reference to these targets.

Section 8.08 – Targets by which to measure progress towards achieving objectives

287. Subsection (1) provides that the targets by which to measure progress towards achieving the objectives in Part 2 are set out in Schedule 7 to the Basin Plan. These targets consist of intermediate targets, which have effect up to 30 June 2019, and longer term targets, which have effect from 1 July 2019.

288. Subsection (2) provides that, as the targets will be used to measure progress towards achieving the objectives in Part 2, the achievement of the objectives in Part 2 should be given priority over the achievement of the targets. This subsection further provides that failure to achieve a target does not of itself mean that a person has acted inconsistently with the environmental watering plan. This provision is relevant to the obligations for various parties to act in a manner that is consistent, or not inconsistent, with the Basin Plan (see subsection 8.02(1), and sections 34 and 35 of the Act).

Section 8.09 – Assessment of progress towards objectives in Part 2

289. This section provides that the Authority must measure progress towards achieving the objectives in Part 2 by using the targets in Schedule 7, and having regard to the matters set out in paragraphs (a) to (g). This is relevant to reviews of the Basin Plan that are conducted under section 13.09, as well as to the various evaluations carried out by the Authority and referred to in section 13.05. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Part 4—Environmental management framework

290. This Part sets out the environmental management framework for planned environmental water and held environmental water, as required by paragraph 28(2)(c) of the Act. This framework includes the principles to be applied in environmental watering, which are required by paragraph 28(2)(f) of the Act, and also gives effect to paragraphs 28(1)(b) and (c) of the Act.
291. The environmental management framework co-ordinates the planning, prioritisation and use of environmental water on a long-term and annual basis. It is a co-operative and collaborative framework, which relies on the participation of the Authority, the Commonwealth Environmental Water Holder, Basin States, and various other parties. The environmental management framework consists of the following elements:
- a Basin-wide environmental watering strategy. This is a high-level strategic document prepared by the Authority, in consultation with various other interested parties. This strategy forms the centrepiece of the environmental management framework, and informs all of its other components (see Division 2 of this Part). The Basin-wide environmental watering strategy is also important in planning for environmental watering in water resource plans (under Chapter 10). Water resource plans must provide for environmental watering to occur in a way that is consistent with the Basin-wide environmental watering strategy (subparagraph 10.26(1)(a)(ii));
 - long-term watering plans for water resource plan areas. These plans identify priority environmental assets and priority ecosystem functions, and their environmental watering requirements, for particular water resource plan areas. They are developed by Basin States (see Division 3 of this Part). Long-term watering plans are also important in planning for environmental watering in water resource plans under Chapter 10. Water resource plans must be prepared having regard to the most recent version of the relevant long-term watering plan (paragraph 10.26(2)(a));
 - annual environmental watering priorities for water resource plan areas. These identify environmental watering priorities for a particular year, for particular water resource plan areas. In some cases priorities may be set for more than one year. They are prepared by Basin States (see Division 4 of this Part);

- Basin annual environmental watering priorities. These identify environmental watering priorities for a particular year, for the Murray-Darling Basin as a whole. They are prepared by the Authority (see Division 5 of this Part);
- principles to be applied in environmental watering. These principles include that environmental watering is to be undertaken having regard to the Basin annual environmental watering priorities. Compliance with these principles is regulated by sections 34 and 35 of the Act. There is a reporting obligation if environmental watering is undertaken other than in accordance with the Basin annual environmental watering priorities (see Division 6 of this Part); and
- a process for the recovery of additional environmental water. Any additional environmental water that is recovered will also be used and managed in accordance with the environmental management framework. There is a reporting obligation if the recovery of additional environmental water is undertaken other than in accordance with the environmental water recovery recommendations (see Division 7 of this Part).

292. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Division 1—Preliminary

Section 8.10 – Outline of this Part

293. This section sets out an outline of the environmental management framework as provided for in this Part.

Section 8.11 – Objectives of environmental management framework

294. This section sets out the objectives of the environmental management framework. These objectives are to:

- co-ordinate the planning, prioritisation and use of environmental water on both a long-term and an annual basis;
- enable adaptive management to be applied to the planning, prioritisation and use of environmental water, with an overall aim of achieving the objectives set out in Part 2; and
- facilitate consultation, co-ordination and co-operative arrangements between the Authority, the Commonwealth Environmental Water Holder and Basin States.

295. The term ‘adaptive management’ is defined in section 1.07. The note provides that adaptive management will enable various triggers to be responded to, including any adjustment to an SDL.

Section 8.12 – Interpretation

296. This section defines the term ‘updated’ for this Part. 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.

Division 2—Basin-wide environmental watering strategy

297. The Basin-wide environmental watering strategy is an important component of the environmental management framework as it provides for environmental water planning

at the Basin-scale over the long term in a way that is consistent with adaptive management.

Section 8.13 – Obligation to prepare Basin-wide environmental watering strategy

298. Subsection (1) requires the Authority to prepare a Basin-wide environmental watering strategy for the Murray-Darling Basin.
299. Subsection (2) states that the purpose of the strategy is to:
- explain the context within which the Basin annual environmental watering priorities will be set (paragraph (a));
 - identify particular long-term Basin-wide environmental watering priorities (paragraph (b)) ; and
 - help co-ordinate the management of environmental water, including guiding the development of consistent long term watering plans (paragraph (c)) .

Section 8.14 – Content of the Basin-wide environmental watering strategy

300. This section sets out the content of the Basin-wide environmental watering strategy.
301. Subsection (1) requires the Basin-wide environmental watering strategy to include an explanation of how the Authority will identify the Basin annual environmental watering priorities.
302. Subsection (2) sets out matters that may be included in the Basin-wide environmental watering strategy. For example, under subparagraph (2)(a)(i), the Authority is able, in the Basin-wide environmental watering strategy, to identify particular priority environmental assets or priority ecosystem functions, and their environmental watering requirements. If it does so, it must use the methods set out in Part 5, and must collaborate when doing this in accordance with subsection 8.15(2). The Authority may include in the strategy any other matters it considers appropriate.

Section 8.15 – Preparation of Basin-wide environmental watering strategy

303. This section sets out requirements for the preparation of the Basin-wide environmental watering strategy.
304. Subsections (1) to (3) set out consultation requirements. Subsection (1) requires the Authority to prepare the Basin-wide environmental watering strategy in consultation with Basin States and the Commonwealth Environmental Water Holder.
305. Subsection (2) is relevant if the Basin-wide environmental watering strategy identifies any assets or functions in accordance with subparagraph 8.14(2)(a)(i). If it does so, subsection (2) requires the Authority to collaborate with relevant land owners or managers, relevant river operators and 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. The obligation to collaborate requires the Authority to work closely with the relevant parties when identifying assets and functions and their watering requirements in accordance with subparagraph 8.14(2)(a)(i). However, subsection (3) provides that, in the case of any disagreement during this consultation or collaboration under subsection (1) or (2), the view of the Authority prevails.

306. Subsection (4) set out various matters to which the Authority is required to have regard when preparing the Basin-wide environmental watering strategy, where these relate to achieving the objectives in Part 2. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07. For paragraph (4)(e), the terms ‘Indigenous values’ and ‘Indigenous uses’ are defined in sections 1.07 and 10.52.
307. Subsection (5) requires the Basin-wide environmental watering strategy to be developed consistently with the principles to be applied in environmental watering, which are set out in Division 6 of this Part.

Section 8.16 – Publication of Basin-wide environmental watering strategy

308. Subsection (1) requires the Authority to publish the Basin-wide environmental watering strategy within 24 months after the commencement of the Basin Plan.
309. Subsection (2) requires the Authority to publish the Basin-wide environmental watering strategy as soon as practicable after it is updated. The term ‘updated’ is defined in section 8.12.

Section 8.17 – Review and update of Basin-wide environmental watering strategy

310. Subsection (1) requires the Authority to review and update the Basin-wide environmental watering strategy no later than five years after the strategy is first made or it was last reviewed and updated. However, the Authority may review and update the Basin-wide environmental watering strategy at any time (subsection (2)). The note provides that such an update or review may respond to various triggers including any adjustment to an SDL.

Division 3—Long-term watering plans

311. Long-term watering plans are an important component of the environmental management framework as they provide for environmental water planning at a regional scale over the long term in a way that is consistent with adaptive management.

Section 8.18 – Obligation to prepare long-term watering plans

312. This section sets out the obligation for Basin States to prepare long-term watering plans for each water resource plan area that contains surface water, which is termed a ‘long-term watering plan’. Chapter 3 defines ‘water resource plan areas’.

Section 8.19 – Content of long-term watering plans

313. This section sets out the requirement for the content of long-term watering plans. The long-term watering plans must include the matters required by subsections (1) to (7). The note recognises that the level of detail in a plan may vary according to local conditions and statutory and other arrangements prevailing in the water resource plan area. For example, Basin States could, but are not required to, include planning for the full range of resource availability scenarios set out in Division 2 of Part 6.
314. Subsections (1) and (2) require long-term watering plans to identify priority environmental assets and priority ecosystem functions, and their environmental watering requirements, using the methods set out in Part 5. The methods used to identify priority environmental assets and priority ecosystem functions as set out in Part 5 will be used by both Basin States and the Authority for all occasions on which

the priority environmental assets and priority ecosystem functions need to be identified, that is, by the Authority if the Basin-wide environmental watering strategy identifies such assets and ecosystems under section 8.14, and by Basin States when preparing long-term watering plans.

- 315. Subsection (3) is relevant if the Basin-wide environmental watering strategy has identified particular priority environmental assets or priority ecosystem functions, and their environmental watering requirements, in accordance with subparagraph 8.14(2)(a)(i). A long term watering plan must be consistent with that part of the Basin-wide environmental watering strategy.
- 316. Subsections (4) to (7) require a long-term watering plan to identify possible co-operative arrangements; long-term risks to providing for environmental water requirements and strategies to manage those risks (having regard to strategies outlined in Chapter 4 of the Basin Plan); and any operational constraints and strategies to manage or overcome them. Long-term watering plans must also include references to the information that informed their preparation. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.
- 317. Subsection (8) permits a long-term watering plan to specify that a particular instrument or text, or a part of a particular instrument or text, is part of the plan.

Section 8.20 – Preparation of long-term watering plans

- 318. This section sets out the requirements for the preparation of long-term watering plans.
- 319. Subsection (1) sets out consultation requirements. The parties to be consulted during preparation of a long-term watering plan are holders of held environmental water, managers of planned environmental water, river operators, local communities, including bodies established by a Basin State that expresses community views in relation to environmental watering and persons materially affected by the management of environmental water.
- 320. Subsection (2) requires Basin States to have regard to the Basin-wide environmental watering strategy prepared under Division 2 of this Part when preparing long-term watering plans. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07. The note provides that this aligns with a purpose of the Basin-wide environmental watering strategy, as set out in paragraph 8.13(2)(c). The purpose is for the Basin-wide environmental watering strategy to help co-ordinate the management of environmental water, which includes guiding the development of consistent long-term watering plans.
- 321. Subsection (3) requires long-term watering plans to be developed consistently with the principles to be applied in environmental watering that are set out in Division 6 of this Part.
- 322. Subsection (4) enables the Authority to advise or assist a Basin State in preparing a long-term watering plan.
- 323. Subsection (5) requires that a long-term watering plan not be inconsistent with relevant international agreements. The term ‘relevant international agreement’ is defined in section 4 of the Act and includes the Biodiversity and Ramsar Conventions. As indicated by the note, a purpose of the Basin Plan, including this Chapter, is to give effect to relevant international agreements (see paragraph 20(a) and subsections 21(1), (2) and (3) of the Act). This subsection is a further check to ensure this is achieved.

Section 8.21 – Provision and publication of long-term watering plans

324. Subsection (1) sets out the time periods within which Basin States must give long-term watering plans to the Authority. Basin States must give long-term watering plans to the Authority within 12 months of the Basin-wide environmental watering strategy being first published (paragraph 8.21(1)(a)). Subsection 8.16(1) provides that the Authority must publish the Basin-wide environmental watering strategy within 24 months after commencement of the Basin Plan. It is important to note that the 12 month period referred to in paragraph 8.21(1)(a) is measured from when the Authority actually publishes the Basin-wide environmental watering strategy, and not from when the 24 month period under subsection 8.16(1) elapses. The note under subsection 8.21(1) explains this. Long-term watering plans must also be given to the Authority after they have been reviewed and updated. Paragraph 8.21(1)(d) allows alternative timeframes to be agreed between the Authority and the Basin State.
325. There is no requirement for long-term watering plans to be published. However, subsection (2) provides that the Authority, or a Basin State, may publish long-term watering plans. The note states that it is expected that States will do this as soon as practicable, to ensure transparency.

Section 8.22 – Review and update of long-term watering plans

326. Subsection (1) sets out the circumstances for when a Basin State is to review and update a long-term watering plan. These circumstances are when:
- the Minister accredits a water resource plan for the area under section 63 of the Act;
 - the Minister accredits an amendment to a water resource plan for the area under section 65 of the Act;
 - the Minister adopts a water resource plan for the area under section 69 of the Act;
 - the Authority publishes an updated Basin-wide environmental watering strategy, the updates of which materially affect the long-term watering plan; or
 - it is five years after the long-term plan watering was last reviewed.
327. Under subsection (2) a Basin State may review and update a long-term watering plan at any time.

Division 4—Annual environmental watering priorities

328. Annual environmental watering priorities are important because they provide for environmental water planning at a regional scale over the short term, consistent with long-term watering plans and having regard to the Basin-wide environmental watering strategy. The annual prioritisation process provides for adaptive management.

Section 8.23 – Obligation to identify annual environmental watering priorities

329. Subsection (1) sets out the obligation for Basin States to identify annual environmental watering priorities for each water resource plan area that contains surface water (termed ‘annual environmental watering priorities’). Subsection (2) provides that a Basin State may, in a single instrument, identify either the annual environmental watering priorities for a single year, or the annual environmental watering priorities for more than one year.

Section 8.24 – Content of annual environmental watering priorities

330. This section sets out the requirement for the contents of annual environmental watering priorities. Annual environmental watering priorities must include the matters required by subsections 8.24(1) to (3). The note recognises that 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.
331. Subsection (1) requires annual environmental watering priorities to identify priorities for the watering of priority environmental assets and priority ecosystem functions in the water resource plan area. Subsection (2) requires the assumptions on which those priorities were based to be identified, to the extent possible. Subsection (3) requires identification of possible co-operative arrangements that will support the delivery of environmental water in accordance with the priorities identified in the annual environmental watering priorities. Those arrangements could be ones that facilitate delivery of environmental water within that water resource plan area, or ones that facilitate delivery between that water resource plan area and other upstream or downstream water resource plan areas. Such arrangements can be between holders of held environmental water, managers of planned environmental water, or owners and managers of environmental assets. Subsection (4) permits other material to be incorporated by reference.

Section 8.25 – Preparation of annual environmental watering priorities

332. This section sets out the requirements for the preparation of annual environmental watering priorities.
333. Subsection (1) requires a Basin State to identify annual environmental watering priorities by applying the principles, and using the method, set out in Part 6. The method used to identify annual environmental watering priorities as set out in Part 6 will be used by both Basin States and the Authority for all occasions on which watering priorities need to be identified; that is, by States for their annual watering priorities, and by the Authority in determining the Basin annual environmental watering priorities.
334. Subsections (2) and (3) set out matters to which Basin States must have regard to when identifying annual environmental watering priorities. These matters include the Basin-wide environmental watering strategy prepared under Division 2 and any environmental watering schedule to which the Authority is a party. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.
335. Subsections (4) and (5) require holders of held environmental water and managers of planned environmental water to provide certain information to Basin States.
336. Subsection (6) requires the annual environmental watering priorities to be consistent with the long-term watering plan for that water resource plan area.

Section 8.26 – Provision of annual environmental watering priorities

337. This section sets out the time within which a Basin State must give the Authority its annual environmental watering priorities. Annual environmental watering priorities must be provided by 31 May before the commencement of the relevant water accounting period, or within a timeframe agreed by the Authority and the Basin State. There is no requirement for a Basin State to publish, or to review, its annual environmental watering priorities. Nor is there anything to prevent a Basin State from doing so.

Division 5—Basin annual environmental watering priorities

Section 8.27 – Obligation to prepare Basin annual environmental watering priorities

338. Subsection (1) sets out the obligation for the Authority, for each water accounting period, to prepare annual environmental watering priorities for the Murray-Darling Basin (termed ‘Basin annual environmental watering priorities’).
339. Subsection (2) states that the purpose of the Basin annual environmental watering priorities is to identify watering priorities that give effect to the Basin-wide environmental watering strategy in order to achieve the overall objectives for the water-dependent ecosystems of the Basin.

Section 8.28 – Content of Basin annual environmental watering priorities

340. This section sets out the requirement for the contents of the Basin annual environmental watering priorities. The annual environmental watering priorities must fulfil their purpose by identifying watering priorities that give effect to the Basin-wide environmental watering strategy, but the Basin Plan does not otherwise restrict what the Authority may include in the Basin annual environmental watering priorities. This section provides that the Basin annual environmental watering priorities may identify:
- priority environmental assets and priority ecosystem functions that have Basin-scale significance for environmental watering during that water accounting period;
 - priority environmental assets and priority ecosystem functions whose environmental watering during the period will require complex arrangements, for example, complex arrangements could include multiple water sources, multiple sites, the involvement of multiple parties, the achievement of multiple benefits, or trade-offs; and
 - any potential for synergies in environmental watering activities (including at a scale that involves multiple water resource plan areas).

Section 8.29 – Preparation of Basin annual environmental watering priorities

341. This section sets out the requirements for the preparation of the Basin annual environmental watering priorities.
342. Subsections (1) and (2) set out consultation requirements. Subsection (1) requires the Authority to prepare the Basin annual environmental watering priorities in consultation with Basin States and the Commonwealth Environmental Water Holder. Similarly to subsection 8.15(3) (which applies in relation to consultation on the Basin-wide environmental watering strategy), subsection (2) provides that, in the case of any disagreement during this consultation, the view of the Authority prevails.
343. Subsection (3) set out various matters to which the Authority is to have regard when preparing the Basin annual environmental watering priorities, where these relate to achieving the objectives in Part 2. These matters are similar to those set out in subsection 8.15(4) with regard to preparation of the Basin-wide environmental watering strategy, but additionally include long-term watering plans and annual environmental watering priorities. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.
344. Subsection (4) specifies how the Authority may identify priority environmental assets and priority ecosystem functions, and their environmental watering requirements. These may be identified from:

- any that are identified in the Basin-wide environmental watering strategy in accordance with subparagraph 8.14(2)(a)(i); or
 - any that:
 - are identified in a long-term watering plan, and
 - were identified using the methods in Part 5.
345. Paragraph 8.29(4)(b) allows the Authority to adopt relevant priority environmental assets and priority ecosystem functions from those already appropriately identified in a Basin State’s long-term watering plan, so long as they were identified using the methods set out in Part 5.
346. Subsection (4) sets out the only way the Authority can identify priority environmental assets and priority ecosystem functions, and their environmental watering requirements, in the Basin annual environmental watering priorities. If the Authority sought to identify other assets, functions and requirements, it would have to review and update the Basin-wide environmental watering strategy under subsection 8.17(2), and rely on subparagraph 8.14(2)(a)(i) and paragraph 8.29(4)(a).
347. Subsection (5) requires the Authority to determine priorities by using the principles and method in Part 6. Alternatively, it may adopt priorities from a Basin State’s annual environmental water priorities, provided they were identified using the principles and method in Part 6, or allows it to choose between such priorities, again using the principles and method in Part 6.
348. This ensures that a single method is used consistently to identify annual environmental watering priorities. The method will be used by Basin States for their annual watering priorities as well as by the Authority in determining the Basin annual environmental watering priorities including when deciding between competing priorities when there is insufficient water for all priorities.
349. Subsection (6) requires the Basin annual environmental watering priorities to be consistent with:
- the objectives in Part 2;
 - the Basin-wide environmental watering strategy; and
 - any environmental watering schedule to which the Authority is a party.
350. There is no requirement for the Basin annual environmental watering priorities to be consistent with any long-term watering plans or annual environmental watering priorities. However, the Authority will have had regard to these documents, and would have consulted with Basin States and the Commonwealth Environmental Water Holder when preparing the Basin annual environmental watering priorities (see subsections (1) and (3)). Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

Section 8.30 – Publication of Basin annual environmental watering priorities

351. This section sets out the time periods within which the Authority must publish the Basin annual environmental watering priorities on its website.
352. The Authority must publish Basin annual environmental watering priorities before the commencement of each water accounting period. If the priorities are reviewed and

updated in accordance with section 8.31, the Authority must publish them as soon as practicable after they are updated.

Section 8.31 – Review and update of Basin annual environmental watering priorities

353. This section enables the Authority to 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

354. The policy underlying the principles to be applied in environmental watering is to ensure that environmental watering is effective and is supported, to the extent possible, by other water management activities. The principles are not a hierarchy and may be given different weight depending on the particular circumstances.

Subdivision A—Principles to be applied in environmental watering

Section 8.32 – Outline of Subdivision

355. This section is an outline of this subdivision, which sets out principles to be applied in environmental watering.

Section 8.33 – Principle 1—Basin annual environmental watering priorities

356. This section sets out the first principle to be applied in environmental watering, which is that environmental watering is to be undertaken having regard to the Basin annual environmental watering priorities. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07. As indicated by the note there may be reasons why it is not possible in particular circumstances to undertake watering in accordance with these priorities, in which case section 8.44 applies.

Section 8.34 – Principle 2—Consistency with the objectives in Part 2

357. This section sets out the second principle to be applied in environmental watering, which is that environmental watering is to be undertaken consistently with the objectives in Part 2.

Section 8.35 – Principle 3—Maximising environmental benefits

358. This section sets out the third principle to be applied in environmental watering, which is that, subject to the principles in sections 8.33 and 8.34, environmental watering is to be undertaken in a way that maximises environmental benefits as set out in paragraphs 8.35(a) to (g).

Section 8.36 – Principle 4—Risks

359. This section sets out the fourth principle to be applied in environmental watering, which is that environmental watering is to be undertaken having regard to the various risks set out in paragraphs 8.36(a) and (b). Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 8.37 – Principle 5—Cost of environmental watering

360. This section sets out the fifth principle to be applied in environmental watering, which is that environmental watering is to be undertaken having regard to the quantity of

water and other resources required relative to the expected environmental benefits. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 8.38 – Principle 6—Apply the precautionary principle

361. This section sets out the sixth principle to be applied in environmental watering, which is that 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. This principle reflects the principle of ecologically sustainable development that is set out in paragraph 4(2)(b) of the Act.

Section 8.39 – Principle 7—Working effectively with local communities

362. This section sets out the seventh principle to be applied in environmental watering, which is that environmental watering should be undertaken having regard to the views of local communities, including bodies established by a Basin State that express community views in relation to environmental watering, and persons materially affected by the management of environmental water. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 8.40 – Principle 8—Adaptive management

363. This section sets out the eighth principle to be applied in environmental watering, which is that adaptive management should be applied in the planning, prioritisation and use of environmental water. The term ‘adaptive management’ is defined in section 1.07.

Section 8.41 – Principle 9—Relevant international agreements

364. This section sets out the ninth principle to be applied in environmental watering, which is that environmental watering should be undertaken in a way that is not inconsistent with relevant international agreements. The term ‘relevant international agreement’ is defined in section 4 of the Act and includes the Biodiversity and Ramsar Conventions.

Section 8.42 – Principle 10—Other management and operational practices

365. This section sets out the tenth principle to be applied in environmental watering, which is that 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.

Section 8.43 – Principle 11—Management of water for consumptive use

366. This section sets out the eleventh principle to be applied in environmental watering, which is that management of water for consumptive use should, where possible, be undertaken in a way that is consistent with achieving the objectives in Part 2.

Subdivision B—Reporting in relation to Basin annual environmental watering priorities

Section 8.44 – Reporting required where Basin annual environmental watering priorities not followed

367. The Basin Plan does not compel strict adherence to the Basin annual environmental watering priorities. Rather, underlying the Basin Plan is an acknowledgement that there may be circumstances in which such adherence is not achievable or advisable.

368. To ensure transparency, and to contribute to the setting of future Basin annual environmental watering priorities, subsection (1) provides that, 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 as to why environmental watering has not been undertaken in accordance with those priorities. Subsection (2) provides that the person must give the statement to the Authority as soon as practicable, but in any event within 4 months. This timeframe 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). Subsection (3) permits the Authority to publish on its website such a statement of reasons.

Division 7—Planning for recovery of additional environmental water

Section 8.45 – Outline of Division

369. This section sets out an outline of this division, which deals with Authority's role in the recovery of additional environmental water, and gives effect to paragraph 28(1)(b) of the Act.

Section 8.46 – Planning for the recovery of additional environmental water

370. Subsection (1) permits the Authority to prepare, and publish on its website, recommendations about where in the Murray-Darling Basin additional environmental water should be recovered. These recommendations are known as 'environmental water recovery recommendations'.
371. Subsection (2) provides that environmental water recovery recommendations may include:
- priority areas for the recovery of environmental water (the term 'recovery of environmental water' is defined in section 1.07);
 - priorities for the recovery of certain types of water access rights; and
 - the reasoning on which those priorities are based. As indicated in the note, the reasoning may include models used by the Authority to identify priorities for the recovery of environmental water.

Section 8.47 – Reporting required where Authority's recommendations not followed

372. The environmental water recovery recommendations apply to any person recovering water for the purpose of reaching the SDL. They do not apply to a person who obtains and uses water for an environmental purpose of their personal choice and thus is not required to use their water right consistently with the provisions of this Chapter. This is because that person's water right is not being relied upon to prevent the compromising of the environmentally sustainable level of take characteristics.
373. The Basin Plan does not compel strict adherence to the environmental water recovery recommendations. Rather, underlying the Basin Plan is an acknowledgement that there may be circumstances in which such adherence is not achievable or advisable.
374. To ensure transparency, and to contribute to the making of future recommendations, subsection (1) provides that, if a person:

- acquires a water access right for the purpose of undertaking environmental watering; and
- 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. Subsection (2) permits the Authority to publish on its website such a statement of reasons.

Part 5—Methods for identifying environmental assets and ecosystem functions and their environmental watering requirements

375. This Part sets out the methods for identifying environmental assets and ecosystem functions and their environmental watering requirements, meeting the requirements of paragraph 28(2)(d) of the Act.
376. These methods are generally consistent with methods used by the Authority to identify the environmentally sustainable level of take, for the purposes of the long-term average sustainable diversion limits specified in the Basin Plan.
377. These methods are used by the Authority if it identifies particular priority environmental assets or priority ecosystem functions, and their environmental watering requirements, when preparing the Basin-wide environmental watering strategy (subparagraph 8.14(2)(a)(i)). These methods are also required to be used by Basin States when preparing long-term watering plans (subsections 8.19(1) and (2)).

Section 8.48 – Environmental assets and ecosystem functions database

378. Subsection (1) requires the Authority to establish and maintain a database identifying information about environmental assets and ecosystem functions that require environmental watering (termed the ‘environmental assets and ecosystem functions database’). As indicated in the note, the database is expected to include information used in the development of the Basin Plan, which will be added to on an ongoing basis. Subsection (2) permits the Authority to publish the database on its website.

Section 8.49 – Method for identifying environmental assets and their environmental watering requirements

379. Subsection (1) sets out the method for identifying environmental assets and their environmental watering requirements. The method to be used is:
- 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;
 - identify the environmental assets that can be managed with environmental water, termed ‘priority environmental assets’;
 - for priority environmental assets, identify ecological objectives that are consistent with the criteria used to identify those assets, for 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;
 - identify ecological targets to achieve those objectives; and

- in accordance with section 8.51 determine the environmental watering requirements needed to meet the targets in order to achieve the objectives.

380. Subsection (2) provides that the method may be applied in a flexible manner, having regard to the particular circumstances. For example, if new information were to come to light, it might be possible to re-apply the step in paragraph 8.49(1)(e) in light of that new information, without re-applying the entire method. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 8.50 – Method for identifying ecosystem functions that require environmental watering and their environmental watering requirements

381. Subsection (1) sets out the method for identifying ecosystem functions that require environmental watering, and their environmental watering requirements. The method to be used is:

- 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;
- identify the ecosystem functions that can be managed with environmental water, termed ‘priority ecosystem functions’;
- for priority ecosystem functions, identify ecological objectives that are consistent with the criteria used to identify those ecosystem functions;
- identify ecological targets to achieve those objectives;
- in accordance with section 8.51, determine the environmental watering requirements needed to meet the targets in order to achieve the objectives.

382. Subsection (2) has the same effect as subsection 8.49(2).

Section 8.51 – Determination of the environmental watering requirements of environmental assets and ecosystem functions

383. This section sets out how the environmental watering requirements of priority environmental assets and priority ecosystem functions are to be determined, including having regard to the matters set out in paragraph (1)(c), for the purposes of paragraphs 8.49(1)(e) and 8.50(1)(e). Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Part 6—Principles and method to determine priorities for applying environmental water

384. This Part sets out the principles and method to determine priorities for applying environmental water, meeting the requirements of paragraph 28(2)(e) of the Act. These principles are required to be applied, and methods are required to be used, by Basin States when identifying annual environmental watering priorities (subsection 8.25(1)) and by the Authority when identifying Basin annual environmental watering priorities (paragraphs 8.29(5)(b) and (c)).

385. The principles (Division 1) and method (Division 2) to be applied to determine priorities ensure that there is a consistent approach to prioritisation of environmental watering at all scales across the Basin.

Division 1—Principles to be applied to determine priorities

Section 8.52 – Outline of Division

386. This section sets out an outline of this division, which sets out the principles to be applied to determine the priorities for applying environmental water.

Section 8.53 – Principle 1—Consistency with principles of ecologically sustainable development and international agreements

387. This section sets out the first principle to be applied to determine the priorities for applying environmental water, which is that the priorities are:

- to reflect the principles of ecologically sustainable development;
- not to be inconsistent with relevant international agreements; and
- 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.

Section 8.54 – Principle 2—Consistency with objectives

388. This section sets out the second principle to be applied to determine the priorities for applying environmental water, which is that the priorities are to be consistent with the objectives in Part 2.

Section 8.55 – Principle 3—Flexibility and responsiveness

389. This section sets out the third principle to be applied to determine the priorities for applying environmental water, which is that the priorities are to be flexible and responsive so as to:

- ensure regard is had to views of local communities and persons materially affected by the management of environmental water;
- ensure that water meets multiple objectives in order to maximise system-wide benefits; and
- encourage innovation in water management.

390. Further information in relation to the phrase ‘regard is had’ is set out in this Explanatory Statement at section 1.07.

Section 8.56 – Principle 4—Condition of environmental assets and ecosystem functions

391. This section sets out the fourth principle to be applied to determine the priorities for applying environmental water, which is that the priorities are to be determined having regard to matters relating to the condition of priority environmental assets and priority ecosystem functions, including the specific matters listed in paragraphs (a) to (g). Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 8.57 – Principle 5—Likely effectiveness and related matters

392. This section sets out the fifth principle to be applied to determine the priorities for applying environmental water, which is that the priorities are to be determined having regard to matters relating to the likely effectiveness of applying environmental water, including the specific matters set out in paragraphs (a) to (f). Further information in

relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 8.58 – Principle 6—Risks and related matters

393. This section sets out the sixth principle to be applied to determine the priorities for applying environmental water, which is that the priorities are to be determined having regard to matters relating to risk, including the specific matters set out in paragraphs (a) to (c). Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 8.59 – Principle 7—Robust and transparent decisions

394. This section sets out the seventh principle to be applied to determine the priorities for applying environmental water, which is that the priorities are to be determined using robust, transparent and documented decision-making processes.

Division 2—Method to be used to determine priorities

Section 8.60 – How to determine priorities for applying environmental water

395. This section sets out the method to be used to determine priorities for applying environmental water (subsection (1)). Subsection (2) sets out the method to be used to determine priorities for applying environmental water. Subsection (3) requires a person using this method to have regard to any guidelines published by the Authority. The Authority has published the *Guideline for the method to determine priorities for applying environmental water*, which is a document incorporated by reference available at www.mdba.gov.au. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

Section 8.61 – Determining the resource availability scenario

396. This section defines the term ‘resource availability scenario’ used in subsection 8.60(2).

Section 8.62 – Seasonal, operational and management considerations

397. This section provides that the seasonal, operational and management considerations upon which priorities for applying environmental water are to be refined must be based on the factors listed in paragraphs (a) to (g).

CHAPTER 9—WATER QUALITY AND SALINITY MANAGEMENT PLAN

CHAPTER OVERVIEW

398. This Chapter sets out the water quality and salinity management plan. Item 10 of the table in subsection 22(1) of the Act requires a water quality and salinity management plan to be included in the Basin Plan. Section 25 of the Act sets out the specific requirements for what must be included in the water quality and salinity management plan. The Authority and the Minister had regard to the National Water Quality Management Strategy when carrying out their respective functions in relation to preparation and adoption of the water quality and salinity management plan as required by subsection 25(3) of the Act. The National Water Quality Management Strategy is a document incorporated by reference available at www.mdba.gov.au.
399. The water quality and salinity management plan identifies the key causes of water quality degradation and the water quality and salinity objectives for the Basin water resources. It also sets water quality and salinity targets relating to management of water flows, targets relating to long-term salinity planning and management, and targets to inform development of measures that will be included in water resource plans to improve water quality.
400. The water quality and salinity management plan builds on existing water quality and salinity management agreements and arrangements, including the National Water Quality Management Strategy and the *Basin Salinity Management Strategy 2001-2015* (available at www.mdba.gov.au). The water quality and salinity management plan provides a Basin-wide framework of objectives designed to enable Basin water to be ‘fit for purpose’, that is, water quality suitable for irrigation and recreational uses, for maintaining aquatic ecosystems and for being treated for human consumption.
401. While the Basin States have programs to implement the recommendations and procedures set out in the National Water Quality Management Strategy, more consistent Basin level actions may assist the effective management of some water quality issues. For example, the most effective response to some water quality characteristics (particularly low oxygen levels in water, elevated salinity and cyanobacteria (blue-green algae) blooms) may include water flow management decisions, or joint action between jurisdictions, which require cross-jurisdictional planning, co-operation, co-ordination or action.
402. To assist in addressing these aspects of water quality management, the water quality and salinity management plan requires the Authority, the Basin Officials Committee, the Commonwealth Environmental Water Holder and the Basin States to have regard to water quality targets relevant to salinity, oxygen levels in water, and cyanobacteria blooms, when making certain management policies or decisions relevant to water flow management.
403. The water quality and salinity management plan also provides water quality targets for irrigation water, water used for recreational purposes, and water-dependent ecosystems, relevant to the preparation of water resource plans by Basin States. In this context, it encourages consideration of the impacts of wider natural resource management and land management on water quality within the water resource plans. States are able, under arrangements set out in Chapter 10 of the Basin Plan, to propose and incorporate alternative target values in water resource plans, when these are developed using

appropriate science and provide a better or equally effective level of protection or replace an inappropriate target value.

404. Reporting requirements in section 13.14 and Schedule 12 relate to the water quality and salinity management plan. Section 13.14 requires reporting on the fitness for purpose of the Basin water resources (Schedule 12, item 11), reporting on progress towards the water quality targets in this Chapter (Schedule 12, item 12) and reporting on implementation of the water quality and salinity management plan, including the extent to which regard is had to the targets in this Chapter when making flow management decisions (Schedule 12, item 14). Chapter 13 also allows the Authority to enter into agreements and to issue guidelines in relation to reporting requirements (see sections 13.15 and 13.16). Further information in relation to the phrases ‘have regard to’ and ‘regard is had’ is set out in this Explanatory Statement at section 1.07.

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

Section 9.01 – Simplified Outline

405. This section sets out a simplified outline of this Chapter.
406. The water quality and salinity management plan sets out:
- the key causes of water quality degradation in the Murray-Darling Basin (Part 2);
 - water quality objectives for Basin water resources (Part 3); and
 - water quality targets (Part 4).
407. The term ‘water quality’ is defined in section 1.07 to include salinity. General references in this Chapter to ‘water quality’ therefore include references to ‘salinity’. For example, the ‘water quality targets’ set by Part 4 include salinity targets.

Part 2—Key causes of water quality degradation in Murray-Darling Basin

408. This Part sets out the key causes of water quality degradation in the Murray-Darling Basin.

Section 9.02 – Types of water quality degradation and their key causes

409. This section lists the types of water quality degradation in the Murray-Darling Basin (see subsection (1)). These types of water quality degradation are relevant to a number of matters required to be included in water resources plans (see sections 10.21 and 10.41).
410. Subsection (2) provides that the key causes of water quality degradation for each type of degradation are set out in Schedule 10. Each water resource plan must include its own water quality management plan (termed a ‘WQM Plan’ defined in section 1.07) that, in identifying causes of water quality degradation for the relevant water resource plan area, has regard to the key causes set out in Schedule 10 (see section 10.30). Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

Part 3—Water quality objectives for Basin water resources

411. This Part sets out the water quality objectives for Basin water resources.

Section 9.03 – Outline of this Part

412. This section sets out an outline of this Part, listing the categories of objectives specified. The Basin-wide framework of objectives aims to ensure water is fit for its relevant purpose, that is, suitable for irrigation and recreational uses, for maintaining aquatic ecosystems, being treated for drinking water, and to ensure adequate flushing of salt from the River Murray System into the Southern Ocean. The term ‘River Murray System’ is defined in subsection 86A(3) of the Act.

Section 9.04 – Objectives for water-dependent ecosystems

413. This section provides objectives for water-dependent ecosystems that are:
- declared Ramsar wetlands (see subsection (1) and paragraph 21(3)(c) of the Act); or
 - other water-dependent ecosystems (see subsection (2) and the environmental objectives of the environmental watering plan in section 7.04).
414. For declared Ramsar wetlands, the objective is that water quality is suitable to maintain their ecological character. For other water-dependent ecosystems, the objective is that the quality of water is sufficient:
- to protect and restore the ecosystems;
 - to protect and restore the ecosystem functions; and
 - to ensure that the ecosystems are resilient to climate change and other risks and threats.

Section 9.05 – Objectives for raw water treatment for human consumption

415. This section provides that the objectives for raw water for treatment for human consumption are to minimise the risk that the quality of raw water taken for treatment for human consumption results in adverse human health effects or the odour of drinking water being offensive to consumers (see paragraphs (a) and (c)). A further objective is to maintain the palatability rating of water taken for treatment for human consumption at the level of good set out in the Australian Drinking Water Guidelines (ADWG) (see paragraph (b)). Further details in relation to the ADWG are set out in the definition in section 1.07. This is a document incorporated by reference available at www.mdba.gov.au. While this Chapter sets objectives for raw water for treatment for human consumption, it does not set targets. The ADWG already set standards for such water, and the Basin States already have arrangements based on those standards.

Section 9.06 – Objective for irrigation water

416. This section provides that the objective for irrigation water is that the quality of surface water, 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. The term ‘soil degradation’ is defined in section 1.07.

Section 9.07 – Objective for recreational water quality

417. This section provides that the 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.

Section 9.08 – Objective to maintain good levels of water quality

418. The water quality objective outlined in this section only applies 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 set out in Part 4. If that is the case, an objective is to maintain the existing level, rather than the target value set out in Part 4.

Section 9.09 – Salt export objective

419. Subsection (2) provides that the salt export objective is to ensure adequate flushing of salt from the River Murray System into the Southern Ocean. The objective is expected to be achieved by the discharge of a minimum of 2 million tonnes of salt from the River Murray System into the Southern Ocean each water accounting period (see subsection (3)). A discharge of an average of 2 million tonnes of salt has been assessed as adequate for the purposes of the objective. The figure has been calculated on the basis of a long-term modelled estimate approach that takes into account cyclical climate influences on flows. The approach also takes into account 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. The term ‘River Murray System’ is defined in subsection 86A(3) of the Act.
420. The Authority must estimate the discharge of salt, assess it by comparing the estimated number of tonnes of salt per year averaged over the preceding 3 years against the indicative figure of 2 million tonnes of salt per year and publish this assessment on its website (see subsections (4), (5) and (6)).

Part 4—Water quality targets

421. This Part sets out the water quality targets (including salinity targets).

Division 1—Preliminary

Section 9.10 – Outline of this part and purpose of targets

422. This section sets out an outline of the targets specified in this Part. The targets will be used to inform the development of water resource plans (see Part 7 of Chapter 10) and operational decisions about water management. The targets also inform the matters listed in Schedule 12, by reference to which the effectiveness of the Basin Plan is to be evaluated. Under section 13.14, Basin States and Commonwealth agencies are required to produce reports on the matters listed in Schedule 12. Section 13.08 also requires the Authority to review these targets. 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. The term ‘Agreement’ is defined in section 1.07.

Section 9.11 – Failing to achieve a target

423. Paragraph (1)(a) provides that the failure to achieve a target does not in itself mean that a person has acted inconsistently with the water quality and salinity management plan. Further, paragraph 1(b) provides that the failure to achieve a target does not in itself mean that a person is required to take particular action or refrain from taking particular action in response to the failure. Sections 34 and 35 of the Act require various persons and bodies not to act inconsistently with the Basin Plan, and not to fail to do an act in relation to the Basin water resources if the failure is inconsistent with the Basin Plan. Therefore sections 34 and 35 of the Act do not apply merely because a target is not

achieved. The targets are aspirational. Monitoring progress towards their achievement will identify trends that can inform actions to address causes of water quality decline associated with water resource management. Achieving the targets will help to maintain appropriate water quality for environmental, social, cultural and economic activities in the Basin. Under subsection (2), the Authority may publish guidelines setting out recommended actions to be taken in response to a failure to achieve a target.

Section 9.12 – Most stringent target applies

424. This section provides that if more than one target value applies at a particular location for the same water quality characteristic (for example, salinity, nutrients, pesticides, pH or turbidity), then the most stringent target applies.

Section 9.13 – Guidelines

425. Subsection (1) provides that the Authority may publish guidelines relating to the application of the targets set out in this Part. For example, the guidelines may cover recommending actions to be taken by relevant persons and bodies in order to achieve the targets, or in an event that a target is not met.
426. Subsection (2) clarifies that the guidelines are not mandatory and nothing binds any person or body to comply with them.

Division 2—Targets for managing water flows

Section 9.14 – Targets for managing water flows

427. Subsection (5) sets out the targets for managing water flows.
428. The Authority, Basin Officials Committee, agencies of Basin States, the Commonwealth Environmental Water Holder, holders of held environmental water and managers of planned environmental water must have regard to the water quality targets set out in subsection (5) (see subsections (1), (2), (3) and (4)). This does not mean that water quality targets must be met. Instead, it places a positive obligation on these bodies to think about the water quality targets when making decisions related to the management of water flows, or in the instance of the Commonwealth Environmental Water Holder and holders of held environmental water and managers of planned environmental water, when making decisions on the use of environmental water. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.
429. The target relating to dissolved oxygen is to maintain dissolved oxygen at a target value of at least 50% saturation. This equates to approximately 50% oxygen saturation at 25°C and 1 atmosphere of pressure. Targets relating to recreational water quality in section 9.18 also apply in this section as targets for managing water flows.
430. In addition, levels of salinity which should not be exceeded 95% of the time are stated for the reporting sites set out in the table at paragraph (5)(c). The table provides reporting sites together with target values in electrical conductivity, expressed in microsiemens per centimetre ($\mu\text{S}/\text{cm}$) (EC). The conversion values that can be used to convert EC to milligrams/L (mg/L) are specified. The term ‘EC’ is defined in section 1.07.
431. Subsection (6) requires the Authority to monitor salinity levels at each reporting site listed in the table at subsection (5) on a daily basis. In addition, at the end of each water

accounting period, the Authority must conduct an assessment of whether the target values in the table have been met over the period that consists of that water accounting period and the previous 4 water accounting periods (in other words, over a period of 5 years). The findings of each assessment must be published on its website.

Division 3—Water quality targets for water resource plans

Section 9.15 – Purpose of Division

432. This section provides that 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 (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)).
433. The targets in this Division relate to fresh water-dependent ecosystems, irrigation water and recreational water. Targets have not been identified for raw water for treatment for human consumption due to the fact that the Basin States already have arrangements in place for drinking water management. Those arrangements establish drinking water standards which are based on the ADWG.

Section 9.16 – Water quality targets for fresh water-dependent ecosystems

434. This section provides that 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 water-dependent ecosystem meets the target value for that characteristic and the target application zone set out in Schedule 11.
435. The term ‘target application zone’ is defined in subsection (2) with reference to a particular dataset. The Authority is required to publish a map on its website identifying the target application zones.
436. The water quality targets for declared Ramsar wetlands and other water-dependent ecosystems were determined in accordance with National Water Quality Management Strategy procedures.

Section 9.17 – Water quality targets for irrigation water

437. This section sets out the water quality targets for irrigation water. Subsection (1) provides that the water quality targets for irrigation water are that the values for a water quality characteristic meet the target values set out in the table at subsection (3) 95% of the time over each 10 year period ending at the end of a water accounting period. In other words, the targets are assessed annually, reflecting the past 10 years. The table sets targets for the Southern Basin and the Northern Basin.
438. The target values are given in units of electrical conductivity, expressed in microsiemens per centimetre ($\mu\text{S}/\text{cm}$) (EC). EC units are one of the measurement methods for concentration. Local conversion factors, which vary due to differences in water temperature, can be applied to estimate milligrams per litre (mg/L) from EC. The approximate conversion factors used have been listed under the table. The term ‘EC’ is defined in section 1.07.
439. Subsection (2) details that the target values apply at sites in the Murray-Darling Basin where water is extracted by an irrigation infrastructure operator for the purposes of

irrigation. Water resource plans are required to identify these sites (see section 10.34). The term ‘irrigation infrastructure operator’ is defined in section 4 of the Act.

440. Subsection (4) provides that 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. A sodium adsorption ratio indicates the proportion, in water or soil, of sodium in relation to calcium and magnesium. The sodium adsorption ratio is used to predict the potential for sodium to accumulate in the soil. Some soil types are more susceptible to sodium build-up.

Section 9.18 – Water quality targets for recreational water

441. This section provides that the water quality targets for recreational water 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*. The term ‘*Guidelines for Managing Risks in Recreational Water*’ is defined in section 1.07. This is a document incorporated by reference available at www.mdba.gov.au. The primary aim of the guidelines is to protect the health of people from threats posed by recreational use of coastal, estuarine and fresh waters.

Division 4—Salinity targets for the purposes of long-term salinity planning and management

Section 9.19 – Salinity targets

442. This section sets out surface water salinity targets for the purpose of long term salinity planning for the Murray-Darling Basin (subsection (1)). Subsection (2) provides that the salinity targets are the Murray-Darling Basin and End-of-Valley targets set out in Appendix 1 of Schedule B to the Agreement. (The term ‘Agreement’ is defined in section 1.07.) Subsection (3) sets out that the Authority, Basin Officials Committee and agencies of Basin States are to apply the targets in carrying out long-term salinity planning and management functions.
443. As the adverse salinity impacts of land use change on water resources may take decades to be fully manifested, and, similarly, remedial actions may take decades to implement and longer for the benefits to be fully manifested, a long-term approach to salinity management is necessary. Long-term salinity planning and management includes, but is not restricted to, developing programs of actions at a whole of Basin level, or at a catchment level, that contribute to achieving the Murray-Darling Basin and End-of-Valley targets for salinity. Actions may include:
- identifying and implementing land management changes, such as revegetation, changed irrigation techniques, and modified agricultural practices;
 - identifying, planning, constructing and operating engineering works such as drainage schemes, the piping of channels, reduction of seepage and evaporation losses from existing infrastructure, and salt interception schemes;
 - implementing changes in the flow regime that may be accomplished by managed storage releases and/or selectively timed diversions; and
 - managing the salinity credit and debit registers, established under Schedule B to the Agreement.
444. The actions listed are implementation actions of the Basin Salinity Management Strategy.

CHAPTER 10—WATER RESOURCE PLAN REQUIREMENTS

CHAPTER OVERVIEW

445. The Act provides that there is to be a water resource plan for each water resource plan area which may be a plan developed by a Basin State and accredited by the Commonwealth Water Minister for the purposes of the Act. Alternatively, in some circumstances the Authority may, at the request of the Minister prepare a plan which the Minister may adopt for the purposes of the Act (section 54).
446. This Chapter sets out the requirements that water resource plans must meet to be accredited or adopted by the Commonwealth Water Minister under the Act. Item 11 of the table in subsection 22(1) of the Act provides that the Basin Plan must include requirements that a water resource plan for a water resource plan area must comply with for it to be accredited or adopted under Division 2. The requirements relate to matters that are relevant to the sustainable use and management of the water resources of the water resource plan area. They also include matters addressing, among other things, the subject areas set out in subsections 22(3), (6A) and (6B) of the Act (see column 2 of the table in subsection 22(1) of the Act). The requirements regarding the circumstances in which tradeable water rights in relation to the water resource plan area may be traded, or transferred, and the conditions applicable to such trades or transfers, contribute to achieving the Basin water market and trading objectives and principles set out in Schedule 3 of the Act (see subsection 22(3) of the Act).
447. The water resource plan requirements provide a framework to establish a consistent Basin-wide approach to the management of Basin water resources. The water resource plan requirements intend to build on existing water planning processes within this consistent framework. For example, these requirements do not require the replacement of current state arrangements with a single document prepared specifically to meet these provisions. The requirements intend to accommodate the variety of conditions across the Murray-Darling Basin. The variety occurs in relation to the bio-physical conditions as well as in relation to the existing management arrangements. At the same time the requirements intend to be sufficiently robust to deliver the objectives of the Basin Plan.
448. The key elements of this Chapter relate to:
- requirements which will implement the SDLs, including any amendments to SDLs resulting from the operation of Chapter 7;
 - a risk assessment which will allow a tailored approach to development of the plans;
 - environmental watering arrangements;
 - a water quality and salinity management plan;
 - the need to accommodate water trading; and
 - the importance of monitoring, compliance, evaluation and reporting.
449. Basin States generally already take into account the views of the community when undertaking water planning. The water resource plan requirements provide for the consultation to be documented as part of the development of the water resource plans. The requirements also specifically establish a process to involve relevant Indigenous organisations in water resource planning.

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

Section 10.01 – Simplified outline

450. This section sets out a simplified outline of this Chapter.
451. In addition to this Part, this Chapter contains 13 other Parts (Parts 2-14) which together set out the requirements 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 (see item 11 of the table in subsection 22(1) of the Act).

Part 2—Identification of water resource plan area and other matters

452. This Part details the requirements to identify the area, water resources, each SDL resource unit and the water resources within each SDL resource unit covered by the water resource plan, which must be identified and described to ensure clarity and transparency with respect to the subject matter dealt with by the water resource plan. Importantly, these requirements also recognise that a water resource plan for accreditation is likely to comprise all, or part of, a number of state water planning documents. The requirements of this Part also create flexibility regarding the form a water resource plan may take, and do not include any requirement that a water resource plan be prepared as a single instrument that meets all requirements of this Chapter and replaces current state arrangements. This is consistent with the provisions of subsection 63(1) of the Act.

Section 10.02 – Identification of water resource plan area and water resources

453. This section requires a water resource plan to identify the water resource plan area and water resources to which the plan applies. 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. The water resource plan areas cover the entire Murray-Darling Basin, subject to any variations permitted by section 3.04. Under subsection 3.03(4), the Authority must publish on its website a map that identifies each water resource plan area.
454. 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.
455. This ensures that any water resource or water resource plan area in the Murray-Darling Basin can be referred to, by either the Basin State or the Authority, in a geographically and hydrologically consistent manner.

Section 10.03 – Identification of SDL resource units and water resources

456. This section requires a water resource plan to identify each SDL resource unit in the water resource plan area, as well as, the water resources within each SDL resource unit. The required identifications are restricted. First, 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. Second, the water resources within each SDL resource unit must be those described in sections 6.02 and 6.03, and

Schedules 2 and 4. The terms ‘SDL’ and ‘SDL resource unit’ are defined in section 1.07. The incorporation of the long-term annual diversion limit by a water resource plan (Part 3 of this Chapter) is done on the basis of incorporating the SDLs for SDL resource units.

Section 10.04 – Form of water resource plan

457. In many cases, a water resource plan for accreditation will include a number of state documents. A water resource plan for the purposes of the Act only applies to the extent that it makes provision in relation to the matters that the Basin Plan requires a water resource plan to include (see the definition of ‘water resource plan’ in section 4 of the Act). Therefore, it is important to be clear about which documents, and which parts of those documents, are presented for accreditation or adoption (i.e. address the requirements of this Chapter), and which are not.
458. This section sets out various requirements that seek to provide clarity regarding the interaction of the documents that comprise the water resource plan.
459. A water resource plan constituted by two or more instruments or texts must:
- identify the instruments or texts that constitute the water resource plan; and
 - if an instrument or text applies to only some of the water resources of the water resource plan area, the water resource plan must identify the water resources or parts of the water resources to which the instrument or text applies and include an indicative map of the identified water resources.
460. Subsection (4) requires a water resource plan to include a list that specifies each requirement set out in this Chapter, the part of the plan that addresses each requirement and 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.
461. Conversely, if an instrument or text that is part of the water resource plan contains additional material that does not address the requirements of this Chapter, subsection (5) requires that the material must be identified so that it is clear to all parties that it does not form part of the accredited or adopted plan.

Section 10.05 – Regard to other water resources

462. This section requires a water resource plan to be prepared having regard to the management and use of any water resources which have a significant hydrological connection (including connections created by infrastructure) to the water resources of the water resource plan area and describe the way in which consideration of those matters has been reflected in preparation of the plan. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 10.06 – Matters relating to requirements of Chapter

463. Subsection (1) requires that for each matter this Chapter requires to be dealt with in a water resource plan, the plan must specify the person responsible for the matter. Subsection (2) clarifies (without limiting) subsection (1), so that 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. In this context, a person is not necessarily an individual, but would include a body politic or corporate, an office holder, or a class of persons.

Section 10.07 – Consultation to be demonstrated

464. Subsection (1) requires a water resource plan prepared by a Basin State to contain a description of the consultation in relation to the plan (including consultation on any part of the plan), if any, that was undertaken before the Basin State gave the plan to the Authority under subsection 63(1) of the Act. If the Authority prepares a water resource plan for adoption, consultation would be undertaken consistent with subsection 4.03(2) and paragraph 4.03(3)(b) and the *Legislative Instruments Act 2003* (Cth). The note states that the *Legislative Instruments Act 2003* (Cth) requires that that explanatory statements for such plans include a description of the consultation undertaken when preparing the plan.
465. Subsection (2) requires a water resource plan amended in accordance with section 65 of the Act to 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.
466. These provisions recognise that documents that form the water resource plan are likely to include documents prepared under state laws which have their own consultation requirements. In addition, there are certain consultation requirements set out in other parts of this Chapter. As such, this provision is seeking a description of the consultation that has been undertaken either in relation to the water resource plan as a whole, or in relation to each of the various documents that may form the water resource plan.

Part 3—Incorporation and application of long-term annual diversion limit

467. This Part sets out requirements in relation to the incorporation and application of the long-term annual diversion limit for the water resources of the water resource plan area. The requirements set out in this Part give practical effect to the SDL in each water resource plan area, including by: identifying the forms of take and associated water access rights that allow consumptive and environmental use; setting out the method for determining permitted take for consumptive use that limits consumptive use to the SDL; and specifying how actual take will be determined.

Division 1—Water access rights

Section 10.08 – Water access rights must be identified

468. Subsection (1) requires a water resource plan to identify the forms of take from each SDL resource unit in the water resource plan area, as well as, any classes of water access right that apply to the forms of take and their characteristics. This may include information such as the number of rights and any conditions on the exercise of those rights that apply to each form of take. The term ‘water access right’ is defined in section 4 of the Act. The forms of take are those set out in section 1.07. This section also requires water resource plans to require a holder of a water access right to comply with the conditions of that right (subsection (2)). This section does not require any change to the rights arrangement in any water resource plan area but only a thorough reporting in the water resource plan of the arrangements that are in place.
469. Identifying the forms of take and water access rights provides transparency with regard to the management of take from each SDL resource unit. Provisions in the water resource plan about water permitted to be taken, and determination of amounts actually taken (sections 10.10 and 10.15), will be based on these forms of take.

Section 10.09 – Identification of planned environmental water and register of held environmental water

470. Subsection (1) requires a water resource plan to identify planned environmental water in the water resource plan area and associated rules and arrangements relating to that water. The term ‘planned environmental water’ is defined in sections 4 and 6 of the Act.
471. Subsection (2) requires a water resource plan to provide for the establishment and maintenance of a register of held environmental water for the water resource plan area recording the characteristics of held environmental water in the water resource plan area (for example, quantity, reliability, security class, licence type, limitations), and who holds the water. The register must be published on a website specified in the plan. The term ‘held environmental water’ is defined in section 4 of the Act.
472. Subsection (3) clarifies that 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

473. This Division sets out requirements in relation to take for consumptive use. It is the provisions in this Division that require a water resource plan, over the long-term, to limit take for consumptive use in a manner consistent with meeting the SDL for each SDL resource unit. The SDLs take effect from 1 July 2019. Water resource plans may be accredited before then and ordinarily have effect for a period of 10 years (see section 64 of the Act).

Section 10.10 – Annual determinations of water permitted to be taken

474. Subsection (1) requires the water resource plan to set out, for each SDL resource unit in the water resource plan area and for each form of take, the method for determining the maximum quantity of water that the plan permits to be taken for consumptive use during a water accounting period. This section is intended to allow sufficient flexibility to cover all possible methods of limiting the annual permitted take, from those SDL resource units with an annual permitted take that does not change from year to year, through to those where the annual permitted take varies significantly from year to year and is determined using a complex computer model. The method may incorporate multiple independent parts with different levels of complexity, however it is important that it is demonstrated that these do not overlap by accounting for the same take multiple times.
475. Subsection (2) clarifies that the method referred to in 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. This allows for annual permitted take to vary depending on the particular climate conditions in the water accounting period. So, for example, more water can be taken in a rainy year and less can be taken in a dry year. It is expected that in many water resource plans, in particular those covering surface water, the method will consist of a number of separate independent parts and that these parts may use different approaches and operate at different levels of complexity. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

476. Subsection (3) requires the method to account for the matters in subsection 10.12(1) and be consistent with the other provisions of the water resource plan. These requirements are an essential part of demonstrating that the method is suitable and of sufficient quality.
477. Subsection (4) requires the water resource plan to set out a demonstration that the method under subsection (1) for determining annual limits on consumptive use operates so that, if applied over a repeat of the historical climate conditions, it would result in meeting the SDL for each SDL resource unit, including the SDL as amended by the process set out in Chapter 7. The process set out in Chapter 7 is provided for by sections 23A and 23B of the Act, which allows the Basin Plan to provide a mechanism for the Authority to propose adjustment of SDLs. The requirement in subsection (4) is essential to demonstrating that the water resource plan is applying the SDLs set out in the Basin Plan, as well as SDLs as amended following application of the SDL adjustment mechanism in Chapter 7.
478. The demonstration must use a repeat of the historical climate conditions (July 1895 to June 2009) to allow a comparison to the requirements of Schedules 2 and 4. Annual permitted take can vary from year to year based on climate and other factors. Therefore the average permitted take over a climate period other than that used for Schedules 2 and 4 could not be used to compare the water resource plan with the Basin Plan. Requiring the annual permitted take to meet the SDL over a period other than the historical climate conditions would not be an accurate reflection of the SDL, which is modelled on the historical climate conditions.
479. Subsection (5) requires that if a surface water SDL is amended under section 23B of the Act (that is, after following the process for adjustment set out in Chapter 7) so as to be expressed as a formula that changes with time, then the SDL for the purpose of subsection (4) will be taken to be that applying under the formula at the particular times stated in the subsection.

Section 10.11 – Rules for take, including water allocation rules

480. Subsection (1) requires a water resource plan to 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 commencing on or after 1 July 2019 does not (after accounting for any adjustments due to disposal or acquisition of held environmental water) exceed the annual permitted take for that period (see section 6.12). See Chapter 6 of this Explanatory Statement, which provides an example of an adjustment due to disposal or acquisition of held environmental water. This section requires that a water resource plan be clear on how take for consumptive use is managed during any year to ensure that actual take does not exceed permitted take. Therefore any such rules will need to be consistent with the method for determining annual permitted take required under subsection 10.10(1). The rules may range from those where water is actively managed using regular allocation decisions and announcements through to where the rules regarding when water can be taken are clearly stated and operate without any active involvement by water managers. Regardless of the circumstances or complexity of such arrangements a water resource plan must clearly set out all such rules.
481. Subsection (2) clarifies that 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 (and not necessarily equal to) the annual permitted take.

This provision makes it clear that a water resource plan can limit annual allocations to less than an amount designed to meet the SDL.

Section 10.12 – Matters relating to accounting for water

482. This section sets out various matters that must be accounted for in the method as required under paragraph 10.10(3)(a). The matters must include the following:
- all forms of take from the SDL resource unit and all classes of water access right;
 - 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;
 - if it is a water resource plan area containing surface water—return flows, in a way that is consistent with arrangements under the Agreement immediately before the commencement of the Basin Plan;
 - subject to subsection (3)—trade of water access rights;
 - water resources which have a significant hydrological connection to the water resources of the SDL resource unit;
 - circumstances in which there is a change in the way water is taken or held under a water access right;
 - changes over time in the extent to which water allocations in the unit are utilised;
 - water sourced from the Great Artesian Basin and released into a Basin water resource, by excluding that water; and
 - water resources which are used for the purpose of managed aquifer recharge.
483. These matters are accounted for in various ways in the methods the Basin States currently use to manage take, in particular through agreed approaches developed for the cap on diversions established under Schedule E of the Agreement. It is expected that these prior arrangements will continue in most water resource plans. The term ‘Agreement’ is defined in section 1.07.
484. While the items in subsection (1) cover many of the most significant matters that the method must account for, subsection (2) clarifies that the method may include other matters.
485. Subsection (3) requires, for paragraph (1)(d), the water resource plan to 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. See Chapter 6 of this Explanatory Statement, which provides an example of an adjustment due to disposal or acquisition of held environmental water. It should be noted that accounting for trade that is not a disposal or acquisition of held environmental water is provided for under paragraph (1)(d).

Section 10.13 – Limits on certain forms of take

486. Subsection (1) provides that 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:
- take under basic rights; or

- take by runoff dams; or
- net take by commercial plantations

does not exceed the level specified in column 2 of Schedule 3 for that form of take. The term ‘SDL resource unit’ is defined in section 1.07. Broadly, the levels specified in Schedule 3 represent the estimated levels of take by those forms of take as at 2009.

487. Subsection (2) provides that the quantity for a form of take specified in subsection (1) may be increased above the level specified in column 2 of Schedule 3 for that form of take provided 3 conditions are met:
- 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;
 - take by the forms of take affected by the changes are capable of being accurately measured. Alternatively, 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, the take is capable of being reasonably estimated using the best available method immediately before the water resource plan is submitted; and
 - the changes are not expected to result in the take from the SDL resource unit ceasing to be an environmentally sustainable level of take. The term ‘environmentally sustainable level of take’ is defined in section 4 of the Act.

Section 10.14 – Effects, and potential effects, on water resources of the water resource plan area

488. Where groundwater resources not covered by the Basin Plan (for example, groundwater in the Great Artesian Basin) are connected or potentially connected with Basin water resources, subsection (1) requires the water resource plan to identify the effect, or potential effect, of water being taken from these connected or potentially connected groundwater resources. Where such effects are identified, the plan must set out how the effect or potential effect will be monitored and what actions will be taken in response (subsection (2)). Subsection (3) provides that the water resource plan may require a person to hold a water access right in relation to the effect, or potential effect, identified.

Division 3—Actual take

Section 10.15 – Determination of actual take must be specified

489. This section sets out how the annual actual take will be determined. Subsection (1) 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 (the sum of which is the ‘annual actual take’: see definition in sections 1.07 and 6.10). This includes all water taken for consumptive purposes, including unauthorised take.
490. Subsection (2) states that 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 measuring the quantity of water actually taken, or estimating the quantity of water actually taken, or a combination of the two.

491. Under subsection (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 for section 10.10 that relates to that form of take. It is expected that the actual take in most water resource plan areas will be determined using a combination of measurement data, methods and estimates—the take from different forms of take in the same water resource plan area may be measured in different ways.
492. Subsection (4) requires the quantity of water actually taken to include held environmental water which was disposed of and then used for consumptive use and exclude water sourced from the Great Artesian Basin and released into, and taken from, a Basin water resource.

Part 4—The sustainable use and management of water resources

493. This Part sets out requirements in relation to the sustainable use and management of the water resources of the water resource plan area.

Division 1—Sustainable use and management

Section 10.16 – Sustainable use and management of water resources

494. This section describes the general content of this Part, which provides for 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.
495. SDLs restrict take to a level that will not compromise the environmentally sustainable level of take characteristics for the SDL resource unit as a whole. However, surface water and groundwater resources are not homogenous, and take that is within the SDL can have potential negative impacts on the environmentally sustainable level of take characteristics at a local scale. Therefore, the sustainable use of some systems will only be achieved if SDLs are supported by management arrangements that account for the local impacts of surface water and groundwater take. This Part requires that such management arrangements be considered.

Division 2—Surface water

Section 10.17 – Priority environment assets and priority ecosystem functions

496. Subsection (1) requires a water resource plan to 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. The need to include such rules will, in part, be informed by the risk assessment undertaken under Part 9.
497. The environmental watering requirements of priority environmental assets and priority ecosystem functions may be set out in the Basin-wide environmental watering strategy. Long-term watering plans are required to use the method outlined in Part 5 of Chapter 8 to identify those requirements. However, this does not mean that the assets and functions need to be identified within the water resource plan.

498. Subsection (2) clarifies subsection (1), that regard must, amongst other possible considerations, be had to whether it is necessary for the rules to prescribe the times, places and rates at which water is permitted to be taken from a surface water SDL resource unit and how water resources in the water resource plan area must be managed and used.
499. If the outcome of the deliberation required by subsection (1) is that rules are required, subsection (3) requires the water resource plan to set out those rules. It should be noted that there is a requirement under section 10.22 to describe what has been done to address these requirements. Further information in relation to the phrases ‘having regard to’ and ‘regard must be had’ is set out in this Explanatory Statement at section 1.07.

Division 3—Groundwater

Section 10.18 – Priority environmental assets dependent on groundwater

500. Subsection (1) requires a water resource plan to 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. The need to include such rules will in part be informed by the risk assessment undertaken under Part 9. The term ‘priority environmental assets’ is defined in section 8.49 and the term ‘priority ecosystem functions’ is defined in section 8.50.
501. As in section 10.17, the environmental watering requirements of priority environmental assets and priority ecosystem functions may be set out in the Basin-wide environmental watering strategy. Long-term watering plans are required to use the method outlined in Part 5 of Chapter 8 to identify those requirements. However, this does not mean that environmental assets dependent on groundwater need to be identified within the water resource plan.
502. The purpose of this section is to ensure that the operation of the plan does not compromise the meeting of the environmental watering requirements of a priority asset or ecosystem function that depends on groundwater. Subsection 8.51(1) requires that environmental watering requirements of a priority asset or ecosystem function must be determined having regard to groundwater derived based flows, and recharge of groundwater that is closely connected to surface water, and subsection 8.51(2) requires that environmental watering requirements be expressed, where relevant, in terms of the extent and thresholds for any groundwater dependency.
503. Subsection (2) clarifies subsection (1), that regard must be had, amongst other matters, to whether it is necessary for the water resource plan to include rules that specify:
- the times, places and rates at which water is permitted to be taken from a groundwater SDL resource unit;
 - 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
 - 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.

504. Resource condition limits define an acceptable upper limit to the impact of groundwater extraction and are typically described as water levels at key monitoring sites, which might be near key environmental assets for this requirement. Resource condition limits that may be specified by a water resource plan are also relevant to sections 12.24, 12.25 and 12.26 of the water trading rules.
505. If the outcome of the deliberation required by subsection (1) is that rules are required, subsection (3) requires the water resource plan to set out those rules. It should be noted that there is a requirement under section 10.22 to describe what has been done to address these requirements. Further information in relation to the phrases ‘having regard to’ and ‘regard must be had’ is set out in this Explanatory Statement at section 1.07.

Section 10.19 – Groundwater and surface water connections

506. In some groundwater systems there is significant connection between groundwater and surface water. In gaining streams, groundwater provides base flow to surface water, while in losing streams surface water contributes to groundwater recharge. Excessive groundwater extraction in areas with significant connections between groundwater and surface water can result in a reduction of base flows or an increase in recharge to groundwater coming from the stream. Both of these outcomes can have negative impacts on low flows in the surface water stream, compromising key ecosystem functions (e.g. providing connections along the watercourse and supporting the maintenance of vital habitats during periods of low rainfall). For this reason it is important to consider the need to include rules in the water resource plan to ensure that these environmental watering requirements are not compromised by the operation of the plan (see subsection (1)). The need to include such rules will in part be informed by the risk assessment undertaken under Part 9.
507. Subsection (2) clarifies subsection (1), that regard must be had to whether it is necessary for the water resource plan to include rules that specify:
- the times, places and rates at which water is permitted to be taken from a groundwater SDL resource unit;
 - resource condition limits, being limits beyond which the taking of groundwater will compromise the discharge of water into any surface water resource; and
 - 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.

508. If the outcome of the deliberation required by subsection (1) is that rules are required, subsection (3) requires the water resource plan to set out those rules. It should be noted that there is a requirement under section 10.22 to describe what has been done to address these requirements. Further information in relation to the phrases ‘having regard to’ and ‘regard must be had’ is set out in this Explanatory Statement at section 1.07.

Section 10.20 – Productive base of groundwater

509. This requirement is concerned with protecting the productive base of groundwater systems, which is the ability to continue to productively use groundwater into the future. This requirement recognises that high levels of groundwater extraction at a local scale can have significant negative impacts even if this take is within the SDL.

510. The impacts include (but are not limited to): structural damage to the aquifer, such as subsidence (which is usually irreversible); long-term declines in water levels; and changes in hydraulic properties and relationships. Change in hydraulic properties and relationships include impacts such as: changes in pressure heads causing water from an upper aquifer to leak into a lower aquifer; confined parts of aquifers becoming unconfined; intrusion of water from areas of poor quality groundwater into areas of good quality groundwater; and poor bore construction allowing the movement of water and contaminants between previously unconnected systems.
511. In non-renewable groundwater resources, such as those in the South Australian/Victorian Border Zone, continued abstraction will necessarily result in long-term declines in groundwater levels, as they are no longer receiving significant recharge. In these systems it is still desirable that declines in groundwater levels occur in a planned fashion, in a manner that has been agreed upon through the water planning process. In these cases the planned rate of decline in groundwater levels, and the anticipated groundwater level 50 years after the commencement of the water resource plan could be specified and this is required to be considered in this section.
512. This section requires that a water resource plan must be prepared having regard to whether it is necessary for it to include rules which ensure that there is no structural damage to an 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 and hydraulic relationships and properties between groundwater and surface water systems, between groundwater systems, and within groundwater systems are maintained. The need to include such rules will in part be informed by the risk assessment undertaken under Part 9.
513. Subsection (2) clarifies subsection (1), that regard must be had, amongst other matters, to whether it is necessary for the water resource plan to include rules that specify:
- the times, places and rates at which water is permitted to be taken from a groundwater SDL resource unit;
 - any zones in the water resource plan area where continued groundwater extraction will result in a long-term decline in groundwater levels, and
 - measures to prevent any long-term decline in groundwater levels in that zone, except where the groundwater is a non-renewable groundwater resource;
 - 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;
 - 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
 - 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.
514. If the outcome of the deliberation required by subsection (1) is that rules are required, subsection (3) requires the water resource plan to set out those rules. It should be noted that there is a requirement under section 10.22 to describe what has been done to address these requirements. Further information in relation to the phrases ‘having

regard to’ and ‘regard must be had’ is set out in this Explanatory Statement at section 1.07.

Section 10.21 – Environmental outcomes relating to groundwater

515. This requirement is closely related to section 10.20, as groundwater quality has a strong influence on its productive value. However, ensuring elevated levels of salinity and other contaminants do not occur in groundwater systems is also important for maintaining the environmental outcomes of groundwater dependent priority environmental assets and priority ecosystem functions.
516. Take from groundwater systems can reduce water pressure in aquifers. Reduced water pressure can result in intrusion of water from neighbouring water systems. If these neighbouring systems are more saline, or if their water quality is more degraded in other ways, the result can be reduced water quality in a groundwater SDL resource unit. Similarly, changes in hydraulic gradient can also result in salty water from one part of a groundwater system being drawn into a previously fresh part of the same system. Faulty bore construction can also result in water quality degradation, with contaminants from the surface, or from other aquifers, making their way into aquifers through this artificial hydrological connection.
517. Subsection (1) requires that a water resource plan must be prepared having regard to whether it is necessary for it to include rules to prevent elevated levels of salinity and other types of water quality degradation within a groundwater SDL resource unit. The types of water quality degradation occurring in the Murray-Darling Basin are set out in section 9.02. The need to include such rules will in part be informed by the risk assessment undertaken under Part 9.
518. Subsection (2) clarifies subsection (1), that regard must be had to whether it is necessary for the water resource plan to include rules that specify:
- the times, places and rates at which water is permitted to be taken from a groundwater SDL resource unit;
 - 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;
 - 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
 - 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.
519. If the outcome of the deliberation required by subsection (1) is that rules are required, subsection (3) requires the water resource plan to set out those rules. It should be noted that there is a requirement under section 10.22 to describe what has been done to address these requirements. Further information in relation to the phrases ‘having regard to’ and ‘regard must be had’ is set out in this Explanatory Statement at section 1.07.

Division 4—How requirements have been met

Section 10.22 – Description of how requirements have been met

520. A water resource plan must both describe what was done to comply with the requirements of this Part and, if a risk in relation to the water resources of the water resource plan area has been identified under the requirement at subsection 10.41(1), explain why rules addressing the risk have or have not been included in the water resource plan.

Part 5—Interception activities

521. This Part sets out requirements in relation to the regulation, for the purpose of managing Basin water resources, of interception activities which have the potential to have a significant impact (whether on an activity-by-activity basis or cumulatively) on those water resources. The term ‘interception activity’ is defined in section 4 of the Act.
522. Any interception activities which have the potential to have a significant impact on the water resources of a water resource plan area must be considered. This may include any interception by runoff dams, interception by commercial plantations, interception by mining activities including coal seam gas mining and interception by floodplain harvesting.

Section 10.23 – Listing types of interception activity

523. This section requires that a water resource plan must list certain types of interception activity.
524. Subsection (1) requires the water resource plan to 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 the water resources of the water resource plan area, or water resources which are hydrologically connected to the water resources of the water resource plan area. An impact arising from interception may be significant whether it arises on an activity-by-activity basis, or cumulatively. It is expected that potential impacts of this kind of activity will likely be known as a result of the risk identification and assessment conducted in accordance with section 10.41 and as such it is necessary to have regard to that process in determining the types of interception activity that should be listed.
525. For the determination of whether a type of interception activity is of the kind referred to in subsection (1), subsection (3) requires regard to be had to the following factors:
- the location of particular activities of that type in the water resource plan area;
 - the impact of the type of activity on the availability of:
 - the water resources of the water resource plan area,
 - water resources which are hydrologically connected to the water resources of the water resource plan area; and
 - the projected growth of the type of activity over the period for which the water resource plan will have effect.
526. Further information in relation to the phrases ‘having regard to’ and ‘regard must be had’ is set out in this Explanatory Statement at section 1.07.

Section 10.24 – Monitoring impact of interception activities

527. Where a water resource plan lists interception activities in accordance with the requirement in subsection 10.23(2), this section requires that the plan must set out a process for monitoring the impact of that type of activity on the water resources either contained in, or hydrologically connected to, the water resource plan area. It is expected that the location, nature and extent of the monitoring undertaken will be informed by the risks relevant to this Part and identified and assessed under section 10.41, along with the strategies for addressing these risks identified under section 10.43.

Section 10.25 – Actions to be taken

528. Subsection (1) requires a water resource plan to identify actions that will be taken in the event that monitoring under section 10.24 shows:

- an impact of a type of interception activity compromises the meeting of an environmental watering requirement; or
- an impact of several types of activity together compromises the meeting of an environmental watering requirement; or
- there is an increase in the quantity of water being intercepted by a type of activity after the commencement of the water resource plan.

529. Subsection (2) excludes compliance with the requirement in subsection (1) if the relevant impacts are already accounted for by the method for determining the annual permitted take under section 10.10.

530. This section is intended to address unanticipated effects of, or changes in, interception activity. 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.

Part 6—Planning for environmental watering

531. This Part sets out requirements in relation to planning for environmental watering. It is intended that water resource plans support, as appropriate, the environmental water planning under Chapter 8.

Section 10.26 – Planning for environmental watering

532. Subsection (1) requires that a water resource plan provide for environmental watering to occur in a manner consistent with the environmental watering plan and the Basin-wide environmental watering strategy as well as contributing to the achievement of the objectives in Part 2 of Chapter 8.

533. Subsection (2) clarifies that, for the purposes of the deliberation under subsection (1), the water resource plan must be prepared having regard to:

- 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
- the views of local communities on environmental watering.

534. Under this requirement, a water resource plan must provide for environmental watering to occur, but does not have to include an environmental watering plan. The aim is to ensure that the water resource plan operates in a way that does not result in adverse impacts on the ability to undertake environmental watering or achieve environmental

watering objectives. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 10.27 – Enabling environmental watering between connected water resources

535. Subsection (1) provides that this section applies where there is a surface water resource connection between 2 water resource plan areas. In this case, subsection (2) requires the water resource plan for each area must provide for the co-ordination of environmental watering between the 2 areas. Further to the requirement of section 10.26, it is also intended that water resource plans make provision for co-ordination of environmental watering between connected surface water areas. This includes both where water can be actively managed and where it is unregulated or passively managed, noting arrangements for co-ordination may differ depending on how actively the environmental water can be managed.

Section 10.28 – No net reduction in the protection of planned environmental water

536. This section requires a water resource plan to 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. The provision reflects the requirements of subsection 21(5) of the Act.

Part 7—Water quality objectives

537. This Part sets out requirements in relation to water quality objectives for the water resource plan area. Section 1.07 defines ‘water quality’ to include salinity.

Section 10.29 – Water resource plan to include WQM Plan

538. This section creates the obligation for a water resource plan to include a water quality management plan (termed a ‘WQM Plan’).

Section 10.30 – WQM Plan to identify key causes of water quality degradation

539. This section requires the WQM Plan to identify causes, or likely causes, of water quality degradation relevant for that particular 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. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 10.31 – Measures addressing risks arising from water quality degradation

540. Where a risk of elevated salinity or other water quality degradation has been identified under paragraph 10.41(2)(d), this section requires the WQM Plan to explain why measures to address the risk have or have not been included in the water resource plan.

Section 10.32 – WQM Plan to identify water quality target values

541. This section requires a WQM Plan to identify water quality target values for the water resource plan area. The relevant values to be used are set out in sections 9.16 to 9.18 (see subsection (2)). However, subsection (3) provides that where the objectively determined actual value of a water quality characteristic at a site is better than the target value identified in subsection (2) the target value is that better value (see section 9.08 which sets out the objective to maintain good levels of water quality).

542. Subsection (4) states that for a water quality target value, the WQM Plan may specify an alternative water quality target value if:
- it is consistent with the water quality objectives in Part 3 of Chapter 9; and
 - it is determined in accordance with the procedures set out in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC Guidelines) (see definition in section 1.07); and
 - either
 - the alternative target value provides a better level of protection than the value that would apply under subsection (2) or subsection (3), as applicable, or
 - 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
 - the WQM Plan sets out reasons why the target value in subsection (2) or subsection (3), as applicable, is inappropriate for the water resource plan area; and
 - 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.
543. The ANZECC Guidelines is a document incorporated by reference available at www.mdba.gov.au.

Section 10.33 – WQM Plan to identify measures

544. Sections 9.04, 9.05, 9.06, 9.07 and 9.08 identify various objectives for Basin Plan water resources. Subsection (1) requires a WQM Plan to specify measures to be undertaken that will contribute to achieving these objectives, unless there are no such measures than can be undertaken cost effectively. The measures can be water management measures or other measures deemed appropriate. Subsection (2) requires that such measures must be prepared having regard to:
- the causes, or likely causes, of water quality degradation identified in accordance with section 10.30;
 - target values identified in accordance with section 10.32; and
 - the targets in Division 4 of Part 4 of Chapter 9. These are the salinity targets set out in Appendix 1 of Schedule B to the Agreement, as they are amended from time to time. The term ‘Agreement’ is defined in section 1.07.
545. 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. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.
546. Subsection (3) clarifies that the measures may include land management measures.

Section 10.34 – WQM Plan to identify locations of targets for irrigation water

547. This section requires the WQM Plan to identify the locations in the water resource plan area at which the target values for irrigation water apply. That is, where water is extracted by an irrigation infrastructure operator for the purpose of irrigation (see

subsection 9.17(2)). The term ‘irrigation infrastructure operator’ is defined in section 4 of the Act.

Section 10.35 – Impact of the WQM Plan on another Basin State

548. This section requires the measures specified in the WQM Plan to be developed having regard to 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 any adverse impacts those measures may have on Basin water resources in the other Basin State. It seeks consistency in water quality management and also reflects the intent of section 10.05. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Part 8—Trade of water access rights

549. This Part relates to the requirements set out in Chapter 12. It sets out the circumstances in which trade involving a groundwater resource will be permitted, by ensuring that the conditions required by certain provisions in Chapter 12 are met. The Chapter 12 provisions apply to:

- trade between two locations in the same groundwater SDL resource unit;
- trade between two groundwater SDL resource units; and
- trade between a groundwater SDL resource unit and a surface water SDL resource unit.

Section 10.36 – Application of Part

550. This section limits the applicability of this Part to only those water access rights which can be traded under State water management law.

Section 10.37 – Circumstances in which conditions in section 12.24 are met

551. Subsection (1) requires a water resource plan to set out the circumstances where trade within a groundwater SDL resource unit is permitted. The circumstances set out in the water resource plan must ensure that the conditions set out in section 12.24 are met.
552. Subsection (2) provides that if the water resource plan applies a conversion rate to meet the conditions in paragraph 12.24(d) (these conditions require measures to address the impact of trade on water availability in relation to a water access right held by a third party) the water resource plan must either specify the conversion rate or set out the way in which the conversion rate will be determined from time to time and made generally available (see the definition of ‘generally available’ in section 1.07).

Section 10.38 – Circumstances in which conditions in section 12.25 are met

553. Subsection (1) requires a water resource plan to set out the circumstances where trade between 2 groundwater SDL resource units is permitted. The circumstances set out in the water resource plan must ensure that the conditions set out in section 12.25 are met.
554. Subsection (2) provides that if the water resource plan applies a conversion rate to meet the conditions in paragraph 12.25(e) (these conditions require measures to address the impact of trade on water availability in relation to a water access right held by a third party), the water resource plan must either specify the conversion rate or set out the way

in which the conversion rate will be determined from time to time and made generally available (see the definition of ‘generally available’ in section 1.07).

Section 10.39 – Circumstances in which conditions in section 12.26 are met

555. Subsection (1) requires a water resource plan to set out the circumstances where trade between a groundwater SDL resource unit and a surface water SDL resource unit is permitted. The circumstances set out in the water resource plan must ensure that the conditions set out in section 12.26 are met.
556. Subsection (2) provides that if the water resource plan applies a conversion rate to meet the conditions in paragraph 12.26(e) (these conditions require measures to address the impact of trade on water availability in relation to a water access right held by a third party) the water resource plan must either specify the conversion rate or set out the way in which the conversion rate will be determined from time to time and made generally available (see the definition of ‘generally available’ in section 1.07).

Part 9—Approaches to addressing risks to water resources

557. This Part sets out the requirement for a water resource plan to, among other things, identify, assess and describe risks to the condition and availability of water resources and strategies to address those risks. The risk assessment required to be undertaken by this Part is expected to inform the development of the water resource plan, particularly the requirements of Parts 4, 5 and 7. It is intended that the risk assessment will assist in both identifying those water management aspects requiring attention in the water resource plan as well as emphasising those aspects which likely require a more thorough treatment in the water resource plan. These requirements have been prepared to allow significant flexibility regarding the way in which the risk assessment may be undertaken, however they are consistent with the approach set out in AS/NZS ISO 31000:2009 *Risk Management – Principles and Guidelines*. AS/NZS ISO 31000:2009 *Risk Management – Principles and Guidelines* is a document incorporated by reference available at www.mdba.gov.au.

Section 10.40 – Definitions

558. This section defines ‘risk’ to mean a risk listed in a water resource plan in accordance with subsection 10.41(4) and ‘level of risk’ to have the meaning given in AS/NZS ISO 31000:2009 *Risk Management—Principles and Guidelines*. AS/NZS ISO 31000:2009 *Risk Management – Principles and Guidelines* defines ‘level of risk’ as the ‘magnitude of a risk or combination of risks, expressed in terms of the combination of consequences and their likelihood’.

Section 10.41 – Risk identification and assessment methodology

559. Subsection (1) requires a water resource plan to be prepared having regard to current and future risks to continued availability of the water resources in the water resource plan area. Subsection (2) clarifies that the risks include (where applicable) risks to the capacity to meet environmental watering requirements, risks arising from the matters referred to in subsection 10.20(1), risks arising from potential interception activities and risks arising from elevated levels of salinity or other types of water quality degradation. Subsection (3) provides that when identifying risks for the purpose of subsection (1) regard must be had to risks identified in section 4.02 and any guidelines published by the Authority in relation to risk identification and risk assessment.

560. These risks, having been identified and listed, must be assessed and the level of risk defined using the categories of low, medium, high risk or any other additional category (subsections (4), (5) and (6)). It is important that a water resource plan clearly state how the levels of risk are defined as it is only the risks categorised as medium or higher that are addressed, therefore the basis for such categorisation must be clearly discernible from the water resource plan.
561. Subsection (7) requires the water resource plan to describe the data and methods used to identify and assess the risks. Any quantified uncertainties about the level of risk attributed need to be described under subsection (8). Further information in relation to the phrases ‘having regard to’ and ‘regard must be had’ is set out in this Explanatory Statement at section 1.07.

Section 10.42 – Description of risks

562. This section requires a water resource plan to identify all risks defined as having a medium or higher level of risk along with factors contributing to those risks.

Section 10.43 – Strategies for addressing risks

563. Where a risk is defined as having a medium or higher level of risk, subsection (1) requires a water resource plan to either:
- 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
 - explain why the risk cannot be addressed by the water resource plan in a manner commensurate with the level of risk.
564. In the case where the water resource plan describes a strategy and a water resource plan identifies a risk relating to a matter dealt with by a requirement in another Part of this Chapter, subsection (2) requires the strategy to take account of that requirement. It is intended that these strategies be prepared and incorporated in the water resource plan in a way that is consistent with, or part of, how the requirements of the other Parts of this Chapter are met. The risk assessment and corresponding strategies are not intended to be completed in isolation; rather they are intended to inform how the water resources of the water resource plan area are being managed.
565. Subsection (3) requires a water resource plan to be prepared having regard to the strategies listed in subsection 4.03(3) and any guidelines published by the Authority in accordance with section 4.04. This requirement to have regard to the strategies listed in subsection 4.03(3) does not place an obligation on a Basin State to implement these strategies. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Part 10—Measuring and monitoring

566. This Part sets out requirements in relation to information about:
- measuring the water taken from the water resource plan area; and
 - monitoring water resources of the water resource plan area.

Section 10.44 – Information relating to measuring take—water access entitlements

567. This section seeks information about the nature of measurement undertaken in the water resource plan area at the point in time that the water resource plan is accredited. This

includes the best estimate of how much take is measured and how much is estimated. It does not impose new or additional measurement and metering requirements, or require Basin States to estimate or predict future levels of metering.

568. This section requires the following information to be included in the water resource plan in relation to each class of water access right relating to the water resources of the water resource plan area:

- the best estimate of the total long-term annual average quantity of water taken that is measured (paragraph (a));
- the best estimate of the total long-term annual average quantity of water taken that is not measured (paragraph (b));
- how the quantities under paragraphs (a) and (b) were calculated; and
- 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.

Section 10.45 – Supporting measuring

569. Subsection (1) requires water resource plans to specify measures for maintaining and, if practicable, improving the proportion of take that is measured in the water resource plan area and the standard to which take is measured.

570. Subsection (2) requires the water resource plan to specify the timeframe for implementing the measures.

Section 10.46 – Monitoring water resources

571. This section requires a water resource plan to 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 obligation under section 13.14 to report on relevant matters set out in Schedule 12.

572. Not all of the matters to be reported on by the Basin States under Schedule 12 fall within the scope of the water resource plan requirements, and it is not expected that such matters will be included in the water resource plan. However, where the water resource plan or information resulting from its implementation could contribute to the monitoring and evaluation required under Schedule 12, these relationships should be identified and consideration given to how this information will be communicated. It should be noted that this requirement does not prevent the Basin States from undertaking monitoring beyond what is required under section 13.14 (see subsection (2)).

Part 11—Reviews of water resource plans

573. This Part sets out requirements in relation to reviews of the water resource plan and amendments of the plan arising from those reviews.

Section 10.47 – Review of water resource plans

574. This section requires that if a review of the plan is undertaken, the water resource plan must require a report of the review to be given to the Authority. The report must be provided within 30 days after the report is completed. This provision applies whether

the review relates to any of the documents that comprise the water resource plan, or to the water resource plan as a whole.

Section 10.48 – Amendment of water resource plan

575. This section requires a water resource plan to 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. This provision is intended to apply whether the review applies to any of the documents that comprise the water resource plan, or to the water resource plan as a whole. The accreditation of amendments will occur in accordance with section 65 of the Act. Consultation carried out before submitting an amendment must be documented in accordance with section 10.07.

Part 12—Information used to prepare water resource plan

576. This Part sets out requirements in relation to the scientific information or models on which the water resource plan is to be based.

Section 10.49 – Best available information

577. This section requires a water resource plan to be based on the best available information and to identify and describe the significant sources of information on which the water resource plan is based. Sources of information pertaining to different requirements could be identified in the list of requirements compiled under section 10.04.

Section 10.50 – Methods used to develop water resource plan

578. This section requires a water resource plan to identify or describe any significant method, model or tool used in its development. Significant in this context relates to methods, models and tools that influenced the content of the water resource plan. Methods, models or tools can also be identified in the list of requirements compiled under section 10.04.

Part 13—Extreme events

579. This Part sets out requirements in relation to planning for extreme events.

Section 10.51 – Measures in response to extreme events

580. Subsection (1) requires a water resource plan to describe how the water resources of the water resource plan area will be managed during:

- an extreme dry period;
- 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; and
- 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). The terms ‘transitional water resource plan’ and ‘interim resource plan’ are defined in section 4 of the Act.

581. Subsection (2) requires a water resource plan to set out measures to meet critical human water needs during an event of a type listed in subsection (1) if that event would compromise a Basin State’s ability to meet critical human water needs (as defined by subsection 86A(2) of the Act) in the water resource plan area.

582. It should be noted that this requirement is only concerned with the implications of extreme events for the management of the water resources of the water resource plan area, not detailed emergency management plans for broader extreme events (e.g. bushfires). The information provided under this requirement should be at a high level, and specific to the concerns of a water resource plan.
583. In some cases, new scientific information will emerge that will change the understanding of the nature of extreme events, for instance, events that were once considered extreme and unusual are recognised as occurring more regularly. The water resource plan needs to contain structures that allow these changes in information to be taken into account, including considering the need to manage water resources differently (see subsection (3)). This may then lead to a review of the existing water resource plan and amendments to manage water differently. The provisions of Part 11 would apply to a review. Any amendments to the water resource plan would need to be accredited according to the requirements in Division 2 of Part 2 of the Act.

Part 14—Indigenous values and uses

584. This Part requires that water resource plans are developed in consultation with Indigenous people and ensures that Indigenous people will play an active role in identifying their own relevant objectives and outcomes as well as having an ongoing role in the planning and management of water in the Basin.
585. In assessing whether a water resource plan meets the requirements of this provision, the Authority will consult with relevant Indigenous organisations including, where appropriate, the Murray Lower Darling Rivers Indigenous Nations and Northern Basin Aboriginal Nations.

Section 10.52 – Objectives and outcomes based on Indigenous values and uses

586. Subsection (1) requires a water resource plan to identify the objectives of Indigenous people in relation to managing the water resources of the water resource plan area and the outcomes for the management of the water resources of the water resource plan area that are desired by Indigenous people.
587. These must be determined through consultation with relevant Indigenous organisations, including (where appropriate) the Murray Lower Darling Rivers Indigenous Nations and Northern Basin Aboriginal Nations. In determining the matters set out in subsection (1) regard must be had to Indigenous values and Indigenous uses so determined. Further information in relation to the phrase ‘regard must be had’ is set out in this Explanatory Statement at section 1.07.
588. Subsection (2) defines:
- ‘Indigenous values’ as the social, spiritual and cultural values of Indigenous people that relates to the water resources of the water resource plans area; and
 - ‘Indigenous uses’ as the social, spiritual and cultural uses of the water resources of the water resource plans area by Indigenous people.
589. Indigenous organisations with an interest in land and water management will vary within each water resource plan area. The Authority recognises that states will have existing Indigenous networks. Additional organisations may be contacted through a number of networks including, but not restricted to, Indigenous health services providers, National Native Title Tribunal, local Aboriginal Land Councils, Aboriginal

Corporations, Catchment Management Authorities and the Office of the Registrar of Indigenous Corporations.

590. Subsection (3) provides that 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). If such opportunities are identified, they must be specified in the water resource plan.

Section 10.53 – Consultation and preparation of water resource plan

591. Subsection (1) requires a water resource plan to 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:

- native title rights, native title claims and Indigenous Land Use Agreements provided for by the *Native Title Act 1993* (Cth) in relation to the water resources of the water resource plan area;
- registered Aboriginal heritage relating to the water resources of the water resource plan area;
- inclusion of Indigenous representation in the preparation and implementation of the plan;
- Indigenous social, cultural, spiritual and customary objectives, and strategies for achieving these objectives;
- encouragement of active and informed participation of Indigenous people; and
- risks to Indigenous values and Indigenous uses arising from the use and management of the water resources of the water resource plan area.

592. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

593. Subsection (2) defines ‘registered Aboriginal heritage’ for the purpose of this section to mean 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). Some examples of current legislation include the *Aboriginal and Torres Strait Islander Protection Act 1984* (Cth); *Aboriginal Cultural Heritage Act 2003* (Qld); *Aboriginal Heritage Act 1988* (SA); *Aboriginal Heritage Act 2006* (Vic); *Environment Protection and Biodiversity Conservation Act 1999* (Cth); *Heritage Act 1977* (NSW); *Heritage Act 1994* (Vic); *Heritage Act 2004* (ACT); and *National Parks and Wildlife Act 1974* (NSW).

Section 10.54 – Cultural flows

594. This section requires a water resource plan to be prepared having regard to the views of Indigenous people with respect to cultural flows. The concept of cultural flows is discussed in Schedule 1. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 10.55 – Retention of current protection

595. This section requires a water resource plan to provide at least the same level of protection of Indigenous values and Indigenous uses as provided in a transitional water

resource plan for the water resource plan area or an interim water resource plan for the water resource plan area.

596. Transitional water resource plans and interim water resource plans are defined by sections 241 and 242 of the Act.

CHAPTER 11—CRITICAL HUMAN WATER NEEDS

CHAPTER OVERVIEW

597. This Chapter sets out matters relating to critical human water needs including the amount of water needed to meet critical human water needs; water quality and salinity trigger points; monitoring, assessment and risk management relating to critical human water needs; and water-sharing arrangements under the Agreement. This Chapter addresses Part 2A of the Act which requires the Basin Plan to include certain matters relating to critical human water needs.
598. Critical human water needs are defined in the Act at subsection 86A(2) as the needs for a minimum amount of water, that can only reasonably be provided from Basin water resources, required to meet core human consumption requirements in urban and rural areas, and those non-human consumption needs that a failure to meet would cause prohibitively high social, economic or national security costs. Consistently with this definition, water for critical human water needs includes water required for core human needs (drinking, food preparation and hygiene), for essential community services (including emergency services, hospitals and schools) and for commercial and industrial purposes that are vital for the ongoing functioning of the community or national security.
599. The Basin Plan specifies the amount of water required to meet the critical human water needs of communities dependent on the River Murray System. It also states the amount of conveyance water required. Conveyance water is the amount of water required to ensure sufficient flow in the river system to physically deliver water for critical human water needs. The Basin Plan includes arrangements to ensure priority is given to conveyance water, including by reserving water to help ensure that conveyance water can be provided in the driest of seasons. The Basin Plan also includes the trigger points at which salinity and water quality in the River Murray System becomes unsuitable for critical human water needs and requires the Authority to undertake certain functions having regard to those trigger points. Once the trigger points are reached, the Act requires remedial actions to address the problem.
600. The Basin States are responsible for securing and providing the water for critical human water needs. This means that while the Basin Plan sets the amount of water and conveyance water required, it is the responsibility of Basin States to meet those water needs.
601. Co-operation between the states and the Authority is important, and the provisions in the Basin Plan are supported by requirements in the Agreement, especially Schedule H which sets out arrangements for water sharing during Tiers 2 and 3 circumstances. Parts 4 and 5 set out when Tier 2 and Tier 3 arrangements apply, as well as containing additional provisions about water management during Tier 2.
602. This Chapter provides for matters relating to critical human water needs for communities dependent on the River Murray System. For communities both within and outside the River Murray System, matters relating to critical human water needs are addressed in the water resource plan requirements set out in provisions of Part 13 in Chapter 10.
603. Critical human water needs for the River Murray System are specifically dealt with under the Act and Basin Plan because reserving sufficient water including conveyance water, and addressing water quality, is inextricably linked with the shared management

of the River Murray System including its infrastructure, and therefore also with the operation of the Agreement.

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

Section 11.01 – Simplified outline

604. This section sets out a simplified outline of this Chapter.
605. In addition to Part 1, this Chapter contains 4 other Parts dealing with matters in relation to critical human water needs covered under sections 86B, 86C, 86D and 86E of the Act. Those matters are:
- the amount of water required to meet critical human water needs, and the water quality and salinity trigger points (Part 2);
 - monitoring, assessment and risk management relating to critical human water needs (Part 3);
 - matters in relation to Tier 2 water sharing arrangements (Part 4); and
 - matters in relation to Tier 3 water sharing arrangements (Part 5).
606. This Chapter should be read alongside Part 2A of the Act, as well as Part XII of, and Schedule H to, the Agreement.

Section 11.02 – Definitions

607. This section provides definitions for the terms ‘water accounting period’ and ‘water quality characteristic’ for this Chapter.
608. The definition of water quality characteristic is linked to the Australian Drinking Water Guidelines 2011 (ADWG) for which there is a health related guideline value. Note that some of the ADWG (for example those relating to colour and smell) are not health-related, but are known as aesthetic guidelines. Monitoring and managing the quality of drinking water is primarily the responsibility of local authorities. The ADWG is a document incorporated by reference available at www.mdba.gov.au.
609. A water accounting period (1 June–31 May) for the purposes of critical human water needs differs from a water accounting period (1 July–30 June) referred to elsewhere in the Basin Plan. The reason for the difference in water accounting periods is that the Authority’s water year starts on 1 June because it is the natural ‘low point’ in the upper Murray hydrologic cycle. It also comes after the end of the traditional irrigation season (which currently finishes about 15 May).

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))

610. This section sets out the minimum volumes of water required by the communities of each Basin State that is a referring State (except Queensland) that depend on the waters of the River Murray System (the ‘River Murray System’ is identified in section 86A(3) of the Act). The terms ‘Basin State’ and ‘referring State’ are defined in sections 4 and

18B of the Act respectively. The referring States presently, apart from Queensland, are New South Wales, Victoria and South Australia.

611. The approach used to determine a bulk volume for critical human water needs from the River Murray System at a state level has been based on:
- assumed daily average community use of 340 L per person in urban areas and 398 L per person in rural areas,
 - these numbers include community services, commercial and industrial use, and are based on an analysis of recent water use in Australian communities (including in the Basin) under high-level water restrictions;
 - an allowance for each state for extraordinary circumstances;
 - consideration of alternative water supplies that may supplement Basin water resources; and
 - an allowance for distribution losses in the state's delivery systems from the River Murray System to the point of supply.
612. Using this method, the critical human water needs for each state are:
- NSW—61 GL per water accounting period (paragraph 11.03(a));
 - Victoria—77 GL per water accounting period (paragraph 11.03(b)); and
 - South Australia—204 GL per water accounting period (paragraph 11.03(c)).
613. Included in South Australia's volume is the portion of Adelaide's critical human water needs provided by the River Murray System.
614. These volumes are designed to provide sufficient water in the event that the worst case planning inflow sequence occurs. The term 'worst case planning inflow sequence' is defined in Schedule H to the Agreement. Should conditions become worse, these volumes may not be available, and an emergency response (Tier 3 water sharing) would be required.

Section 11.04 – Conveyance water required to deliver water for critical human water needs (Act paragraph 86B(1)(b))

615. This section provides that the amount of conveyance water needed to deliver water for critical human water needs is 1,596 GL per water accounting period. The term 'conveyance water' is defined in subsection 86A(4) of the Act to mean the water in the River Murray System required to deliver water to meet critical human water needs as far downstream as Wellington in South Australia. 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 and South Australia's dilution and loss entitlement set out under clause 88(b) of the Agreement.
616. As noted in this section, the amount specified in clause 88(b) of the Agreement is included in the 1,596 GL per water accounting period. The amount specified in clause 88(b) is an allocation to South Australia of 58,000 megalitres per month for dilution and losses, unless the Ministerial Council determines otherwise.
617. The conveyance water allocated as a conduit to transport the critical human water needs water, takes into account evaporation and seepage into the river bank. If the critical human water needs were to change, this volume may also need to be reconsidered.

618. Part 4 sets out arrangements including a reserves policy, to help ensure that sufficient conveyance water is available when Tier 2 water sharing arrangements apply.

Section 11.05 – Water quality and salinity trigger points (Act paragraph 86B(1)(c))

619. This section specifies the water quality and salinity trigger points at which water in the River Murray System becomes unsuitable for meeting critical human water needs. The Authority and the Basin States will aim to maintain water quality below the trigger points. This is addressed in sections 11.07 and 11.08.
620. The note states that 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.
621. In the River Murray System, most water quality issues associated with water for human consumption are managed through water treatment in accordance with state regulations governing water for human consumption. The critical human water needs provisions do not attempt to duplicate these state regulations.
622. The role of the water quality and salinity triggers is to address circumstances when additional or whole-of-river responses are required to provide water of a suitable quality to meet critical human water needs.
623. The salinity and water quality trigger points apply at or upstream from Wellington, a small town located just upstream of the point where the River Murray empties into Lake Alexandrina.
624. This section identifies the trigger point for salinity (subsection (2)) and water quality (subsection (3)). Section 86F of the Act details emergency responses to a water quality or salinity trigger point being reached. Tier 3 water sharing arrangements are also triggered (see subsection 11.15(3)) if a salinity and/or water quality trigger is reached.
625. Subsection (2) provides that a salinity trigger point is reached if a member of the Basin Officials Committee advises the Authority that a water supply authority has taken raw water from the River Murray System, at or upstream of Wellington, South Australia, for the purpose of treatment and supply for human consumption and the salinity level is greater than or equal to 1400 EC ($\mu\text{S}/\text{cm}$). The terms ‘EC’, ‘raw water’ and ‘water supply authority’ are defined in section 1.07.
626. The 1400 EC ($\mu\text{S}/\text{cm}$) trigger reflects the salinity threshold for Murray Bridge agreed to by the southern Basin States during the millennium drought. This proved to be an effective level for managing salinity in this time of very low water availability. The ADWG considers drinking water quality to be of a poor quality if total dissolved solids are between 800-1000 mg/L. Despite being considered poor, there are no known health effects of high concentrations of total dissolved solids. As such the measure is considered acceptable for short-term drought management, but not as a long-term objective for water quality.
627. Subsection (3) states that a water quality trigger point is reached if a member of the Basin Officials Committee advises the Authority of any of the circumstances in paragraphs (a) to (c). The key here is the level of treatment required to enable raw water taken from the River Murray System at, or above Wellington, South Australia, to meet relevant health-related guideline values in the ADWG. If the water quality is such that it would be unfeasible for a water supply authority to treat the water utilising existing processes so that it meets the health-related guideline values in the ADWG, and it is expected that this will continue to be the case, the trigger point is reached.

628. Having a member of the Basin Officials Committee advise the Authority if a trigger point has been reached is intended to provide states with the flexibility to determine if a problem is likely to persist and require a whole-of-system response in accordance with the requirements of section 86F of the Act, or if it is a local issue that they can manage.

Part 3—Monitoring, assessment and risk management

629. 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.

Section 11.06 – Process for assessing inflow prediction (Act paragraph 86C(1)(b))

630. This section sets out the processes by which the Authority must assess inflow prediction into the River Murray System. Two distinct sources of inflow are identified: the River Murray System itself, and the water released from the Snowy Scheme to the Upper Murray.
631. Subsection (1) provides that for the River Murray System, the Authority must monitor inflow volumes, having regard to the best available information about the matters mentioned in subparagraphs (i) and (ii) and review trends in climate and inflow patterns. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.
632. Subsection (2) requires the Authority to use the processes set out in Part III of Schedule F to the Agreement when assessing inflow related to the Snowy water licence.
633. Subsection (3) requires the Authority to use the processes in subsections (1) and (2) to prepare a range of predictions of inflow into the River Murray System.

Section 11.07 – Process for managing risks to critical human water needs associated with inflow prediction (Act paragraph 86C(1)(b))

634. Subsection (1) requires the Authority to manage the risks to critical human water needs associated with inflow prediction in accordance with this section.
635. Subsection (2) requires the Authority, based on the inflow predictions and other information under section 11.06 and water quality forecasts mentioned in paragraph 11.08(1)(e), to identify the risk factors and assess the risk of certain events. Those events are that the conveyance water amount specified in section 11.04 will not be available (paragraph (a)), the amount of water to be reserved under subsection 11.12(2) will not be available (paragraph (b)), or that the water quality and salinity trigger points under section 11.05 will be reached (paragraph (c)).
636. Subsection (3) also requires the Authority to identify and assess risks to critical human water needs associated with advances, if the Authority’s assessment of inflow prediction indicates that advances under clause 102C of, or Schedule H to, the Agreement may be required.
637. The advances referred to in subsection (3) act as a kind of water loan to assist a Basin State that does not have enough water available to meet its contribution to the conveyance water in the current water year. Advances may be made from one or two states to another, for example New South Wales may make an advance to South Australia, or both New South Wales and Victoria may make an advance to South Australia.

638. Advances do not increase the total amount of water available for distribution in a particular period. Instead, they increase the amount of water available for distribution by the state requiring the advance, and decrease by an equivalent amount the water available for distribution by the state or states that advanced the water. Advances may be determined by the Basin Officials Committee based upon advice from the Authority under Schedule H to the Agreement.
639. Subsection (4) requires the Authority to manage the risks to critical human water needs identified under subsection (2) by managing the River Murray System in accordance with the Agreement, having regard to the list of factors in paragraphs (a) to (g). Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 11.08 – Risk management approach for inter-annual planning (Act paragraph 86C(1)(c))

640. Including a risk management approach for inter-annual planning in this Chapter provides a clear mechanism for the Authority to look beyond the current water accounting period and identify potential risks to critical human water needs into at least the next water accounting period. This section outlines the basis for managing critical human water needs between years, and the factors that the Authority’s risk management must take into account in determining matters such as:
- the volume of water to be made available to Basin States in a particular year; and
 - whether water is set aside in the conveyance reserve for future years.
641. The conveyance reserve is a minimum amount of water that must be set aside at the end of a water accounting period. This amount, when combined with worst case scenario minimum inflow estimation, seeks to guarantee the minimum volume of conveyance water for the following water accounting period (see section 11.12).
642. Subsection (1) requires the Authority to base its risk management approach for inter-annual planning on the matters in paragraphs (a) to (e).
643. Subsection (2) sets out the matters the Authority must have regard to when making decisions about the volume of water to be made available to the Basin States, in a particular year, and whether water is set aside in the conveyance reserve for future years. As indicated by the note, Part XII of the Agreement will also apply to the Authority in making such decisions.
644. Subsection (3) places an onus on Basin States to have regard to advice from the Authority regarding the volume of water available to them in a particular year when making decisions about whether water is made available for uses other than meeting critical human water needs. These decisions should reflect the priorities agreed to by the Basin States under section 86A(1) of the Act.
645. Subsection (4) provides that when Tier 3 water sharing arrangements apply (see Part 5), the Ministerial Council must have regard to the water accounts outlined in Subdivision D of Division 1 of Part XII of the Agreement, and water resource assessments undertaken by the Authority, including assessments made for the purposes of a determination under clause 102 of the Agreement. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

Part 4—Tier 2 water sharing arrangements

646. The note refers to Division 2 of Part XII of the Agreement, which specifies the provisions that will apply during Tier 2 water sharing arrangements.

Division 1—When Tier 2 water sharing arrangements apply

647. This Division sets out the trigger mechanisms that allow the Authority to declare that Tier 2 water sharing arrangements apply, or cease to apply. Applying Tier 2 invokes Division 2 of Part XII of, and Schedule H to, the Agreement. Schedule H sets out how state water entitlements are to be determined, delivered and accounted for during periods of Tier 2 or Tier 3 water sharing. The Tier 2 water sharing arrangements in Schedule H set out provisions to ensure sufficient water for conveyance water and the conveyance reserve (the term ‘conveyance reserve’ is defined in subsection 1.07(1) and clause 2 of the Agreement).

Section 11.09 – Commencement of Tier 2 water sharing arrangements (Act paragraph 86D(1)(a))

648. There are two ways by which Tier 2 water sharing arrangements can commence. The first is via a transition from Tier 1 water sharing arrangements, which is a step up in the level of intervention required to meet conveyance water requirements. The second is via a transition from Tier 3 water sharing arrangements, which is a step back in the level of intervention required to meet conveyance water requirements. Transition from Tier 3 to Tier 2 is dealt with in section 11.16.

649. Broadly, a transition from Tier 1 to Tier 2 water sharing arrangements under this section is concerned with water quantity and can occur if worst case planning water resource assessment indicates:

- there is insufficient water to provide conveyance water in the current year (see subsection (2)); or
- there is insufficient water to set aside the conveyance reserve for the next year (see subsection (3)).

650. Decisions are based on the worst case planning water resource assessment determined by the Authority (the term ‘worst case planning water resource assessment’ is defined in subsection 1.07(1)) to mean a water resource assessment taking into account the minimum inflow sequence to the River Murray System). In the minimum inflow scenario, each tributary is assessed independently, meaning that it is the lowest inflow (sequences) for each individual tributary valley not the total system that is used. This assumes the worst-case for each valley is occurring at the same time across the whole of the River Murray system. In addition, based on advice from New South Wales and Victoria, the inflows for the Murrumbidgee and Goulburn river systems is less than the historic minimum. As such it is a very conservative scenario allowing a high level of confidence that conditions will improve, not worsen.

651. Subsection (1) allows the Authority to declare that Tier 1 ceases, and Tier 2 commences, if it is satisfied that worst case planning water resource assessment indicates that either there is insufficient water to provide conveyance water in the current year (subsection (2)) or there is insufficient water to set aside the conveyance reserve for the next year (subsection (3)). The declaration is made by the Authority publishing on its website a notice declaring that Tier 1 ceases and Tier 2 commences,

the date from which this takes effect, and which of the two circumstances set out in subsections (2) and (3) applies.

652. Subsection (2) allows the Authority to trigger the Tier 2 water sharing arrangements if, at any time between 1 June and 31 August of the current water accounting period, the Authority is satisfied that the worst case planning water resource assessment indicates that the balance of the 1,596 GL of conveyance water set out in section 11.04 cannot be supplied for the remainder of the same water accounting period. This is the start of the water year, ahead of the traditional period of high inflows into the River Murray System. It allows for early preparation in case sufficient inflows do not occur. If the volume cannot be satisfied outside of this timeframe, Tier 3 is triggered (see section 11.15).
653. Subsection (3) allows the Authority to trigger the Tier 2 water sharing arrangements if, between 1 September and 31 May of the current water accounting period, the Authority is satisfied that the worst case planning water resource assessment indicates that 225 GL to meet the shortfall in conveyance water (see subsection 11.12(2)) cannot be set aside by the end of the same water accounting period. This trigger occurs in response to safeguarding water availability in the following water accounting period under worst case planning water resource assessments, which is the purpose of the conveyance reserve.
654. Subsection (4) provides that the Authority should not take advances of water between states under clause 102C of the Agreement into account when deciding whether Tier 2 water sharing arrangements apply.

Section 11.10 – Cessation of Tier 2 water sharing arrangements (Act paragraph 86D(1)(b))

655. This section sets out the circumstances in which the Authority may declare that Tier 2 water sharing arrangements cease, and Tier 1 arrangements enter into effect. The Authority may do this by publishing on its website a notice declaring that Tier 2 water sharing arrangements cease, and Tier 1 water sharing arrangements recommence on a specified date if:
- no measures taken under the Tier 2 and 3 water sharing arrangements in Schedule H to the Agreement are in effect (paragraph (2)(a));
 - the worst case planning water resource assessment indicates that the balance of the 1,596 GL of conveyance water set out in section 11.04 will be available for the current water accounting period (paragraph (2)(b));
 - the worst case planning water resource assessment indicates that the 225 GL of conveyance reserve can be set aside at the end of the current water accounting period so that the following year's conveyance water is secured (paragraph (2)(b)); and
 - the Basin Officials Committee has not determined that an advance is required in the current water accounting period (paragraph (2)(c)).

Division 2—Tier 2 reserves policy

656. The provisions in this Division are designed to ensure that during Tier 2 arrangements, sufficient conveyance water will be available in the following water year. The reserves policy nominates a minimum amount of water that must be set aside at the end of a water accounting period. This amount, when combined with worst case scenario

minimum inflow estimation, seeks to guarantee the minimum volume of conveyance water for the following water accounting period.

Section 11.11 – Reserves policy (Act paragraph 86D(1)(c))

657. This section states that this Division specifies the reserves policy that applies when Tier 2 water sharing arrangements apply.

Section 11.12 – Meeting the annual shortfall in conveyance water

658. Subsection (1) provides that for the purposes of section 86D(2) of the Act, the shortfall in conveyance water is 620 GL in each year.
659. The shortfall in conveyance water is derived by subtracting the minimum historical inflow into the River Murray System (980 GL) from the minimum volume of conveyance water required to meet critical human water needs (1,596 GL, as set out in section 11.04). Therefore, if a minimum historical inflow into the River Murray System were experienced, an extra 620 GL would be required to meet minimum conveyance water requirements.
660. Subsection (2) identifies the volume of water to be reserved by the end of a water accounting period to meet the shortfall in conveyance water each year, as 225 GL (see subparagraph 86D(1)(c)(i)). Subsection (3) requires this amount to remain constant (see subparagraph 86D(1)(c)(ii)).
661. The amount of 225 GL is a combined total amount required to be reserved by New South Wales, Victoria and South Australia by the end of a water accounting period. Operationally, this is an important figure because it identifies the volume of water required to be reserved for the following water accounting period. The figure is based on hydrological modelling. The modelling used a predicted 2030 dry climate change inflow scenario. This is a more conservative scenario than the historical record and will help ensure the conveyance reserve volumes are adequate if the Basin were to experience drought worse than one experienced in the historical record.
662. The volume of water to be reserved to meet the shortfall in conveyance water is less than the shortfall in conveyance water because the modelling uses a risk profile that takes into account the likelihood that inflows to the system will improve as the water year progresses. This closely links to the trigger for entering into Tier 2 water sharing arrangements set out in subsection 11.09(3).
663. The modelling assumes that any advances of water required between states occurred immediately. If an advance was not granted or if delays were to occur in granting advances between states then a larger reserve may be required to address the shortfalls in conveyance water.
664. Subsection (4) provides that the volume referred to in subparagraph 102D(2)(a)(ii) of the Agreement is the same as the amount specified in subsection (2); that is, 225 GL. Subclause 102D(2) of the Agreement sets out the ‘conveyance reserve’, which is the lesser of the amount specified for the purposes of subparagraph 102D(2)(a)(ii), that is, 225 GL, and an amount calculated under paragraph 102D(2)(b).

Section 11.13 – Application of the conveyance reserve provisions of the Agreement

665. This section provides that the arrangements governing how the volume required to be reserved to meet the shortfall in conveyance water in subsection 11.12(2) (that is, 225

GL) will be reserved and provided, are those set out in clause 102D of the Agreement and Schedule H to the Agreement.

Section 11.14 – Arrangements for carrying water over in storage

666. Subsection (1) reiterates the rights of South Australia under the Agreement to store its entitlement to water. South Australia's water storage arrangements are stipulated in Schedule G of the Agreement.
667. Subsection (2) provides that without limiting the operation of Part XII of the Agreement, New South Wales and Victoria have the right to hold in storage (carry over) between water accounting periods 150% of their water for critical human water needs as that right is described in paragraph 135(14)(a) of the Agreement.
668. Subsection (3) makes it clear that New South Wales, Victoria and South Australia are each responsible for meeting their own critical human water needs. It is the responsibility of each state to determine how water from its respective share is used in its jurisdiction.

Part 5—Tier 3 water sharing arrangements

669. The note refers to Division 2 of Part XIII of the Agreement, which specifies the provisions that will apply during Tier 3 water sharing arrangements. Tier 3 arrangements apply when an emergency response is required because extreme conditions threaten the quality or quantity of water required for critical human needs.

Section 11.15 – Commencement of Tier 3 water sharing arrangements (Act paragraph 86E(1)(a))

670. This section allows for a transition to Tier 3 from Tier 1 or Tier 2 water sharing arrangements depending on the circumstances of the relevant trigger.
671. Subsection (1) provides that the Authority may publish a notice on its website that declares Tier 1 or Tier 2 water sharing arrangements cease and Tier 3 water sharing arrangements enter into effect from a date specified in the notice. The notice may be published if the Authority is satisfied that either subsection (2) or subsection (3) applies.
672. Subsection (2) applies at certain times to allow a transition to Tier 3 water sharing arrangements arising from water quantity issues where worst case planning water resource assessment indicates that:
- any of the critical human water needs volumes set out in section 11.03 cannot be supplied by the end of the current water accounting period (paragraph (c)); or
 - the conveyance water volume set out in section 11.04 cannot be supplied by the end of the current water accounting period even taking into account the use of advances or any remedial action undertaken in accordance with Schedule H to the Agreement (paragraph (d)).
673. Subsection (2) applies only in times of extreme and unprecedented low water quantity levels or where there is an extremely high risk that water will not be available in the River Murray System in the next 12 months.
674. Subsection (3) applies if, during times 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 set out in subsections 11.05(2) or 11.05(3) is

reached. (Reaching a water quality or salinity trigger point is not a trigger for moving from Tier 1 to Tier 2.)

675. Subsection (4) provides a mechanism for a notional step-through of Tier 2 in the event of a transition directly from Tier 1 to Tier 3.

Section 11.16 – Cessation of Tier 3 water sharing arrangements (Act paragraph 86E(1)(b))

676. This section allows for a transition from Tier 3 water sharing arrangements back to either Tier 1 or Tier 2 water sharing arrangements if certain conditions apply.
677. Subsection (1) provides that during Tier 3 arrangements, if the Authority is satisfied that both the water quantity and quality requirements in subsections (3) and (4) are satisfied, the Authority may publish a notice on its website that declares Tier 3 water sharing arrangements cease and Tier 2 water sharing arrangements enter into effect from a date specified in the notice.
678. Subsection (2) allows for a transition from Tier 3 back to Tier 1. The Authority may publish a notice on its website that declares Tier 3 water sharing arrangements cease and Tier 1 water sharing arrangements enter into effect from a date specified in the notice. The notice may be published if the Authority is satisfied that both subsections (3) and (4) apply and also that subsection 11.10(2) is satisfied.
679. The requirements which must be met to allow for a transition from Tier 3 back to Tier 1 are more onerous than a transition from Tier 3 back to Tier 2.
680. Subsection (3) applies if the worst case planning water resource assessment indicates that:
- the critical human water needs volumes (see section 11.03) can be supplied in the current water accounting period (paragraph (a)); and
 - the conveyance water amount (see section 11.04) can be supplied in the current water accounting period after taking into account the use of any advances made under clause 102C of the Agreement, or remedial action is undertaken in accordance with clause 10 of Schedule H to the Agreement (paragraph (b)).
681. Subsection (4) applies if a water supply authority has taken raw water from the River Murray System, at or upstream of Wellington, South Australia, for the purpose of treatment and supply for human consumption and:
- the salinity level of that water is less than 1,400 EC ($\mu\text{S}/\text{cm}$); and
 - it is practicable (and it is expected that it will continue to be practicable) for the water supply authority to treat the raw water so that it satisfies the relevant health-related value specified by the ADWG.
682. The terms ‘EC’, ‘raw water’ and ‘water supply authority’ are defined in section 1.07.
683. Subsection (5) provides a mechanism for a notional step-through of Tier 2 in the event of a transition directly from Tier 3 back to Tier 1.

CHAPTER 12—WATER TRADING RULES

CHAPTER OVERVIEW

684. This Chapter sets out the Basin Plan's rules for trading or transfer of tradeable water rights in relation to Basin water resources (referred in the Basin Plan as the 'water trading rules'). 'Tradeable water rights' are defined in section 4 of the Act to mean water access rights, or water delivery rights, or irrigation rights. Item 12 of the table in subsection 22(1) of the Act requires the Basin Plan to include water trading rules. The table further provides that:
- the rules must contribute to achieving the Basin water market and trading objectives and principles that are set out in Schedule 3 to the Act; and
 - the rules must deal with the trading or transfer between Basin States of tradeable water rights in relation to Basin water resources.
685. Section 26 of the Act specifies a range of matters that the water trading rules are able to deal with, including rules, terms and processes governing the trade or transfer of tradeable water rights.
686. Subsection 42(2) of the Act provides that, in preparing the water trading rules, the Authority must obtain, and have regard to, the advice of the Australian Competition and Consumer Commission (ACCC). The ACCC published its final advice, *Water Trading Rules – Final Advice*, in March 2010 (ACCC final advice), which is available at www.accc.gov.au. The Authority has also obtained and had regard to the advice of the ACCC on an on-going basis as the water trading rules were prepared.
687. The water trading rules aim to ensure free trade in surface water, except where there are defined allowable restrictions, and that trade in both surface water and groundwater is free from certain kinds of restrictions. In addition, the water trading rules aim to ensure that there are no unreasonable restrictions on the trade of water delivery rights. The rules also aim to increase the level of information available in the market, as access to information facilitates transparency and allows participants to make informed decisions.
688. Clarity and certainty around the operation of a market enhances the confidence of market participants and their willingness to participate in the market. Consistency in the rules governing trade will ensure that all market participants can be confident of their rights regardless of where they are trading within the Murray-Darling Basin.
689. The water trading rules do not cover all of the rules that govern the trading or transfer of tradeable water rights in relation to Basin water resources. Other trading rules that apply at a state or local level will continue to operate concurrently with the Basin Plan water trading rules. However, while a transitional or interim water resource plan is in effect, it prevails over the Basin Plan to the extent to which there is an inconsistency between the transitional or interim water resource plan and the Basin Plan (see section 245 of the Act). In addition, the water trading rules complement various other instruments made under the Act, for example the water market rules and water charge rules.
690. The water trading rules provide for the making of administrative decisions by various bodies. Decisions of this nature (including failure to make a decision) are reviewable under the *Administrative Decisions (Judicial Review) Act 1977* (Cth).
691. The water trading rules commence on 1 July 2014 (see subsection 1.04(2)).

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

692. This Part is a preliminary Part, which includes some application and interpretive provisions that apply throughout this Chapter.

Section 12.01 – Simplified outline

693. This section sets out a simplified outline of this Chapter.

Section 12.02 – Application of Chapter to certain water access rights

694. Subsection (1) provides that this Chapter does not apply to water access rights that are of a kind that are not able to be traded under State water management law.

695. Subsections (2) to (6) ensure that the water trading rules do not impact adversely on the ability of the Commonwealth or Basin States to enter into agreements with respect to, and to implement, arrangements relating to the shepherding of water for environmental purposes. In particular, these amendments facilitate arrangements for the shepherding of environmental water under the *Memorandum of understanding in relation to shepherding of water for the environment* (September 2009) (available at www.environment.gov.au) between New South Wales and the Commonwealth that was finalised in July 2010.

696. As noted above, the water trading rules aim to ensure that trade is free from certain kinds of restrictions. To this end, the intention of Subdivision A of Division 1 Part 2 of this Chapter is to ensure that persons may trade water access rights free of various kinds of conditions and restrictions. Subsections (2), (3) and (4) provide an exemption to the operation of these provisions, by permitting certain types of restrictions to be applied to certain types of trades, in order to implement particular kinds of water shepherding arrangements.

697. Subsection (2) provides that 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, so long as:

- the restrictions satisfy subsection (3); and
- the trades satisfy subsection (4).

698. The exemption is limited to these 4 provisions because water shepherding arrangements may involve some restrictions that are inconsistent with these provisions.

699. A restriction will satisfy subsection (3) if it is imposed in furtherance of an agreement that meets the requirements of paragraphs (a), (b) and (c) of that subsection.

700. To satisfy paragraph (a), the agreement must be between the Commonwealth and a Basin State, or between Basin States. A Basin State would not be able to act unilaterally to impose a restriction in reliance on subsection (2).

701. To satisfy paragraph (b), the agreement must be one that relates in some way to trades of held environmental water to, from or between places.

702. To satisfy paragraph (c), the agreement must be for the purpose of achieving one or more environmental outcomes. The term ‘environmental outcome’ is defined in section 4 of the Act. This paragraph does not necessarily require that the agreement

itself result in an environmental outcome being met. It only requires that meeting of an environmental outcome be an underlying purpose of the agreement.

703. A trade will satisfy subsection (4) if it meets the requirements of paragraph (a) or paragraph (b). Paragraph (a) refers to trades of a kind that State water management law permits only for held environmental water, and did not permit at all prior to the entry into an agreement of a kind referred to in subsection (3). The intention underlying this provision is to ensure that the exemption under subsection (2) is only available for water shepherding arrangements that permit trades otherwise not permissible.
704. Paragraph (b) refers to a trade that forms part of a sequence of trades that is being conducted in furtherance of an agreement of a kind referred to in subsection (3), and which contains a trade of a kind referred to in paragraph (a). One feature of water shepherding is that it involves movement of held environmental water from one place to another. Depending on the circumstances, more than one trade may be undertaken in order to complete the shepherding activity; a sequence of related trades may be needed. Paragraph (b) ensures that all trades in such a sequence will be able to benefit from this exemption, so long as at least one such trade satisfies paragraph (a). It is not anticipated that this paragraph will be relevant to all water shepherding arrangements, and nor is this paragraph intended to imply that water shepherding trades must involve a sequence of trades.
705. Subsection (5) provides that the Authority must complete a review of the operation of subsections (2) to (4) by 1 July 2020.
706. Consistently with subsection 42(2) of the Act, subsection (6) provides that, in conducting this review, the Authority must obtain, and have regard to, the advice of the ACCC.
707. A note under subsection (6) indicates that, 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.

Section 12.03 – Water delivery rights to which this Chapter applies

708. Subsection (1) limits the application of this Chapter to water delivery rights that satisfy each of the criteria set out in paragraphs (a), (b) and (c). A water delivery right is defined in the Act to mean a right to have water delivered by an infrastructure operator. This Chapter does not apply to water delivery rights held against an infrastructure operator unless it is also an irrigation infrastructure operator which is entitled to impose a fee upon the termination or surrender of that right, or services provided in relation to that right, that fee being one that is regulated by the *Water Charge (Termination Fees) Rules 2009* (Cth).
709. Subsection (2) is an interpretive provision which clarifies that a reference in this Chapter to the trade, termination or surrender of a water delivery right includes a reference to the trade, termination or surrender of part or all of the entitlement to delivery under that right.

Section 12.04 – Reference to a trade to, from or between places

710. This section provides that a reference to trade of a water access right to, from or between two places, for example, trading zones, locations, areas, resources or systems,

is to be interpreted as a reference to a trade which results in a change of the location at which the water to which the right relates may be taken.

711. Neither the Act nor the Basin Plan defines the term ‘trade’ or ‘transfer’. Subsection 1.07(2) provides that a reference to ‘trade’ in the Basin Plan includes a reference to ‘transfer’. Accordingly, although the Basin Plan does not expressly refer to a ‘transfer’ of tradeable water rights, the effect of subsection 1.07(2) is that this Chapter applies to a transfer of tradeable water rights in the same way as it applies to a trade. Subsection 1.07(3) provides that, to avoid doubt, the term ‘trade’ includes transactions that do not involve payment of consideration, trade between locations where ownerships of the right does not change, leases, and establishment of a tagged water access entitlement (see paragraphs 1.07(3)(a) to (d)).

Section 12.05 – Recovery of loss or damage

712. Under subsection 26(5) of the Act, the water trading rules may provide that a person who suffers loss or damage as a result of conduct of another person that contravenes the rules may recover the amount of the loss or damage by action against that other person or against any person involved in the contravention.
713. This section permits a person to recover losses or damages in this manner, so long as they result from the conduct of a person other than an agency of a Basin State. This right of action is restricted only to loss or damage resulting from contravention of certain provisions of the water trading rules. Those provisions are specified in the table in this section.

Part 2—Restrictions on trade of tradeable water rights

714. This Part deals with the imposition or removal of restrictions on, and barriers to, the trading of tradeable water rights. The intent of this Part is to remove restrictions and barriers by conferring various rights that relate to trade of tradeable water rights. Any state law that imposed a restriction on, or barrier to, the trade of tradeable water rights that is inconsistent with this Part would be invalid to the extent of the inconsistency, insofar as that law applied to trade of tradeable water rights that relate to Basin water resources.
715. This Part consists of two Divisions:
- Division 1 deals with tradeable water rights generally; and
 - Division 2 deals with water delivery rights only.

Division 1—Trade of tradeable water rights

716. This Division consists of 4 Subdivisions, with each Subdivision dealing with trades that relate to different kinds of water resources:
- Subdivision A deals with trades that relate to all water resources;
 - Subdivision B deals with trades that relate to surface water only;
 - Subdivision C deals with trades that relate to groundwater and trades between groundwater and surface water; and
 - Subdivision D clarifies the interaction of this Chapter with some aspects of State water management law.

Subdivision A—All water resources—right to trade free of certain restrictions

Section 12.06 – Separate rights

717. This section implements rule advice 3-C of the ACCC final advice. Subsection (1) provides that 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. The term ‘location-related right’ is defined in subsection (2) as meaning a water delivery right, a works approval or a water use approval.
718. The ACCC final advice noted that water rights can be unbundled into the actual right to water (separate to land), the right to use water on land, the right to construct or operate water related infrastructure and the right to have water delivered by an infrastructure operator. The unbundling of water rights can increase trading opportunities and thus provide water users with greater flexibility to manage their water access, use, delivery and land-holding needs. However, it noted that, where an approval to trade an unbundled water access right is conditional on an associated (location-related) right, this can act as a barrier to trade. This section addresses this concern.

Section 12.07 – Class of persons

719. This section implements rule advices 3-A and 3-D of the ACCC final advice, and provides that a person may trade a water access right free of any restriction on the trade as to the person being, or not being, a member of a particular class of persons. The ACCC final advice gave, as examples of such classes, non-landholders, environmental water-holders, urban water holders and foreign entities. As note 2 under this section indicates, the operation of this rule is qualified to some extent by section 12.27.
720. The ACCC final advice noted the existence of trading rules in some states that limited the ownership of water based on the identity or characteristics of the buyer, such as non-landholders or environmental water users. It considered that restrictions of this nature were a barrier to trade. This section addresses this concern.

Section 12.08 – Purpose for which water is used

721. This section draws upon rule advice 3-E of the ACCC final advice. Subsection (1) provides that 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 the right has been, or will be, used.
722. The ACCC final advice noted that water access rights in some jurisdictions are linked to a specific intended use, and that some of these categories of water access rights are subject to particular trading restrictions. The ACCC considered that trading restrictions based on the intended use of the water available under a water access right create inefficiencies.
723. Section 12.08 does not seek to prevent conditions relating to the use of water available under water access rights being imposed on such rights nor does it require that such conditions be removed solely as a result of the water access right being traded.
724. Subsections (2) and (3) qualify subsection (1).
725. Subsection (2) provides that subsection (1) does not apply to water access rights that are stock and/or domestic rights. The ACCC recognised that tradeable water access rights held for stock and domestic purposes form a special case due to the importance and

unique nature of water for these purposes, and considered that rule advice 3-E should not apply to such rights.

726. Subsection (3) provides that subsection (1) does not apply to the trade of a water access entitlement that is designated for an urban water supply activity under State water management law.

Section 12.09 – Take and use of water after a trade

727. Like section 12.08, this section draws upon rule advice 3-E of the ACCC final advice. This section provides that 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.
728. The ACCC final advice noted that, in some jurisdictions, water access rights are limited to specific intended uses (such as urban or agricultural). In some instances, the final advice noted, some types of water access rights might not be able to be traded between different uses, or restrictions may be placed on the take or use of water solely because it was traded. The advice considered that trading restrictions of this nature create inefficiencies and restrict trade. This section and section 12.08 address these concerns.

Section 12.10 – Use outside Murray-Darling Basin

729. This section implements rule advice 3-I of the ACCC final advice, and provides that 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.
730. The ACCC final advice considered that a trading restriction that was based on the use of water extracted under a Murray-Darling Basin water access right outside the Murray-Darling Basin would be an unreasonable restriction on trade. This section addresses this concern.

Section 12.11 – Trade of water allocation which has been carried over

731. This section implements rule advice 3-N of the ACCC final advice. Subsection (1) provides that 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. Subsection (2) is an exception to subsection (1). The ACCC final advice pointed out that access to carryover can sometimes be limited by delivery constraints and water availability. To address this, in most jurisdictions, carryover water cannot be taken until access has been granted. Subsection (2) accordingly provides that the rule in subsection (1) does not apply when a carryover announcement is required before the water allocation can be taken, and no such announcement has been made. The terms ‘carryover announcement’ and ‘carryover arrangement’ are defined in section 1.07.

Section 12.12 – Access to carryover for traded water access rights

732. Like section 12.11, this section implements rule advice 3-N of the ACCC final advice. Subsection (1) provides that a person may participate in a carryover arrangement in relation to a class of water access right free of any restriction arising from the fact that the person acquired the water access right of that class by way of a trade. Subsection (2) is an exception to subsection (1), and provides that, if the trade results in a change of the water resource to which the water access right relates, and if there are different

carryover arrangements in force for the origin and destination water resources, the carryover arrangement for the destination water resource may be applied to the water access right.

733. The ACCC final advice considered that, where a water access entitlement is traded, the characteristics of that entitlement (including whether there is carryover associated with that entitlement) should remain unchanged. Similarly, it considered that any water accessed through carryover should be able to be traded in the same manner as any other water allocation. This section and section 12.12 address these concerns.

Section 12.13 – Overallocation

734. This section implements rule advice 3-L of the ACCC final advice, and provides that 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.
735. The ACCC final advice considered that the water trading rules must recognise rights on issue as they currently are, and ought not to impinge on the property rights of water access right holders. It noted that some Basin States had imposed restrictions on particular trades to address concerns about overallocation of the water source. However, the advice considered that:
- such trading restrictions have a limited impact on addressing overallocation. In creating a disincentive to trade, they limit the volume of trade that occurs, but this in itself has little effect on overallocation;
 - such trading restrictions concentrate the burden of addressing overallocation on trading parties only; and
 - trades in an overallocated system do not lead to a greater level of overallocation, and do not impact on the total volume of water access rights on issue.
736. This section addresses these concerns.

Section 12.14 – Level of use of water access right

737. Subsection (1) provides that a person may trade a water access right free of any restriction based on the historical level of use of the water access right, or an anticipated increase in the level of use of the water access right. Subsection (2) provides that subsection (1) does not apply if the trade is between two places, there is a difference in the reliability or availability of water between the two places, and the restriction is necessary to account for that difference. For example, a trade could take place between two locations in an unregulated system or a groundwater source, with correspondingly different reliability. In such a case, subsection (2) might permit a restriction to account for that difference in reliability.
738. The principle underlying this section is that, when a water access right is traded, the past or expected use of the right should not be a condition of the trade. Accordingly, if historically the water access right has not been used fully, it should not be possible to impose a restriction on the basis of this. Additionally, if it is anticipated that the person to whom the right will be traded will use a greater proportion of the water access right, it should not be possible to impose a restriction on the basis of this.

Section 12.15 – Trade must not be made conditional on water delivery right

739. This section implements rule advice 7-B of the ACCC final advice, and provides that 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.
740. The rationale for this section is similar to that of section 12.06. This section is also intended to preclude requirements for a person to hold, buy, sell, obtain, accept, terminate or vary the volume or unit share of, a water delivery right as a result of a prior trade of a water access right (or irrigation right).

Subdivision B—Additional rules relating to surface water

741. Sections 12.16, 12.17 and 12.18 draw upon rule advices 4-A and 6-A of the ACCC final advice. Sections 12.19 and 12.20 are supporting machinery provisions.
742. Sections 12.21 and 12.22 implement rule advice 6-F of the ACCC final advice.

Section 12.16 – Free trade of surface water

743. Subsection (1) provides that a person may trade a water access right within a regulated system, between regulated systems, or within an unregulated system, free of any restriction on changing the location at which the water to which the right relates may be taken, with the exception of the allowable restrictions described below. Subsection (2) clarifies how this section applies to certain unregulated systems. The terms ‘regulated system’ and ‘unregulated system’ are defined in section 1.07.

Section 12.17 – Trade not to be subject to a volumetric limit

744. Subsection (1) provides that a person may trade a water access right within a regulated system, or between regulated systems, free of any volumetric limit, with the exception of the allowable restrictions described below. Subsection (2) defines the term ‘volumetric limit’.
745. The restrictions that may be imposed under section 12.16 and this section are restrictions on changes in location, or volumetric limits, that are necessary because of a reason listed in subsection 12.18(1), and that are consistent with Subdivision A of this Division.

Section 12.18 – Restrictions allowable for physical or environmental reasons

746. Subsection (1) sets out the reasons that can support a restriction that would otherwise be contrary to sections 12.16 and 12.17. These reasons are the existence of a physical constraint, the need to address hydrologic connections and water supply considerations, the need to protect the needs of the environment, the level of hydraulic connectivity, or a combination of any of these reasons. Subsection (2) defines the term ‘hydrologic connections and water supply considerations’.

Section 12.19 – Basin States to notify the Authority of restrictions

747. Subsection (1) requires a Basin State that has decided to impose a restriction of a kind referred to in section 12.16 or 12.17 to notify the Authority of the decision and the reasons for the decision. Subsection (2) specifies when the notification must be given. If the restriction was in effect prior to the commencement of this Chapter, the

notification must be given 30 days after its commencement, otherwise, it is required no later than the date of the effect of the restriction.

748. Any restrictions must be consistent with the rules in Subdivision A.

Section 12.20 – Basin State may request Authority to make declaration

749. Subsection (1) requires the Authority to make a written declaration that a restriction of a kind referred to in section 12.16 or 12.17 is necessary because of a reason listed in subsection 12.18(1), if a Basin State requests it to do so, and the Authority is satisfied that the restriction is in fact necessary. A Basin State does not need to obtain such a declaration before it is able to impose the restriction. However a Basin State may wish to do so to ensure that the Authority's views are known in advance. Subsection (2) requires the Authority to consult with Basin States, the ACCC and any other interested parties before making the declaration. Subsection (3) requires the Authority to publish on its website a declaration, and its reasons for being satisfied that the restriction was necessary. Regardless of whether or not a declaration is obtained, a restriction must still be consistent with the rules in Subdivision A.

750. A decision of the Authority is reviewable under the *Administrative Decisions (Judicial Review) Act 1977* (Cth).

Section 12.21 – Exchange rates not to be used in a regulated system

751. This section imposes a restriction on, or barrier to, the trading or transfer of tradeable water rights (paragraphs 26(1)(d) and (2)(b) of the Act), by restricting the use of exchange rates in trades of water access entitlements within or between regulated systems. The intention of the restriction is to prevent the adverse third party impacts that arise as a result of the application of exchange rates to trades of water access entitlements within or between regulated systems. The Basin Plan water trading rules do not prohibit trades of water access entitlements within or between regulated systems. In particular, tagged trades of water access entitlements are permitted within, or between regulated systems.

752. The ACCC final advice indicated that there are two commonly used methods for managing the trade of water access entitlements between regulated systems: exchange rates, and tagging. The advice considered that exchange rate trading of water access entitlements has the potential for significant third party impacts, and that, regardless of the approach adopted, exchange rates would never appropriately protect against those impacts. In particular, where there is not a perfect correlation between water availability in the source and destination areas involved in an exchange rate trade, a fixed exchange rate will not, in any given period, accurately represent the properties of the original water access entitlement once traded to the new location. As such, permitting an exchange rate trade can lead to ongoing impacts on the level of water availability for third parties.

753. This section addresses these concerns. The section implements the ACCC's rule advice 6-F by providing that 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.

754. This section does not apply to trades of water allocations, or to trades in or between unregulated or ground water systems. Nor does the section apply where a declaration has been made under section 12.22 that applies to the trade.

Section 12.22 – Authority may permit exchange rates in limited circumstances

755. Subsection (1) provides that section 12.21 does not apply if an exchange rate is applied as a condition of a trade of a water access entitlement between two locations, the Authority has made a declaration under this section, and the water access entitlement is traded at the exchange rate specified in the declaration. Subsection (2) provides that a Basin State may request the Authority to make a declaration under this section.
756. Subsection (3) sets out the grounds on which an exchange rate may be applied. These are:
- if the purpose of the exchange rate is to address transmission losses (paragraph (3)(a)); or
 - if the purpose of the exchange rate is to redress the impact of previous exchange rate trade that has occurred in the other direction (paragraph (3)(b)).
757. Subsection (4) requires the Authority to publish the declaration on its website. Such a declaration will remain in force until revoked by the Authority. The power to revoke the declaration arises under subsection 33(3) of the *Acts Interpretation Act 1901* (Cth).
758. The ACCC final advice considered that exchange rate trading of water access entitlements has the potential for significant third party impacts. The advice noted two circumstances in which use of exchange rates might be appropriate. One is in the case of back trade, to redress the impacts of previous exchange rate trades in the opposite direction, another is to account for transmission losses. Section 12.21 and this section address these concerns.
759. A decision of the Authority is reviewable under the *Administrative Decisions (Judicial Review) Act 1977* (Cth).

Section 12.23 – Restrictions on delivery of water under a tagged water access entitlement established on or after 22 October 2010

760. This section implements rule advice 6-G of the ACCC final advice. Subsection (1) provides that any restriction that has effect on the ability to trade water allocations between two places (each being in a regulated system) applies equally to an order of a water allocation pursuant to a tagged water access entitlement between the same two places. There are two transitional periods for this section:
- subsection (2) provides that this section does not apply for a tag that was established before 22 October 2010 (the date of the release of Volume 2 of the Guide to the proposed Basin Plan, which contained the first public draft of this rule); and
 - subsection (3) provides that this section does not apply until 5 years after commencement of this Chapter for a tag that was established on or after 22 October 2010 but before the commencement of the Basin Plan.
761. Subsections (4) and (5) define the terms ‘established’ and ‘tagged water access entitlement’.

Subdivision C—Additional rules relating to groundwater

762. The provisions in Subdivision C (sections 12.24, 12.25 and 12.26) impose restrictions on, or barriers to, the trading or transfer of tradeable water rights (paragraphs 26(1)(d) and (2)(b) of the Act), by prohibiting the trade of water access rights that involve a

groundwater SDL unit, unless certain conditions are met. The intention underlying the various conditions on the trades are described below.

763. Paragraphs 12.24(a), 12.25(a) and 12.26(a) require that there be sufficient hydraulic connectivity between the two locations. This condition is necessary as it would not be physically possible to carry out the trade unless water could physically move between the two units.
764. Paragraphs 12.24(b), 12.25(b) and 12.26(b) require that resource condition limits specified in the water resource plan for relevant SDL resource units are not exceeded. The intention of these conditions is to ensure the sustainable use and management of water resources. These conditions must be understood within the context of the water resource plan requirements set out in Part 4 of Chapter 10, which sets out matters that must be included in water resource plans for the purposes of the sustainable use and management of water resources of the water resource plan area. Division 4 of Part 4 deals specifically with the sustainable use and management of groundwater resources. Sections 10.18 to 10.21 deal with different aspects of the protection of groundwater. Each of those sections provides for a water resource plan to identify resource condition limits that relate to protecting various aspects of the groundwater, and to impose restrictions on taking water, as required to prevent a resource condition limit from being exceeded. If any resource condition limit has been specified in a water resource plan, then paragraphs 12.24(b), 12.25(b) and 12.26(b) require that it is a condition of groundwater trade that the limit will not be exceeded as a result of the trade. The conditions imposed by these paragraphs are necessary in order to ensure that environmental outcomes are not adversely impacted by trades.
765. Paragraphs 12.24(c), 12.25(d) and 12.26(d) require that the water access rights to be traded have substantially similar characteristics of timing, reliability and volume, or else that measures are in place to ensure that these characteristics will be maintained. This condition is necessary in order to ensure that the trade does not adversely impact on third parties, and does not produce adverse environmental impacts.
766. Paragraphs 12.24(d), 12.25(e) and 12.26(e) require that measures be 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. These conditions are necessary in order to prevent adverse third party impacts resulting from the trade. Part 8 of Chapter 10 is also relevant to these conditions. This Part requires water resource plans to set out the circumstances in which groundwater trade is permitted, in a way that ensures that each condition set out in sections 12.24, 12.25 and 12.26 is met. If a conversion rate is used to address impacts on third parties for the purposes of meeting the conditions of paragraphs 12.24(d), 12.25(e) and 12.26(e), the water resource plan must specify the conversion rate or set out the way in which the rate will be determined.
767. Paragraphs 12.25(c) and 12.26(c) require measures to be in place to account for the trade. This is important to ensure that trade is accounted for in applying, and in monitoring and reporting on compliance with, the relevant long-term average sustainable diversion limits. (See also section 10.12.)

Section 12.24 – Trade within a groundwater SDL resource unit

768. This section prohibits trade of a water access right between two locations within a groundwater SDL resource unit unless all of the conditions set out in paragraphs (a) to (d) are met. The term ‘groundwater SDL resource unit’ is defined in sections 1.07 and 6.03.

769. The ACCC final advice considered that trade should be permitted between groundwater locations that were sufficiently hydraulically connected, but recommended that the ability to do such trades should be conditional on certain criteria being demonstrated. The criteria are designed to ensure that:
- there is a reasonable degree of knowledge about the hydraulic connectivity between the two groundwater locations;
 - third party interests are appropriately protected by requiring that the water access right to be traded will maintain the same, or substantially similar, characteristics of timing, reliability and volume; and
 - any relevant resource condition limits (which may be set out in water resource plans) would not be exceeded as a result of the trade.
770. This section takes a precautionary approach in implementing rule advice 6-P of the ACCC final advice, by prohibiting trade unless all of the criteria can be met. It also draws upon recommendation 6-Q. This approach is considered appropriate given the current limited knowledge of groundwater systems. As the note to this section indicates, section 10.37 requires a water resource plan to set out the circumstances in which trade between two locations in a groundwater SDL resource unit is permitted, in relation to this section.

Section 12.25 – Trade between groundwater SDL resource units

771. This section is substantially similar to section 12.24, but relates to trade between two different groundwater SDL resource units. Further, there is an additional condition to be met before the trade is allowed, that is, that measures are in place to account for the trade (see paragraph (c)). As the note to this section indicates, section 10.38 sets out requirements for a water resource plan in relation to this section.

Section 12.26 – Trade between groundwater and surface water

772. This section implements rule advice 6-T of the ACCC final advice. It is substantially the same as sections 12.24 and 12.25, but relates to trade between a groundwater SDL resource unit and a surface water SDL resource unit. The term ‘surface water SDL resource unit’ is defined in sections 1.07 and 6.04. As the note to this section indicates, section 10.39 sets out requirements for a water resource plan in relation to this section.

Subdivision D—Miscellaneous

Section 12.27 – Restrictions allowable for breaches of State water management law

773. This section clarifies that nothing in this Chapter is intended to prevent a restriction being imposed on a trade of a water access right under State water management law because a person has committed an offence or has failed to pay fees or charges. The term ‘State water management law’ is defined in section 4 of the Act.

Division 2—Trade of water delivery rights

774. This Division implements rule advice 7-C of the ACCC final advice. The ACCC final advice noted that, in some irrigation infrastructure operator areas, water delivery rights may be tradeable subject to certain conditions. In other areas, the trade of water delivery rights may be prohibited entirely (except perhaps where delivery rights are traded with landholdings). The ACCC considered such restrictions may be

unreasonable, and that the trade of water delivery rights would provide holders with greater flexibility in managing their rights, provide an alternative to termination and allow irrigation infrastructure operators to manage the capacity of their irrigation networks. This Division addresses these concerns.

Section 12.28 – No unreasonable restriction of trade of water delivery rights

775. This section provides that an irrigation infrastructure operator must not unreasonably restrict the trade of a water delivery right.

Section 12.29 – When restriction of trade is reasonable

776. Subsection (1) sets out a non-exhaustive set of factors to be taken into account in deciding whether a restriction is reasonable, which include factors relating to physical management of the network, including reconfiguration or decommissioning work. Subsection (2) defines the term ‘reconfiguration or decommissioning work’.

Section 12.30 – Irrigation infrastructure operator must give reasons for restricting trade of water delivery right

777. Subsection (1) requires an irrigation infrastructure operator that has decided to restrict the trade of a water delivery right within its irrigation network to notify each party to the trade, in writing, of the decision and its reasons for the decision. Subsection (2) sets out the date by which this notice must be given.

Part 3—Information about water delivery rights and irrigation rights

Division 1—General

Section 12.31 – Object of this Part

778. This section sets out the object of this Part. The object 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

779. This Division implements rule advices 7-A and 7-B of the ACCC final advice. The ACCC final advice noted that in many cases clearly defined water delivery rights:

- can be used as the basis for determining liability for various fees and charges;
- can assist an irrigation infrastructure operator to determine the level of delivery capacity in its network and manage congestion;
- are needed when a person transforms their right to water under an irrigation right, but still wishes to retain delivery; and
- are needed if water delivery rights are separately tradeable within an irrigation infrastructure operator’s area.

780. This Division ensures that water delivery rights are clearly defined.

Section 12.32 – Obligation on irrigation infrastructure operator to specify water delivery rights and give notice

781. Subsection (1) requires an irrigation infrastructure operator, for each person holding a water delivery right against it, to decide the matters set out in paragraphs (a) to (c). Subsection (2) further requires the irrigation infrastructure operator to notify the person in writing of the decision, reasons for the decision and terms and conditions of the contract between the irrigation infrastructure operator and the person which are applicable to the water delivery right. Subsection (3) sets out when the notification is to be given.
782. Subsection (4) exempts an irrigation infrastructure operator from these requirements if it has notified the person of the matter before commencement of this Chapter, and the notice is accurate at the commencement of this Chapter.
783. This provision applies to irrigation infrastructure operators that were in existence at the commencement of this Chapter, and also to persons that only became irrigation infrastructure operators after commencement of this Chapter.

Section 12.33 – Obligation on irrigation infrastructure operator to give notice if water delivery right is changed

784. Subsection (1) provides that, 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. Subsection (2) requires such notification to be given as soon as practicable, but in any case within 30 days. Subsection (3) exempts an irrigation infrastructure operator from this requirement 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

785. This Division implements rule advices 8-A and 8-B of the ACCC final advice.
786. The ACCC final advice noted that, in some instances, irrigators' irrigation rights remain insufficiently defined, for example, some irrigation infrastructure operators have not formally determined all irrigation rights held against the irrigation infrastructure operator. The advice noted that, under the *Water Market Rules 2009* (Cth), irrigation infrastructure operators are required to provide an irrigator with details of their irrigation right if the irrigator seeks to transform their entitlement to water under those rules. However, the advice considered that it would be preferable for irrigation infrastructure operators to make a determination of all rights held against them by irrigators, rather than to determine irrigation rights only upon each application for transformation.
787. Further, the ACCC final advice noted that a person seeking to trade their entitlement to water under an irrigation right will require information about the exact nature of their right. This requirement would therefore remove a further barrier to trade involving irrigation rights by improving the availability of information.
788. This Division addresses these concerns.

Section 12.34 – Obligation on irrigation infrastructure operator to specify irrigation rights and give notice

789. Subsection (1) requires an irrigation infrastructure operator to, for each person who holds an irrigation right against it, decide the person's entitlement to water under their irrigation right. Subsection (2) provides that the entitlement must be expressed as either a number of megalitres or a unit share of the irrigation infrastructure operator's water access entitlement. Subsection (3) requires an irrigation infrastructure operator to provide a person with written notification of the decision and reasons for the decision.
790. Subsection (4) sets out when the notification is to be given.
791. Subsection (5) exempts an irrigation infrastructure operator from these requirements if it has notified the person of the matter before commencement of this Chapter and the notice is accurate at the commencement of this Chapter. For example, if an irrigation infrastructure operator had previously notified a person of their irrigation right under the *Water Market Rules 2009* (Cth) because that person had applied for transformation, and that notification was still accurate, it would not be required to notify the person again under this water trading rule.
792. This provision applies to irrigation infrastructure operators that were in existence at the commencement of this Chapter, and also to persons that only became irrigation infrastructure operators after commencement of this Chapter.

Section 12.35 – Obligation on irrigation infrastructure operator to give notice if irrigation right is changed

793. Subsection (1) provides that, 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. Subsection (2) is similar to subsection 12.33(2). Subsection (3) exempts an irrigation infrastructure operator from these requirements if the person's entitlement to water under an irrigation right changes only to reflect a trade or transformation by the person.

Part 4—Approval processes for trade of water access rights

Division 1—General

Section 12.36 – Object of this Part

794. This section sets out the object of this Part. This object is to facilitate the trade of water access rights by making approval processes involved in trade more open and transparent.

Division 2—Approval authority's other activities

795. This Division implements rule advices 5-J and 5-K of the ACCC final advice. The ACCC final advice noted that some approval authorities engage in other activities, particularly approval authorities that have both regulatory and commercial functions. Examples include:

- approval authorities that also own and trade water access rights;
- approval authorities that also announce water allocations; and

- approval authorities that act as, or own, a water market intermediary which deals with trades that the approval authority assesses.
796. The advice noted that this can give rise to potential or perceived conflicts of interest that can undermine confidence in the water market. The intent of the provisions of this Division is to address these potential or perceived conflicts.
797. The Basin Plan defines an ‘approval authority’ as a body whose approval is required under State water management law for a trade to proceed.

Section 12.37 – Approval authority must disclose interest before trade occurs

798. Subsection (1) requires an approval authority to disclose to each party to a proposed trade submitted to it for approval any interest it has of a kind that is listed in paragraph (a) or (b). Subsection (2) requires the disclosure to be made as soon as practicable and before the approval authority approves or rejects the trade.
799. Subsection (3) exempts an approval authority from the disclosure requirement if the interest arises solely from the fact that the approval authority is an agency of a Basin State. Subsection (4) exempts an approval authority from this disclosure requirement if the requirement has already been satisfied by a related party of the approval authority, on behalf of the approval authority. The term ‘related party’ is defined in section 1.07.

Section 12.38 – Approval authority must disclose if it has been a party to a trade

800. Subsection (1) provides that this section applies if an approval authority has approved a trade and the approval authority, or a related party, was a party to the trade.
801. Subsection (2) requires an approval authority to disclose the matters listed in paragraphs (a) to (e), if it has approved the trade of a water access right and it, or a related party, was a party to the trade. Disclosure of this information, which includes the type and volume of rights traded, and the price, ensures transparency of the actions of approval authorities. As the identity of the other party to the trade is not part of the information to be disclosed, it is not considered that this provision raises privacy concerns.

Section 12.39 – Approval authority to give reasons for restricting trade

802. Subsection (1) requires an approval authority (termed the ‘restricting authority’ in this section) to give notice of a decision to restrict a proposed trade of a water access right, and its reasons for such a decision, to each party to the proposed trade.
803. Subsection (2) is relevant in the case of a proposed trade of a water access right between two states, if one of the parties (termed the ‘interstate party’ in this section) has dealt with an approval authority in a different state (termed the ‘interstate authority’ in this section). In that case, the restricting authority may, instead, give the notice to the interstate authority, together with a request for the interstate authority to notify the interstate party on its behalf. Subsections (3) and (4) set out the relevant timeframes for the restricting authority and interstate authority to comply with these requirements. Subsection (5) defines the terms ‘interstate authority’ and ‘interstate party’.

Part 5—Information and reporting requirements

Division 1—General

Section 12.40 – Object of this Part

804. This section sets out the object of this Part. This object is to facilitate the trade of tradeable water rights by making information about the rights publicly available.

Section 12.41 – Authority to publish information it is given under this Part

805. This section requires the Authority to publish information it is given under this Part.

Division 2—Information about water access rights

806. This Division implements rule advice 9-A of the ACCC final advice.

807. The ACCC final advice noted that there was a difference between jurisdictions in the characteristics of tradeable water access rights. This may make it difficult to assess the merits of different water access rights, and the benefits of trading them. The advice considered that the characteristics of water access rights (other than water allocations) are highly significant to water market participants, and that a lack of information on water access right characteristics may operate as a disincentive or barrier to trade between different water sources and between Basin States.

808. This Division addresses these concerns.

Section 12.42 – Water access rights to which this Division applies

809. This section is an interpretive provision, which provides that, in this Division, the term ‘water access right’ does not include a water allocation.

Section 12.43 – Information about water access rights to be made available

810. Subsection (1) requires Basin States to give information that relates to a class of water access right conferred by or under a law of a state, and which is referred to in section 12.44, to the Authority in accordance with this section.

811. To ensure that Basin States provide the information in a consistent manner, while preserving flexibility, subsections (2) and (3) permit the Authority to determine administratively the timing and manner in which the information is to be given.

812. To ensure that up-to-date versions of the Authority’s determinations under this section are readily available to Basin States, subsection (4) requires the Authority to inform a Basin State of any matter it determines under subsection (2) or (3).

813. Subsection (5) prevents the Authority from requiring information to be given under this section more than once in a water accounting period. However, if the information changes during a water accounting period, subsection (6) requires the Basin State to provide the changed information to the Authority, as soon as practicable, but no later than the date of effect of the change. The term ‘water accounting period’ is defined in subsection 1.07(1) and section 3.08.

Section 12.44 – Types of information about water access rights

814. This section sets out the information that is required under section 12.43. The information includes for example the characteristics of the class of water access rights

such as its reliability and the water resource to which it relates, fees and charges that relate to that class of right, and other information such as how allocations are decided, and what trading rules apply.

Division 3—Trading rules to be made available

815. This Division implements rule advice 9-B and draws upon rule advice 9-C of the ACCC final advice.
816. The ACCC final advice noted that trading rules and procedural requirements are located in a variety of instruments and are administered by a range of approval authorities and other entities. The advice noted that the large number of trading rules that are currently in operation throughout the Murray-Darling Basin creates the potential for significant uncertainty about the possibility of, and procedures for, trade, and that this could lead to increased costs for water market participants.
817. The advice considered that having ready access to information about these rules and processes is critical to a well-functioning water market, and that a more centralised source of information about trading rules and processes would tend to facilitate trade.
818. This Division addresses these concerns.

Section 12.45 – Interpretation

819. This section defines the term ‘central information point’ for this Division.

Section 12.46 – Basin State must make trading rules available

820. Subsection (1) requires a Basin State to give a copy of rules it has made that regulate the trade of tradeable water rights to the central information point. The rules are required to be given in a compiled form, which incorporates any amendments. To help to ensure that the current version of trading rules can be accessed easily, this subsection sets out time periods by which the rules must be provided.
821. Subsection (2) clarifies that a Basin State is not required to provide the trading rules of irrigation infrastructure operators as these will be provided by irrigation infrastructure operators under section 12.47. However, a Basin State is required to provide those trading rules of infrastructure operators that the Basin State has made.
822. Subsection (3) provides that, if the rules incorporate material from another document by reference, the rules must explain how the referenced document relates to the rules, and the referenced document must be published online. The ACCC final advice recognised that certain water trading rules may change rapidly in response to government policy changes. Accordingly, it considered that it may be appropriate for the compiled form of the rules to cross-reference other documents, but that the context in which the linked documents relate to other rules should be explained, and specific sections of linked documents referenced. This recommendation is implemented by subsection (3).
823. Paragraph (3)(b) requires, in the case of cross-referenced documents, that the referenced document be published online. Consistently with the policy intent underlying the ACCC final advice, the intention is that the referenced document be published online in a manner that makes it freely available to any member of the public who wishes to inspect it.

Section 12.47 – Irrigation infrastructure operator must make trading rules available

824. This section provides a less onerous requirement for irrigation infrastructure operators to make water trading rules available. Not all irrigation infrastructure operators have developed rules that govern the trade of tradeable water rights within, into or out of their networks. This section does not oblige irrigation infrastructure operators to develop such rules.
825. However, subsection (1) provides that, if an irrigation infrastructure operator does have such rules, it must document them. Subsection (2) clarifies that subsection (1) does not apply to rules that relate to administrative procedures, such as, for example, the payment of fees, the completion of forms, or information that must be supplied by a person applying for a trade.
826. Subsections (3), (4) and (5) provide for how and when the rules must be made available:
- if a person requests a copy of an irrigation infrastructure operator's rules, the irrigation infrastructure operator must give that person a copy of the rules as soon as practicable, but in any case within 30 days (subsection (3));
 - if an irrigation infrastructure operator has a website, it must publish the rules and any changes to its rules on its website, within the prescribed times (subsection (4)); and
 - if the irrigation infrastructure operator is one to whom rule 15 of the *Water Charge (Infrastructure) Rules 2010* (Cth) applies, it must also give a copy of the rules and any changes to its rules to the central information point, within the prescribed time (subsection (5)).
827. There is no requirement for an irrigation infrastructure operator's trading rules to be provided in a compiled form incorporating any amendments. However, subsection (6) requires the rules to be made available in such a manner that the current version of the rules is readily ascertainable and accessible. An irrigation infrastructure operator could comply with this requirement in a wide variety of ways. For example, it could produce a compiled version of its rules, incorporating any amendments. Alternatively, if its rules are amended by a letter written to its irrigators, it could simply make the letter available.
828. Subsection (7) mirrors the operation and effect of subsection 12.46(3); if the rules incorporate material from another document by reference, the rules must explain how the referenced document relates to the rules, and the referenced document must be published online.
829. Paragraph (7)(b) requires, in the case of cross-referenced documents, that the referenced document be published online. Consistently with the policy intent underlying the ACCC final advice, the intention is that the referenced document be published online in a manner that makes it freely available to any member of the public who wishes to inspect it.
830. This provision applies to irrigation infrastructure operators that were in existence at the commencement of this Chapter, and also to persons that only became irrigation infrastructure operators after commencement.

Division 4—Trading prices to be made available

Section 12.48 – Price of trade to be reported

831. This section implements rule advice 9-D of the ACCC final advice. The ACCC final advice noted that it is important that information about water trades is made publicly available to provide clarity and transparency to the water market. It considered that pricing information is fundamental information for water market participants to be able to make informed decisions in the water market, and that such information needs to be both available and timely. While some information on price is already collected by a variety of sources that report some of this information back to the market, this information is not necessarily comprehensive, comparable or reported back to the market consistently.
832. The advice considered that the best way to facilitate collection of comprehensive information on price would be a requirement on water access right holders to report trading prices to the appropriate government approval authority or register. It was thought that this would not be an onerous burden and would largely involve an existing or additional section on a trading application or registration form.
833. To that end, subsections (1) and (2) require a person disposing of a water access right to notify the approval authority or registration authority, as appropriate, in writing, of the price agreed for the trade. For example, a person may either provide the price where indicated on the trading application or registration form, or where there is no such accepted format, a person must still write to the approval authority or registration authority advising on the price agreed for the trade.

Division 5—Information to be made available

834. This Division implements rule advices 9-F and 9-G of the ACCC final advice. The advice noted that state governments and other authorities make announcements that affect the water market. Such announcements include:
- allocation announcements; and
 - announcements about government policy decisions that affect the water market, such as announcements of changes to carryover conditions, changes to the ability to trade between different zones, and changes to trading rules.
835. Such announcements could be market-sensitive, and could alter the trading behaviour of parties. The advice considered that announcements of this nature should be widely communicated to the market, and should be made to all market participants at the same time. The advice further considered that any party that had access to relevant information before an announcement is made generally available should not be permitted to trade relevant water access rights. These considerations drew from principles in equities markets relating to insider trading and disclosure.
836. This Division addresses these concerns.

Section 12.49 – Interpretation

837. This section is an interpretive provision, which defines the terms ‘material effect’ and ‘water announcement’.
838. Under subsection (1), 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. This definition draws on the definition of ‘material effect’ under the *Corporations Act 2001* (Cth).

839. Subsection (2) defines the term ‘water announcement’. This term is an important element of sections 12.50 and 12.51. Under section 12.50, the requirement to make announcements generally available applies only if the announcement constitutes a ‘water announcement’. Further, under section 12.51, the prohibition on undertaking certain trading actions only applies if a person is aware of an announcement that constitutes a water announcement, or is aware of a decision that is to be the subject of a water announcement.
840. Under paragraphs (2)(a) and (b), an ‘allocation announcement’ and a ‘carryover announcement’ (defined in section 1.07) are water announcements.
841. Under paragraph (2)(c), a public announcement by an agency of the Commonwealth or of a Basin State is also a ‘water announcement’ if it:
- is of a decision that relates to actions that the agency is undertaking, or may or will undertake; and
 - can reasonably be expected, if made generally available, to have a material effect on the price or value of water access rights.
842. Not all announcements of decisions by agencies will constitute ‘water announcements’. For example, if an agency were to announce a decision that relates to an action that it had already undertaken (for example, an announcement in an annual report of the trades in water access rights it has undertaken during the previous year), the announcement might not be a ‘water announcement’ by virtue of subparagraph (2)(c)(i) of this definition.
843. Further, if an agency were to announce a decision that could not reasonably be expected to have a material effect on the price or value of water access rights (for example, a relatively small trade), the announcement would not be a ‘water announcement’ by virtue of subparagraph (2)(c)(ii) of this definition.
844. For announcements of this nature, the obligation under this Division is not triggered.
845. Subparagraph (3)(a)(iv) reflects the practice or potential future practice of an agency developing a trading strategy for the trade of water access rights. An announcement of a trading strategy could be a water announcement if the announcement satisfied paragraph (2)(c). Announcement of a high-level trading strategy might not meet the requirement in subparagraph (2)(c)(ii), if the announcement could not reasonably be expected, if made generally available, to have a material effect on the price or value of water access rights. However, announcement of a more detailed trading strategy might satisfy this subparagraph, and constitute a water announcement.
846. Paragraph 12.49(3)(a) provides, to avoid doubt, that certain types of decisions are included in the reference to ‘decision’ in subparagraph (2)(c)(i). Paragraph (3)(b), in contrast, provides that a decision that relates to a particular trade of a water access right is not included in the reference to a ‘decision’ in that subparagraph, if:
- it is the trade that is or will be consistent with, and conducted pursuant to, a trading strategy; and
 - the trading strategy has been the subject of a water announcement that has become generally available.

847. Accordingly, whether an announcement that relates to a particular trade would be excluded from being a ‘water announcement’ because of paragraph (3)(b) depends on whether the announcement of the trading strategy under which the trade was conducted constituted a ‘water announcement’, as described above.

Section 12.50 – Water announcements must be made generally available

848. This section requires a person who makes a water announcement to ensure that it is made in a manner that makes it generally available. The term ‘generally available’ is defined in section 1.07.
849. The ACCC final advice gave examples of acceptable methods for doing this, which included publishing the information on a public website, or making it available via email mailing lists, media releases or press advertisements (see rule advice 9-F of the ACCC final advice).

Section 12.51 – Person not to trade if aware of water announcement before it is made generally available

850. This section restricts the trading activities of a person who is aware of either a decision that has been made by an agency, and that is to be the subject of a water announcement, or a water announcement that has been made but that is not generally available, as set out in subsection (1).
851. Subsection (2) provides that such a person must not:
- take certain actions, which are set out in subsection (3), in relation to any water access right whose price or value could reasonably be expected to be materially affected by the information referred to in subsection (1) if that information were to become generally available; or
 - procure another person to take such an action.
852. Subsection (3) sets out the actions that the person is prohibited from taking. These are:
- to enter into a contract to trade; or
 - if no contract is involved in the trade:
 - to apply to an approval authority in relation to the trade; or
 - if no approval is involved in the trade – to apply to a registration authority in relation to the trade.
853. The section is not intended to prohibit trading activities conducted as part of a trade, for example, obtaining necessary approvals, registering the trade or settlement of the trade, where an agreement to trade has already been entered into prior to a person becoming aware of information of a kind referred to in subsection (1).

Section 12.52 – Chinese wall arrangements for agencies

854. An agency of the Commonwealth or of a Basin State may perform dual or multiple functions within the water market, which can include making decisions which, if announced, would constitute water announcements, and which might also include trading water access rights, or approving the trade of water access rights.
855. Some such agencies arrange their internal structure so as to separate their policy and trading areas, by creating ‘Chinese wall’ or ‘ring-fencing’ arrangements. Such

arrangements are designed to prevent information in the possession of one area within the agency becoming available to other areas within the agency.

856. The intended effect of subsection 12.52(1) is to provide that, if an agency has established an effective ‘Chinese wall’ arrangement that complies with the section, and adheres to those arrangements, the trading area of the agency will not be prevented from undertaking any of the steps set out in subsection 12.51(3) merely because the policy area is aware of information referred to in subsection 12.51(1). The mere establishment of a ‘Chinese wall’ arrangement is not enough. As highlighted in *ASIC v Citicorp Global Markets Australia Pty Ltd* [2007] FCA 963 such arrangements require more than written policies and procedures to be effective. An effective ‘Chinese wall’ requires:

- (i) *the physical separation of departments to insulate them from each other;*
- (ii) *an educational programme, normally recurring, to emphasise the importance of not improperly or inadvertently divulging confidential information;*
- (iii) *strict and carefully defined procedures for dealing with situations where it is thought the wall should be crossed, and the maintaining of proper records where this occurs;*
- (iv) *monitoring by compliance officers of the effectiveness of the Chinese wall; and*
- (v) *disciplinary sanctions where there has been a breach of the wall* (at [319]).

857. The language of section 12.52 borrows heavily from sections 1043F and 1043G of the *Corporations Act 2001* (Cth).

858. Subsection 12.52(2) defines the term ‘relevant agency’; the defence in subsection (1) only applies in the case of such an agency. This term is defined as meaning:

- the Commonwealth; or
- a Basin State; or
- a person that is an agency of the Commonwealth or an agency of a Basin State.

CHAPTER 13—PROGRAM FOR MONITORING AND EVALUATING THE EFFECTIVENESS OF THE BASIN PLAN

CHAPTER OVERVIEW

859. This Chapter sets out the program for monitoring and evaluating the effectiveness of the Basin Plan, as required by item 13 of the table in subsection 22(1) of the Act.
860. The program for monitoring and evaluating the effectiveness of the Basin Plan includes a set of principles that will be applied and a framework to be used, reporting requirements for Basin States and the Commonwealth, as well as provisions concerning audit, review and adaptive management. ‘Adaptive management’ is defined at section 1.07 to include the following steps: setting clear objectives; linking knowledge, including local knowledge, management, evaluation and feedback over a period of time; identifying and testing uncertainties; using management as a tool to learn about the relevant system and change its management; improving knowledge; and having regard to the social, economic and technical aspects of management.
861. Implementation of this Chapter will inform or fulfil key obligations for monitoring, evaluation, review and adaptive management of the Basin Plan and the Act. These obligations include:
- reporting annually on the effectiveness of the Basin Plan as required by the Act;
 - reviewing the environmental watering plan and water quality and salinity management plan targets every 5 years as required by the Basin Plan and the Act;
 - reviewing Basin Plan impacts after 5 years of implementation as required by the Act;
 - reviewing the Basin Plan on a 10 yearly basis as required by the Act; and
 - undertaking other reviews of the Basin Plan following a request under subsection 50(2) of the Act.
862. The Authority’s main roles under this Chapter are to meet its obligations above by:
- undertaking and publishing periodic evaluations of the effectiveness of the Basin Plan against the objectives and outcomes in Chapters 5, 8 and 9, and by reference to the matters listed in Schedule 12;
 - leading and co-ordinating ongoing monitoring of the Basin Plan implementation and progress towards its targets and objectives;
 - conducting audits to assess the extent of compliance with the Basin Plan;
 - consulting with Basin States, the Commonwealth and other relevant stakeholders;
 - carrying out its functions under the Chapter consistently with the principles outlined in this Chapter;
 - administering reporting requirements for Basin State and Commonwealth agencies;
 - publishing guidelines on how monitoring, evaluation and reporting should occur;
 - assessing and recommending improvements to monitoring and evaluation capability across the Murray-Darling Basin; and
 - to the extent possible, publishing all information and reports.

863. The primary role of Basin State and Commonwealth agencies (including the Authority in some instances) is to provide information in accordance with the reporting requirements set out in this Chapter and Schedule 12. These requirements concern reporting on matters relevant to implementation and outcomes of the Basin Plan, for the purpose of informing the Authority's role in monitoring and evaluating the effectiveness of the Basin Plan. For further explanation of Part 4 of this Chapter and Schedule 12, see the relevant parts of this Explanatory Statement.
864. Basin States and the Commonwealth will also be guided by the principles in this Chapter, for example by working collaboratively with the Authority to implement monitoring and evaluation, to the extent relevant to their responsibility for each matter.

NOTES ON INDIVIDUAL SECTIONS

Part 1—Preliminary

Section 13.01 – Simplified outline

865. This section sets out a simplified outline of this Chapter.
866. This Chapter consists of the principles to be applied (Part 2), and a framework to be used, in monitoring and evaluating the effectiveness of the Basin Plan.
867. The framework consists of:
- processes for reviewing and evaluating the Basin Plan, conducting audits, and assessing the condition of the Murray-Darling Basin and contributing to adaptive management (Part 3);
 - reporting requirements relating to the matters by reference to which the effectiveness of the Basin Plan will be monitored and evaluated (Part 4);
 - requirements for the publication of information (Part 5); and
 - provisions for improving monitoring, evaluation and reporting capabilities (Part 6).
868. 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.

Section 13.02 – Personal information not required

869. This section states that nothing in this Chapter requires or authorises a person to disclose personal information, as defined in section 6 of the *Privacy Act 1988* (Cth). For example, if a report required by Part 4 includes personal information, the reporter may redact the information so that privacy obligations are not contravened.

Part 2—Principles to be applied

Section 13.03 – Principles of responsibility for monitoring and evaluating the effectiveness of the Basin Plan

870. This section sets out the principles of responsibility for monitoring and evaluating the effectiveness of the Basin Plan.
871. Subsection (1) sets out *Principle 1*, which states that the Authority is responsible for leading monitoring at the Murray-Darling Basin scale, having regard to the desirability of:
- collecting information in an efficient way;

- providing open access to information collected or used in, or generated by, monitoring;
- harnessing existing monitoring capabilities where possible, rather than creating new monitoring capabilities;
- building upon existing information and data supply arrangements where possible, rather than establishing new arrangements;
- using an adaptive approach to test and improve monitoring capabilities;
- eliminating duplication and fragmentation of monitoring processes where possible; and
- having no net reduction in existing monitoring efforts.

872. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

873. Subsection (2) sets out *Principle 2*, which states that the Authority is responsible for leading all evaluations of the effectiveness of the Basin Plan, liaising with Basin States, the Commonwealth Environmental Water Holder and the Department. The Authority must collect, analyse and report information and data in a manner that enables those evaluations to be made.

Section 13.04 – Other principles to be applied in monitoring and evaluating the effectiveness of the Basin Plan

874. This section sets out other principles to be applied in monitoring and evaluating the effectiveness of the Basin Plan, both by the Authority under Part 3 of this Chapter, and the Basin States, the Commonwealth Environmental Water Holder and the Department under Part 4.

875. *Principle 3* states that Commonwealth agencies and Basin States should report against matters only to the degree commensurate with their responsibility for the matter. So, for example, Schedule 12 only lists relevant agencies as being responsible for reporting against particular matters, and paragraph 13.15(2)(a) allows for a reporter, by agreement with the Authority, to be exempted from reporting on a matter to the extent that the matter is irrelevant to the reporter.

876. *Principle 4* states that monitoring and evaluation should be undertaken using program logic. Program logic is a mechanism that helps determine when and what to evaluate so that resources can be used effectively and efficiently. The program logic framework is detailed in the Australian Government’s *NRM MERI Framework*. This is a document incorporated by reference available at www.mdba.gov.au.

877. *Principle 5* states that the findings of monitoring and evaluation should enable decision-makers to use adaptive management.

878. *Principle 6* states that monitoring and evaluation should utilise existing monitoring and evaluation capabilities of Basin State and Commonwealth programs (including joint programs) to the extent that they are consistent with the Principles in this Part. An example is 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.

879. *Principle 7* states that the best available knowledge, evidence and analysis should be used where practicable to ensure monitoring and evaluation findings are credible,

transparent and useful. The knowledge includes scientific, local and cultural knowledge. The best available science and knowledge may include emerging scientific and research findings external to the activities of the Authority and the reporting required by this Chapter. For example, communities and other local stakeholders may have knowledge of Basin Plan impacts at the local level, including information on environmental outcomes achieved through Basin Plan related actions.

880. Part of *Principle 1* (as set out in paragraph 13.03(1)(d)) and *Principles 6* and *7* are designed to streamline monitoring and reporting requirements to make it easier and less costly for Basin States and Commonwealth agencies to comply with the requirements in this Chapter, especially with regard to using existing information and capabilities. This includes applying national standards where they exist.
881. *Principle 8* states that the Basin States and the Commonwealth should collaborate on technical and operational elements of monitoring and evaluation, with a view to build engagement and ownership.
882. *Principle 9* states that a risk-based approach to investments in monitoring and evaluation should be utilised. The broad intent of *Principle 9* is that investment (because it may be limited) in monitoring and evaluation should target those areas of the Murray-Darling Basin where the monitoring of outcomes is of greater importance, for example, in those SDL resource units where the reduction in diversions is greatest.
883. *Principle 10* states that monitoring and reporting should be timely, efficient, cost-effective and consistent. It should also supply information that is needed for evaluation.
884. *Principle 11* states that open access should be given to information collected or used in, or generated by, monitoring and evaluation – to the extent possible.

Part 3—Evaluations, reviews, audits and assessments

Division 1—Evaluation of Basin Plan

Section 13.05 – Purpose of evaluation

885. This section sets out the purpose of evaluation.
886. 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. Schedule 12 matters relate to the Basin Plan as a whole, the environmental watering plan, water quality and salinity, water trading rules and water resource planning.
887. Evaluation will be conducted for the purposes of:
- reporting annually on effectiveness of the Basin Plan in accordance with paragraph 214(2)(a) of the Act;
 - advising the Murray-Darling Basin Ministerial Council on impacts of the Basin Plan after 5 years in accordance with section 49A of the Act;
 - undertaking 10 yearly reviews of the Basin Plan in accordance with subsection 50(1) of the Act; and
 - any other reviews of the long-term average SDLs, such as a review following a request by the Minister or all of the Basin States under subsection 50(2) of the Act.

888. When making an evaluation, the Authority must have regard to relevant reports produced under Part 4, key evaluation questions in section 13.06 and any other relevant information. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

Section 13.06 – Key evaluation questions

889. This section sets out the key evaluation questions that the Authority must ask when considering the matters in section 13.05. The key evaluation questions are designed to guide the focus and structure of evaluations of the Basin Plan each year, and at the 5 and 10 year marks. The key evaluation questions also drive the data collection required for both monitoring and evaluation.

890. The key evaluation questions are as follows:

- to what extent has the intended purpose of the Basin Plan set out in section 20 of the Act been achieved?
- to what extent have the objectives, targets and outcomes set out in the Basin Plan been achieved?
 - these two key evaluation questions are intended to ensure there is an assessment of how the Basin Plan is contributing to its overall purpose;
- how has the Basin Plan contributed to changes to the environmental, social and economic conditions in the Murray-Darling Basin?
 - this key evaluation question is intended to consider the impact of the Basin Plan on not only the resource condition of the Murray-Darling Basin but also the social and economic circumstances of the Murray-Darling Basin. This is a long term question that may not be able to be answered every year but is intended to ensure that the Authority is considering the broader impact of the Basin Plan over time;
- what, if any, unanticipated outcomes have resulted from the implementation of the Basin Plan?
 - this key evaluation question is included to ensure that information about unexpected outcomes resulting from the Basin Plan is captured. This recognises that the lessons from unexpected outcomes can be just as valuable as those from expected outcomes;
- how could the effectiveness of the Basin Plan be improved?
- to what extent were the actions required by the Basin Plan suited to meeting the objectives of the Basin Plan?
 - these two key evaluation questions aim to identify and consider actions that could be taken to improve the Basin Plan and the way it is implemented to achieve the intended outcomes. This could include improvements to the mechanisms within the Basin Plan, such as the environmental watering plan and other instruments prepared under Chapter 8, the water resource plans, the water trading rules and SDLs; and
- 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?

- this key evaluation question is intended to ensure that consideration is given to how the findings from the monitoring and evaluation program are contributing to adaptive management of the Basin Plan and leading to change and improvement in policy settings, with the aim of ensuring that these findings constitute an improvement in knowledge and lead to an improvement in practice rather than just being an accumulation of information.

Division 2—Reviews of water quality targets and environmental watering plan

Section 13.07 – Purpose of reviews

891. This section sets out the purpose of the reviews in this Division: to assess the effectiveness of water quality targets in the water quality and salinity management plan, and of the environmental watering plan, and how they have helped to achieve the objective in Chapters 8 and 9.
892. As the note indicates the Authority must publish findings and recommendations arising from a review (see section 3.19).

Section 13.08 – Reviews of the water quality and salinity management plan targets

893. This section sets out the requirements of reviews of the water quality and salinity management plan targets. The Authority must conduct 5 yearly reviews of the water quality targets set out in the water quality and salinity management plan. The water quality targets are set out in Part 4 of Chapter 9.
894. The first review, which will be in 2017, will include consideration of whether, having regard to Schedule B to the Agreement, existing salinity targets are feasible, and whether the number of target sites should be increased to improve salinity management. In doing so, the Authority can ask the Basin States, the Commonwealth Environmental Water Holder, other relevant Commonwealth agencies and other persons or bodies for pertinent information. This is consistent with information gathering powers in section 238 of the Act.
895. In the course of the first review, the Authority must also consult with the Basin States, the Commonwealth Environmental Water Holder, other relevant Commonwealth agencies and other persons or bodies. Further information in relation to the phrase ‘having regard to’ is set out in this Explanatory Statement at section 1.07.

Section 13.09 – Reviews of the environmental watering plan

896. This section sets out the requirements of the reviews of the environmental watering plan. The Authority must conduct reviews of the environmental watering plan every five years after the commencement of the Basin Plan. Reviews must include a review of the targets set out in Schedule 7. The Authority may ask for information from, and must consult with the Basin States, the Commonwealth Environmental Water Holder, other relevant Commonwealth agencies and other persons or bodies.

Division 3—Audits

Section 13.10 – Audits

897. This section enables the Authority to conduct, or engage or establish others to conduct, audits to assess the extent of compliance with the Basin Plan. The Authority can

prepare guidelines to which an auditor may have regard. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

898. Audits must produce a report setting out audit findings and any recommendations. Before the report is finalised, affected persons or bodies (including the Authority) must be given the opportunity to comment. Reports will be published as required under section 13.20.

Division 4—Assessments of Basin condition

Section 13.11 – Periodic assessments of Basin condition

899. This section enables the Authority, in consultation with the Basin States, the Commonwealth Environmental Water Holder and other relevant Commonwealth agencies, to undertake periodic assessments of trends in the condition and availability of the Basin water resources and the social, cultural and economic context in which they are used.
900. This is consistent with one of the key evaluation questions, being that the Authority must consider how the Basin Plan has contributed to changes to the environmental, social and economic conditions in the Murray-Darling Basin.
901. Assessments of trends in condition and availability of the Basin water resources include the ecosystems that contribute to the physical and environmental values of those water resources (see the definition of ‘water resources’ in section 4 of the Act).

Division 5—Evaluations, reviews and audits to inform changes to, and implementation of, Basin Plan

Section 13.12 – Evaluations, reviews and audits to inform changes to, and implementation of, Basin Plan

902. This section lists the matters the Authority and Basin States must have regard to when proposing any amendments to the Basin Plan, or exercising powers or performing functions under the Basin Plan. These are the findings and recommendations arising from actions under Divisions 1, 2 and 3 of this Chapter. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

Part 4—Reporting requirements

Section 13.13 – Definitions

903. This section defines terms in relation to reporting which link to Schedule 12.
- **reporter** is the person or body required to report under Part 4, and are listed in Schedule 12 according to their area of responsibility, and may be the Basin States, the Commonwealth Environmental Water Holder, the Department or the Authority.
 - **reporting day** is 31 October in the calendar year on which the reporting period ends (or as otherwise determined by the Authority – for example, if a reporting period ends after 31 October, the Authority may determine a later day as the reporting day).
 - **reporting period** varies depending on its Category in Schedule 12 – A or B. For Category A, it is every 5 years, and for Category B, it is every year, from the start day. Reporting periods may be varied by agreement with the Authority under section 13.15.

- **start day** is the day notified by the Authority, being no later than 1 July 2019. In practice, the Authority is likely to notify different start days for different reporting matters.

Section 13.14 – Reporting requirements for Basin States, the Department etc

904. Reporters other than the Authority must produce a report in relation to the reporting period, by the reporting day and give it to the Authority. Further detail on the intent of these reporting requirements is provided in the section of the Explanatory Statement that relates to Schedule 12. In particular, the requirement to produce a report includes the provision of data (or access to that data) to the Authority. The term ‘data’ is defined in section 1.07.
905. As the note indicates the Authority will publish reports as required under section 13.22.

Section 13.15 – Agreements in relation to reporting requirements

906. This section requires the Authority to use its best endeavours to enter into an agreement with each of the Basin States, the Commonwealth Environmental Water Holder and the Department about the reporting requirements under section 13.14. The timeframe for this is within 2 years after the Basin Plan commences.
907. This allows parties to agree to matters such as:
- exempting a Basin State, the Commonwealth Environmental Water Holder or the Department from reporting on matters that are either not relevant to the reporter, or covered by another reporter; or
 - varying reporting dates and reporting periods; or
 - permitting joint reports, or allow one to contribute to the report of another; or
 - how a report is produced or given to the Authority.
908. One of the purposes of this section is to avoid duplication of reporting, but it also allows parties to make other agreements outside section 13.14 (for example, for the purposes of conducting a review under section 50 of the Act).

Section 13.16 – Guidelines for reporting requirements

909. This section enables the Authority to publish guidelines for reporting requirements, to which other reporters may have regard. A draft guideline is being prepared by the Authority.
910. The guideline is intended to aid implementation of this Chapter, by providing further technical and operational guidance to Basin States, the Commonwealth Environmental Water Holder, the Authority and the Department on the Authority’s view on how these reporters can meet their reporting requirements under this Chapter. The guidelines will not be binding. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

Part 5—Publication of information

Section 13.17 – Publication of monitoring information

911. This section requires the Authority, in consultation with other relevant reporters or others, to take all reasonable steps to publish information and data from monitoring and evaluation on its website.

Section 13.18 – Publication of evaluation findings and recommendations

912. This section requires the Authority to take all reasonable steps to publish evaluation findings and recommendations arising from Division 1 of Part 3, and provide relevant reporters or others with the opportunity to comment.

Section 13.19 – Publication of findings and recommendations arising from reviews

913. This section requires the Authority to take all reasonable steps to publish evaluation findings and recommendations arising from Division 2 of Part 3, and provide relevant reporters or others with the opportunity to comment.

Section 13.20 – Publication of audit reports

914. This section requires the Authority to take all reasonable steps to publish finalised audit reports prepared under section 13.10 on its website.

Section 13.21 – Publication of findings of assessments

915. This section requires the Authority to take all reasonable steps to publish findings of assessments conducted under Division 4 of Part 3, and provide relevant reporters or others with the opportunity to comment.

Section 13.22 – Publication of reports produced under Part 4

916. This section requires the Authority to take all reasonable steps to publish finalised Part 4 reports on its website, unless the report has already been published on another website.

Part 6—Improving monitoring, evaluation and reporting capabilities

Section 13.23 – Improving monitoring, evaluation and reporting capabilities

917. This section, in conjunction with the principles in Part 2 of this Chapter, provides a pathway to enable improvements over time to the monitoring, evaluation and reporting capabilities that support the Basin Plan. This Chapter will be implemented by harnessing existing capabilities to begin with, but the Authority will conduct an assessment of those capabilities within 5 years. Where recommended by that assessment, the Authority will endeavour to improve capabilities in collaboration with the Basin States, the Commonwealth Environmental Water Holder, the Department and other relevant persons.
918. Within 5 years after the Basin Plan commences, the Authority must assess monitoring, evaluation and reporting capabilities under this Chapter, having regard to Part 3 evaluations, reviews, audits and assessments. Further information in relation to the phrase ‘have regard to’ is set out in this Explanatory Statement at section 1.07.

919. Where improvements are identified, the Authority must use its best endeavours with the Basin States, the Department, the Commonwealth Environmental Water Holder and any other relevant persons, to give effect to those improvements.

SCHEDULE 1—BASIN WATER RESOURCES AND THE CONTEXT FOR THEIR USE

920. This Schedule is referred to in section 2.01. Presented in the format of a report, this Schedule describes the Basin water resources and the context in which they are used. In accordance with item 1 of the table in subsection 22(1) of the Act, this description includes information about the size, extent, connectivity, variability and condition of Basin water resources; the uses to which Basin water resources are put, including by Indigenous people; the users of Basin water resources; and the social and economic circumstances of Basin communities that depend on the Basin water resources.
921. There are two tables in this Schedule. Table 1 sets out the Authority's best estimate of the long term inflows and water use in the Murray-Darling Basin. Table 2 provides statistics on the industries in which Murray-Darling Basin residents are employed.
922. References to sources used as the basis for this Schedule are included.

SCHEDULE 2—MATTERS RELATING TO SURFACE WATER SDL RESOURCE UNITS

923. This Schedule is referred to in sections 6.02, 6.04 and 6.05 and in Part 3 of Chapter 10. The term 'BDL' (baseline diversion limit), which is used throughout this Schedule, is defined in section 1.07. This Schedule sets out the long-term average sustainable diversion limit for each surface water SDL resource unit in the Murray-Darling Basin.
924. This Schedule is set out in the form of a table that is divided into water resource plan areas for each Basin State.
925. Column 1 identifies the surface water SDL resource units within those water resource plan areas.
926. Column 2 sets out the long-term average sustainable diversion limit for each surface water SDL resource unit. This is described relative to the BDL for each surface water SDL resource unit. The BDL for each unit is described in Schedule 3.

SCHEDULE 3—BDLS FOR SURFACE WATER SDL RESOURCE UNITS

927. This Schedule is referred to in Schedule 2 and in the definition of BDL in section 1.07.
928. This Schedule is set out in the form of a table that is divided into water resource plan areas for each Basin State.
929. Column 1 identifies the surface water SDL resource units within those water resource plan areas.
930. Column 2 sets out the BDL for each SDL resource unit. This figure is derived by taking into account the estimates of volumes provided in the Schedule, which vary depending the SDL resource unit. Some estimates have been subject to rounding.
931. The intent is to establish a BDL that incorporates limits for various forms of take. The following definitions are the basis for the forms of take outlined in this Schedule:
- for watercourse diversions and take by runoff dams (excluding basic rights), the limit is based on the State water management law that was in existence by a particular

date (as specified in Column 2). This generally refers to a limit established by a water resource plan in place at the time specified;

- take under basic rights and commercial plantations not limited or included under state water resource plans and as such the limit of take is set at the level of development at a particular date as specified in Column 2;
- in some instances in New South Wales, unregulated watercourse diversions are currently not covered under State water resource plans. Here, average take of water is determined over an historic period of time that has been agreed reflects baseline conditions used for the purposes of the Cap (Schedule E to the Murray-Darling Basin Agreement). This limit will be reflected in unregulated water sharing plans currently being developed by the New South Wales government; and
- in a few SDL resource units the limit is based on the agreed Cap definition and adjusted for the climatic sequence used across the Basin.

SCHEDULE 4—MATTERS RELATING TO GROUNDWATER SDL RESOURCE UNITS

932. This Schedule is referred to in sections 6.03 and 6.04 and the definition of BDL in section 1.07.
933. Set out as a table, this Schedule provides information on matters relating to groundwater SDL resource units for each Basin State's groundwater resource plan area.
934. Column 1 identifies the groundwater SDL resource units.
935. Column 2 specifies the groundwater covered by the Basin Plan within each groundwater SDL resource unit.
936. Column 3 sets as a volume in GL per year the BDL for each groundwater SDL resource unit.
937. Column 4 sets the long-term average sustainable diversion limit for each groundwater SDL resource unit. The figure is provided in GL per year.

SCHEDULE 5—ENHANCED ENVIRONMENTAL OUTCOMES REFERRED TO IN PARAGRAPH 7.09(e)

938. This Schedule lists the enhanced environmental 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. The program is to spend \$1.77 billion over 10 years from 2014-2015 under the proposed water for the Environment Special Account.

SCHEDULE 6—DEFAULT METHOD FOR CALCULATION OF SUPPLY CONTRIBUTION

782. This Schedule sets the method by which the supply contribution is calculated for section 7.15. This Schedule also describes the benchmark model that is used in both this Schedule and Chapter 7 for identifying the benchmark conditions of development.
783. This is the 'default' method, as section 7.15 provides for an alternative method to be used if the Authority and the Basin Officials Committee agree to use another method.

SCHEDULE 7—TARGETS TO MEASURE PROGRESS TOWARDS OBJECTIVES

784. This Schedule sets out targets to measure progress towards the overall environmental objectives for water-dependent ecosystems, and is referred to in Part 3 of Chapter 8. It consists of a table that sets out both the intermediate term (up to 30 June 2019) and long term (from 1 July 2019) targets. The targets are designed to measure progress towards the overall environmental objectives for water-dependent ecosystems in the Murray-Darling Basin.

SCHEDULE 8—CRITERIA FOR IDENTIFYING AN ENVIRONMENTAL ASSET

785. This Schedule sets out criteria for identifying environmental assets. This Schedule is referred to in section 8.49. It outlines the 5 criteria that will be used for identifying an environmental asset in terms of environmental watering. The 5 criteria are:

- the water-dependent ecosystem is formally recognised in international agreements or, with environmental watering, is capable of supporting species listed in those agreements;
- the water-dependent ecosystem is natural or near-natural, rare or unique;
- the water-dependent ecosystem provides vital habitat;
- the water-dependent ecosystem supports Commonwealth, State or Territory listed threatened species or communities; and
- the water-dependent ecosystem supports, or with environmental watering is capable of supporting, significant biodiversity.

SCHEDULE 9—CRITERIA FOR IDENTIFYING AN ECOSYSTEM FUNCTION

786. This Schedule sets out criteria for identifying an ecosystem function that may require environmental watering to sustain it, and is referred to in section 8.50. It outlines the 4 criteria to be used for identifying an ecosystem function in the Murray-Darling Basin. The 4 criteria are:

- the ecosystem function supports the creation and maintenance of vital habitats and populations;
- the ecosystem function supports the transportation and dilution of nutrients, organic matter and sediment;
- the ecosystem function provides connections along a watercourse (longitudinal connections); and
- the ecosystem function provides connections across floodplains, adjacent wetlands and billabongs (lateral connections).

SCHEDULE 10—KEY CAUSES OF WATER QUALITY DEGRADATION

787. This Schedule sets out the key causes of water quality degradation for each type of degradation referred to in section 9.02. Column 1 sets out the item number for the type of degradation. Column 2 sets out the type of water degradation identified in subsection 9.02(1). Column 3 sets out the key cause of water quality degradation for that type of degradation.

SCHEDULE 11—TARGET VALUES FOR TARGET APPLICATION ZONES

788. This Schedule sets out the target values for target applications zones referred to in section 9.16. Column 1 sets out the target application zone. Column 2 sets out the type of water-dependent ecosystem: either declared Ramsar wetlands; or other water-dependent ecosystems. Column 3 sets out the ecosystem type. For declared Ramsar wetlands these are either: streams and rivers; or lakes and wetlands. For other water-dependent ecosystems they are streams, rivers, lakes and wetlands.
789. The remaining columns set out the relevant water quality characteristics: turbidity (column 4), total phosphorus (column 5), total nitrogen (column 6), dissolved oxygen (column 7), pH (column 8), salinity (column 9), temperature (column 10) and pesticides, heavy metals and other toxic contaminants (column 11). Along with the type of characteristic, other information is provided in some cases, for example, the units relating to the characteristic. Column 11 indicates that the target values for pesticides, heavy metals and other toxic contaminants are the values in table 3.4.1 of the ANZECC Guidelines for the protection of the specified percentage of species. The values in table 3.4.1 of the ANZECC Guidelines, relevant to the protection of the specified percentage of species, must not be exceeded. The ANZECC Guidelines is a document incorporated by reference available at www.mdba.gov.au.
790. Some cells in column 9 have been left blank intentionally as no applicable end-of-valley targets for salinity are specified in Appendix 1 of Schedule B to the Agreement.

SCHEDULE 12—MATTERS FOR EVALUATION AND REPORTING REQUIREMENTS

791. This Schedule contains a table setting out who the relevant reporter is, and (by nominating a category) the frequency of reporting for the Basin Plan matters that are listed in the second column.
792. These matters 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 Commonwealth Environmental Water Holder 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.
793. In this context, the matters listed in this Schedule serve two purposes: they inform evaluation by the Authority of the effectiveness of the Basin Plan and they set out what information (including data) needs to be reported by the reporters.

794. Depending on the specific matter in this Schedule, it is intended that information will be reported in certain forms, including:
- reporting by provision of data (or access to it); or
 - reporting by provision of analysis of data and the data itself (or access to it).
795. In both forms, metadata will be important and the Authority intends that the guidelines will reflect this importance by explaining Authority's intent and expectations for provision of metadata. Metadata (data about data) is a statement describing the characteristics and value of a dataset.