

# Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2016 (amended 2019)

## Notes.

- 1 In accordance with section 48 of the *Water Management Act 2000*, the Minister must take all reasonable steps to give effect to the provisions of this Plan when exercising functions under the Act.
- 2 In accordance with section 49 of the *Water Management Act 2000*, public authorities must also have regard to the provisions of this Plan to the extent they apply to the public authority.
- 3 The Minister may amend this Plan at any time under section 45 of the *Water Management Act 2000*, including if satisfied it is in the public interest to do so, or in such circumstances, in relation to such matters and to such extent as Part 12 of this Plan provides.

## Contents

Part 1	Introduction .....	3
Part 2	Vision, objectives, strategies and performance indicators.....	5
Part 3	Planned environmental water provisions.....	15
Part 4	Requirements for water .....	17
	Division 1 General.....	17
	Division 2 Requirements for water for basic landholder rights.....	17
	Division 3 Requirements for water under access licences .....	18
Part 5	Bulk access regime.....	20
Part 6	Rules for granting access licences.....	22
Part 7	Limits to the availability of water .....	23
	Division 1 Calculations under this Part.....	23
	Division 2 Long-term average annual extraction limit .....	23
	Division 3 Cumulative annual extraction limit.....	25
	Division 4 Compliance with extraction limits .....	26
	Division 5 Available water determinations .....	27
Part 8	Rules for operating water accounts and managing access licences.....	32
	Division 1 General water allocation account management rules.....	32
	Division 2 Account management rules for regulated river (high security) and regulated river (general security) access licences .....	35
	Division 3 Supplementary water events.....	39
Part 9	Access licence dealing rules .....	41
Part 10	System operation rules .....	45
	Division 1 Cudgegong environmental water allowance.....	45
	Division 2 Macquarie environmental water allowance.....	48
	Division 3 Consultation.....	53

Division 4	General system operation rules.....	54
Part 11	Mandatory conditions.....	61
Division 1	General.....	61
Division 2	Access licences.....	61
Division 3	Water supply work approvals.....	62
Part 12	Amendment of this Plan.....	64
Dictionary	.....	67
Schedule 1	Cudgegong regulated river (general security) access licence carryover volumes for the purposes of clause 47.....	70
Schedule 2	Offices.....	71
Appendix 1	Overview map of the Macquarie and Cudgegong Regulated Rivers Water Source ....	72
Appendix 2	Targeted objectives, strategies and performance indicators.....	73

## Part 1 Introduction

### 1 Name of Plan

This Plan is the *Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2016 (this Plan)*.

### 2 Nature and status of this Plan

- (1) This Plan is made under section 50 of the *Water Management Act 2000 (the Act)*.
- (2) This Plan is a plan for water sharing and generally deals with the matters set out in sections 20 and 21 of the Act, as well as other sections of the Act.

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

### 3 Commencement

This Plan commences on 1 July 2016.

#### Notes.

- 1 This Plan replaces the *Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2003*.
- 2 In accordance with section 43 of the Act, this Plan has effect for 10 years from 1 July 2016. The Minister may extend this Plan for a further period of 10 years after it is due to expire, in accordance with section 43A of the Act.
- 3 Under the Intergovernmental Agreement on Implementing Water Reform in the Murray-Darling Basin and the associated National Partnership Agreement, NSW agreed to develop water resource plans for Murray-Darling Basin water resources consistent with the requirements of the Basin Plan. This Plan was amended in 2019, partly to meet NSW's commitments under these agreements. The water resource plan for the Macquarie-Castlereagh surface water area commences on 1 July 2019. Certain provisions of this Plan form part of that water resource plan.

### 4 Application of Plan

- (1) This Plan applies to the Macquarie and Cudgegong Regulated Rivers Water Source (*the water source*) within the Central West Water Management Area.

**Note.** The Central West Water Management Area was constituted by Ministerial order made under section 11 of the Act and published in the NSW Government Gazette No 180 on 23 November 2001 at page 9389.

- (2) The water source consists of:
  - (a) the water between the banks of all rivers, from Windamere Dam water storage downstream to the junction of the Macquarie River and the Barwon River, that have been declared by the Minister to be a regulated river, and
  - (b) the water taken under a floodplain harvesting (regulated river) access licence that specifies the water source.

**Notes.**

- 1 The *Central West Water Management Area Regulated River Order* was made by the Minister and published in the New South Wales Government Gazette No 110 on 1 July 2004 at page 5486, and amended by item [89] of Schedule 1 of the *Water Management Amendment Act 2018*. An overview map of the regulated rivers, as amended, is at Appendix 1.
- 2 **Floodplain harvesting** is defined in the Dictionary.
- 3 The water source does not include the following:
  - (a) the Macquarie Bogan Unregulated River Water Sources to which the *Water Sharing Plan for the Macquarie Bogan Unregulated River Water Sources 2012* applies,
  - (b) the Macquarie Alluvial Water Sources to which the *Water Sharing Plan for the Macquarie Alluvial Groundwater Sources 2019* applies.

## 5 Interpretation

- (1) Unless otherwise defined in this Plan, words and expressions that are defined in the Act or in the regulations made under the Act have the same meaning in this Plan.
- (2) Words and expressions that are defined in the Dictionary at the end of this Plan have the meaning set out in that Dictionary.
- (3) Unless otherwise specified, a reference to the *Water Sharing Plan for the Macquarie Bogan Unregulated and Alluvial Water Sources 2012* includes a reference to any plan that replaces that plan.
- (4) Unless otherwise specified, a clause that applies to a category of access licence also applies to any subcategories of that category of access licence.
- (5) The Dictionary and Schedules to this Plan form part of this Plan.
- (6) A number in brackets following the name of a gauge is the gauge number.
- (7) Notes in the text of this Plan do not form part of this Plan.
- (8) Appendices to this Plan do not form part of this Plan.

## Part 2 Vision, objectives, strategies and performance indicators

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

### 6 Acknowledgement

Respect is paid to the Traditional Owners of this country, who are acknowledged as the first natural resource managers within the Central West Water Management Area.

### 7 Vision statement

The vision for this Plan is to provide for the following:

- (a) the health and enhancement of the water source and its water dependent ecosystems,
- (b) the productive and economically efficient use of water resources,
- (c) the social and cultural benefits to urban and rural communities that result from the sustainable and efficient use of water,
- (d) the spiritual, social, customary and economic benefits to Aboriginal communities that result from the sustainable and efficient use of water.

### 8 Environmental objectives

- (1) The broad environmental objective of this Plan is to protect and, where possible, enhance the ecological condition of the water source and its water dependent ecosystems (instream, riparian and floodplain ecosystems).

**Note.** The ecological condition of the water source includes high ecological value aquatic ecosystems, target species, communities, populations and key ecosystem functions as defined in Appendix 2.

- (2) The targeted environmental objectives of this Plan are as follows:
  - (a) to protect and, where possible, enhance the following over the term of this Plan:
    - (i) the recorded distribution or extent of target ecological populations including native fish and native vegetation,

**Note.** Target ecological populations include populations of native fish and native vegetation but may also include waterbirds and native frog communities where data is available. Criteria for identifying priority monitoring locations of target ecological populations for the water source are defined in Appendix 2.
    - (ii) the population structure of target ecological populations including native fish and native vegetation communities,

**Note.** Target ecological populations for the water source are defined in Appendix 2.

- (iii) the connectivity between water sources to support downstream processes including priority carbon and nutrient pathways and priority fish passages,

**Notes.**

- 1 **Carbon and nutrient pathways** is defined in the Dictionary.
- 2 Criteria for identifying priority carbon and nutrient pathways and priority fish passages are defined in Appendix 2.
- 3 Downstream processes may include maintaining connectivity with downstream water sources.

- (iv) water quality within the water source to support water dependent ecosystems and ecosystem functions,

**Notes.**

- 1 Water quality targets for the water source are defined in the *Water quality management plan SW11 Macquarie-Castlereagh Water Resource Plan Area*.
- 2 Criteria for identifying priority monitoring locations for water quality measurables are defined in Appendix 2.

- (b) to support environmental watering in the water source to contribute to maintaining or enhancing ecological condition in streams, riparian zones, dependent wetlands and floodplains.

**Note.** Divisions 1 and 2 of Part 10 outline the provisions for Environmental Water Allowances (EWAs) for the Cudgegong and Macquarie Rivers. The NSW Environmental Water Holder makes decisions about the use of EWA water on any advice of an Environmental Watering Advisory Group according to the rules in this Plan, and guided by the *Macquarie Castlereagh Long-term Environmental Water Plan* and the *Macquarie-Castlereagh Water Resource Plan Area Annual Environmental Water Plan*.

- (3) The strategies for reaching the environmental objectives of this Plan are as follows:

- (a) reserve all water in excess of the long-term average annual extraction limit and cumulative annual extraction limit for the environment,

**Notes.**

- 1 Part 3 of this Plan reserves all water remaining above the long-term average annual extraction limit and cumulative annual extraction limit for the environment.
- 2 This strategy will contribute to all objectives in subclause (2).

- (b) reserve a portion of natural flows to mitigate alterations to natural flow regimes in the water source,

**Notes.**

- 1 **Flow regimes** is defined in the Dictionary.
- 2 The rules in clause 14 and 53 of this Plan mitigate the alterations to low and medium flows in the natural flow regimes of the water source. These rules contribute to the objectives in subclauses (2) (a) (i) – (ii) and (iv) and (b).

- (c) reserve a portion of natural flows to maintain hydrological connectivity between the water source and riparian zones, wetlands and floodplains connected to the water source,

**Note.** The rules in clauses 14 and 53 of this Plan maintain the hydrological connectivity between the water source and connected wetlands by protecting a portion of medium and high natural flows. These rules contribute to all objectives in subclause (2).

- (d) reserve a share of water to support environmental watering events in streams, riparian zones, floodplains and wetlands connected to the water source,

**Note.** The rules in Division 1 of Part 10 of this Plan ensure that environmental water allowances are maintained. These rules contribute to all objectives in subclause (2).

- (e) contribute to critical environmental and water quality events in downstream water sources.

**Note.** The rules in clause 14 and 53 of this Plan regulate the announcement of supplementary water events and establish a Macquarie EWA which provide connectivity between the water source and adjacent water sources. These rules contribute to all objectives in subclause (2).

- (4) The performance indicators used to measure the success of the strategies for reaching the broad environmental objective in subclause (1) will be evaluated by determining the extent to which:

- (a) the combined outcomes of the targeted objectives in subclause (2) have contributed to achieving the broad objective, and
- (b) external influences on the water source have affected progress toward achieving the objectives.

- (5) The performance indicators used to measure the success of the strategies for reaching the targeted environmental objectives in subclause (2) are the changes or trends in the following:

- (a) the recorded range or extent of target ecological populations, including native fish and native vegetation, as described in Appendix 2,
- (b) the recorded condition of target ecological populations of native fish and native vegetation, as described in Appendix 2,
- (c) measurements of carbon and nutrient transport processes and fish movements through priority fish passage areas as described in Appendix 2,
- (d) the recorded values of water quality measurements including salinity,

turbidity, total nitrogen, total phosphorous, pH, water temperature and dissolved oxygen,

- (e) the extent to which the strategies in subclause (3) have provided flow conditions of sufficient magnitude, frequency, timing and water quality to achieve targeted environmental objectives.

**Note.** The priority performance indicators to measure targeted environmental objectives, and the corresponding strategies and rules to achieve them, are described in Appendix 2.

- (6) In evaluating the effectiveness of the strategies in meeting the objectives of this clause, the following will be relevant:
  - (b) the extent to which changes in the performance indicators can be attributed to the strategies and rules in this Plan,
  - (c) the extent to which the strategies and rules in this Plan have been implemented and complied with.

## 9 Economic objectives

- (1) The broad economic objective of this Plan is to maintain access to water to optimise economic benefits for irrigation, water dependent industries and local economies.
- (2) The targeted economic objectives of this Plan are as follows:
  - (a) to provide water trading opportunities for water-dependent economic activities,

**Note.** Trading is a generic term referring to dealings under Division 4 of Part 2 of Chapter 3 the Act.
  - (b) to maintain or enhance access to water for agriculture, business and landholders,
  - (c) to contribute to maintaining water quality for agriculture, business and landholders.
- (3) The strategies for reaching the economic objectives of this Plan are as follows:
  - (a) provide a stable and predictable framework for sharing water among water users,

**Note.** The individual account management rules in Division 1 and 2 of Part 8 and priority of extraction rules in clause 79 provide certainty in how water is to be shared between individual access licence holders and different categories of access licences. These rules contribute to the objectives in subclauses (2) (a) and (b).
  - (b) where possible, provide for flexibility of access to water,

**Note.** The individual account management rules in Division 1 and 2 of Part 8 provide

flexibility that reflects the characteristics of the licence category. These rules contribute to the objective in subclause (2) (b).

- (c) manage extractions to the long-term average annual extraction limit and the cumulative annual extraction limit, and provide rules for managing extractions within those limits that recognise different climatic conditions in different years, including during drought,

**Note.** The application of the long-term average annual extraction limit and the cumulative annual extraction limit and the assessment and compliance rules in Part 7 of this Plan manage extractions to different climatic conditions in different years. These rules contribute to all objectives in subclause (2).

- (d) provide for trade of water allocations and entitlements within the water source, subject to environmental and system constraints,

**Note.** The rules in Part 9 of this Plan permit a variety of dealings within environmental and system constraints, including assignment of rights under access licences and assignment of water allocations between access licences. These rules contribute to the objectives in subclauses (2) (a) and (b).

- (e) provide for supplementary water access, subject to announcements, to a portion of uncontrolled flows,

**Note.** The rules in clause 53 of this Plan describe the access conditions during supplementary water events. These rules contribute to the objective in subclause (2) (b).

- (f) reserve a portion of natural flows to mitigate deterioration in water quality due to alterations to natural flow regimes.

**Notes.**

- 1 **Flow regimes** is defined in the Dictionary.
- 2 The rules in clause Divisions 1 and 2 of Part 10 of this Plan mitigate the alterations to low and medium flows in the natural flow regime of this water source. These rules contribute to the objective in subclause (2) (c).

- (4) The performance indicators used to measure the success of the strategies for reaching the broad economic objective in subclause (1) will be evaluated by determining the extent to which:

- (a) the combined outcomes of the targeted economic objectives in subclause (5) have contributed to achieving the broad objective, and
- (b) external influences on the water source during the term of this Plan have affected progress towards achieving the broad objective.

**Note.** External influences may include trends in urban, agricultural and industrial development, energy costs, commodity prices, interest rates, technology advances and changes in policy or regulation.

- (5) The performance indicators used to measure the success of the strategies for reaching the targeted economic objectives in subclause (2) are the changes or trends in the following:

- (a) the economic benefits of water extraction and use, by measuring factors including the movement of water to higher value uses,
  - (b) the economic benefits of water trading including changes and trends in the following:
    - (i) the change in the unit price of water that is subject to a dealing,
    - (ii) the annual total volume of access licence share components subject to a dealing,
    - (iii) the annual total number of access licence shares subject to a dealing,
    - (iv) the weighted average price of water traded within the water source,  
**Note. Weighted average price** is defined in the Dictionary.
  - (c) the recorded values of water quality measurements including salinity, sodium absorption ratio, harmful algal blooms, total nitrogen, total phosphorous, pH, water temperature and dissolved oxygen.
- (6) In evaluating the effectiveness of the strategies in meeting the objectives of this clause, the following will be relevant:
- (a) the extent to which stakeholders have considered the operation of this Plan to be clearly explained and predictable,
  - (b) the extent to which changes in the economic benefits of water extraction and use can be attributed to the strategies in subclause (3) and rules in this Plan.  
**Note.** The process for determining the priority for monitoring the targeted economic objectives, and the corresponding strategies and rules to achieve them, are described in Appendix 2.

## 10 Aboriginal cultural objectives

- (1) The broad Aboriginal cultural objective of this Plan is to maintain the spiritual, social, customary and economic values and uses of water by Aboriginal people.
- (2) The targeted Aboriginal cultural objectives of this Plan are as follows:
  - (a) to provide access to water in the exercise of native title rights,
  - (b) to provide access to water for Aboriginal cultural use, including fishing,  
**Note.** Relevant fish species may include golden perch and Murray cod.
  - (c) to protect identified water-dependent culturally significant areas, including important riparian vegetation communities,
  - (d) to maintain or enhance water quality to ensure suitability of water for Aboriginal cultural use.

- (3) The strategies for reaching the Aboriginal cultural objectives of this Plan are the following:
- (a) manage access to water consistently with the exercise of native title rights,
  - (b) provide for water associated with Aboriginal cultural values and uses,  
**Note.** The rules in Part 6 of this Plan provide opportunities for Aboriginal people to access water by allowing for the granting of an access licence of the subcategory "Aboriginal cultural". This rule contributes to the objective in subclause (2) (b).
  - (c) reserve a portion of natural flows to mitigate alterations to natural flow regimes in the water source,  
**Note.** The rules in clause 14 and 53 mitigate the alterations to low and medium flows in the natural flow regime of this water source. These rules contribute to the objective in subclause (2) (c).
  - (d) reserve a portion of natural flows to maintain hydrological connectivity between the water source and riparian zones, wetlands and floodplains connected to the water source,  
**Note.** The rules in clause 14 and 53 maintain the hydrological connectivity between this water source and wetlands connected to this water source by ensuring a portion of medium and high natural flows are protected. These rules contribute to the objectives in subclause (2) (c) and (d).
  - (e) provide for Aboriginal values to be considered as part of the broader environmental watering events.  
**Note.** The rules in Division 1 of Part 10 of this Plan ensure that environmental water allowances are maintained for purposes including to support environmental assets that have been identified as having Aboriginal cultural value. This rule contributes to the objectives in subclause (2) (b), (c) and (d).
- (4) The performance indicators used to measure the success of the strategies for reaching the broad Aboriginal cultural objective in subclause (1) will be evaluated by determining the extent to which:
- (a) the combined outcomes of the targeted Aboriginal cultural objectives in subclause (5) have contributed to achieving the broad objective, and
  - (b) external influences on the water source during the term of this Plan have affected progress toward achieving the broad objective.  
**Note.** External influences may include trends in urban, agricultural and industrial development, Aboriginal cultural activity, changes in climate, policy or regulation.
- (5) The performance indicators used to measure the success of the strategies for reaching the targeted Aboriginal cultural objectives in subclause (2) will be evaluated as follows:
- (a) by comparing changes, or trends in, the use of water by Aboriginal people during the term of this Plan by measuring:

- (i) the extent to which native title rights are able to be exercised, consistently with any determination of native title, and
  - (ii) the extent to which access to water has achieved Aboriginal cultural outcomes,
- (b) by comparing changes, or trends in, the recorded range or extent of target populations of native fish, as described in Appendix 2,
  - (c) by comparing changes, or trends in, the recorded range or condition of target populations of riparian vegetation,
  - (d) by considering the extent to which the protection of identified cultural assets can be attributed to the strategies in subclause (3) and rules in this Plan,
  - (e) by considering the extent to which Aboriginal people have considered the operation of this Plan to be beneficial to meeting their needs for water-dependent Aboriginal cultural uses and values,
  - (f) by considering the extent to which changes in the use of water by Aboriginal people can be attributed to the strategies in subclause (3) and rules in this Plan,
  - (g) by comparing changes, or trends in, the recorded values of water quality measurements including salinity, harmful algal blooms, total nitrogen, total phosphorus, pH, water temperature and dissolved oxygen.

## 11 Social and cultural objectives

- (1) The broad social and cultural objective of this Plan is to maintain and, where possible, enhance the efficient and sustainable access to water to support basic human needs, and water dependant values, culture, heritage and recreational uses.
- (2) The targeted social and cultural objectives of this Plan are to maintain and, where possible, or improve the following:
  - (a) access to water for basic human needs, town water supply and domestic and stock purposes,
  - (b) access to water for water dependent cultural, heritage and recreational uses, including recreational fishing,  
**Note.** Native fish species that are important for recreational fishing include golden perch and Murray cod.
  - (c) water quality for basic human needs, town water supply, domestic and stock purposes and water dependent cultural, heritage and recreational uses, including recreational fishing.

- (3) The strategies for reaching the social and cultural objectives of this Plan are as follows:
- (a) provide water access for basic human needs, town water supply, and for domestic and stock purposes,
- Note.** The rules for the maintenance of water supply and replenishment flows in Part 10 of this Plan ensure that water is available for basic human needs, town water supply and domestic and stock purposes. These rules contribute to the objective in subclause (2) (a).
- (b) reserve a portion of natural flows to mitigate alterations to natural flow regimes in this water source,
- Note.** The rules in clause 14 and 53 mitigate the alterations to low and medium flows in the natural flow regime of this water source by ensuring a portion of are protected. These rules contribute to the objective in subclause (2) (b).
- (c) reserve a portion of natural flows to maintain hydrological connectivity between this water source and riparian zones, wetlands and floodplains connected to this water source,
- Note.** The rules in clause 14 and 53 maintain the hydrological connectivity between this water source and wetlands connected to this water source by ensuring a portion of medium and high natural flows are protected. These rules contribute to the objective in subclause (2) (c).
- (d) minimise adverse impacts of water delivery on community values and uses.
- Note.** The rules for water delivery and channel capacity constraints, priority of extractions for access licences and the environmental water account, rates of change to storage releases, supply of orders when remaining allocations are low and dam operation during floods and spills in Part 10 of this Plan minimise the impact of water delivery on the community. These rules contribute to all the objectives in subclause (2).
- (4) The performance indicators used to measure the success of the strategies for reaching the broad social and cultural objectives in subclause (1) will be evaluated by determining the extent to which:
- (a) the combined outcomes of the targeted social and cultural objectives in subclause (5) have contributed to achieving the broad objective, and
- (b) external influences on this water source during the term of this Plan have affected progress toward achieving the broad objective.
- Note.** External influences may include trends in urban, agricultural and industrial development, social or cultural behaviour, climate and changes in policy or regulation.
- (5) The performance indicators used to measure the success of the strategies for reaching the targeted social and cultural objectives in subclause (2) will be evaluated as follows:
- (a) by comparing changes, or trends in, the social and cultural uses of water

during the term of this Plan by measuring:

- (i) the extent to which basic landholder, domestic and stock rights have been met, and
  - (ii) the extent to which major utility and local utility access licence requirements have been met,
- (b) by comparing changes, or trends in, the recorded range or extent of target populations of native fish that are important for recreational fishing, as described in Appendix 2,
- (c) by comparing changes, or trends in, the recorded takes of native fish that are important for recreational fishing within legal age and size classes, as described in Appendix 2,
- (d) by considering the extent to which changes in the social and cultural use of water can be attributed to the strategies in subclause (3) and rules in this Plan,
- (e) by comparing changes, or trends in, the recorded values of water quality measurements including salinity, harmful algal blooms, total nitrogen, total phosphorus, pH, water temperature and dissolved oxygen.

## Part 3 Planned environmental water provisions

**Note.** This Part is made in accordance with sections 8 and 20 of the Act.

### 12 General

This Part contains environmental water rules to commit, identify, establish and maintain planned environmental water.

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

### 13 Commitment and identification of planned environmental water

Water is committed and identified as planned environmental water by reference to the following:

- (a) the commitment of the physical presence of water in the water source,
- (b) the long-term average annual commitment of water as planned environmental water,
- (c) the water that is not committed after the commitments to basic landholder rights and for sharing and extraction under any other rights have been met.

### 14 Establishment and maintenance of planned environmental water

(1) Planned environmental water is established in the water source as follows:

- (a) the physical presence of water resulting from the following:
  - (i) the Cudgegong environmental water allowance rules specified in Division 1 of Part 10,

**Note.** The rules in Division 1 of Part 10 establish an environmental water allowance in Windamere Dam which can be used to make releases for environmental purposes in the Cudgegong River downstream to Burrendong Dam.

- (ii) the Macquarie environmental water allowance rules specified in clause Division 2 of Part 10,

**Note.** The rules in Division 2 of Part 10 establish an environmental water allowance in Burrendong Dam which can be used to make releases for environmental purposes in the Macquarie River downstream to the Macquarie Marshes.

- (iii) the limitations on access to flows for supplementary water access licences specified in Division 3 of Part 8,

- (b) the long-term average annual commitment of water as planned environmental water, resulting from compliance with the long-term average annual extraction limit and the cumulative annual extraction limit in Part 7,
  - (c) water remaining after water has been taken under basic landholder rights and access licences, in accordance with the rules in Part 7 and 8 of this Plan.
- (2) The planned environmental water established under subclause (1) (a) is maintained by the environmental water allowance and release rules in Divisions 1 and 2 of Part 10 and the limitations on access to flows for supplementary water access licences in Division 3 of Part 8.
  - (3) The planned environmental water established under subclause (1) (b) is maintained by the rules specified in Part 7 of this Plan.
  - (4) The planned environmental water established under subclause (1) (c) is maintained by the rules specified in Parts 7 and 8 of this Plan.

**Note.** The rules in Part 7 of this Plan ensure that there will be water remaining in the water source over the long term by maintaining compliance with the long-term average annual extraction limit and the cumulative annual extraction limit. The rules in Part 7 also provide for lower available water determinations when either of the limits has been assessed to have been exceeded.

## Part 4 Requirements for water

### Division 1 General

#### 15 General

- (1) This Part identifies the requirements for water in the exercise of basic landholder rights (Division 2) and for extraction under access licences (Division 3) in the water source.
- (2) The volumes of water specified in this Part represent, as at 1 April 2019, the requirements for water to satisfy basic landholder rights and the total volumes or unit shares specified in the share components of access licences in the water source.
- (3) This Plan recognises that requirements for water in connection with basic landholder rights and the total share components of access licences in the water source may change during the term of this Plan.

#### Notes.

- 1 The total share components of access licences in the water source may change during the term of this Plan as a result of:
  - (a) the grant, surrender or cancellation of access licences in the water source, or
  - (b) the variation of local water utility licences under section 66 of the Act.
- 2 This Plan manages changes in basic landholder rights and total share components of all access licences through provisions in Part 7 which manage the sharing of water within the limits of water availability.
- 3 Inherent water quality and land use activities may make the water in some areas unsuitable for human consumption. Water should not be consumed without first being tested and, if necessary, appropriately treated. Such testing and treatment is the responsibility of the water user.

#### Minister's note.

The estimates, share components and numbers of licences referred to in this Part are as at the commencement of this Plan in 2004, but will be updated before the amendments commence to be accurate as at 1 April 2019.

### Division 2 Requirements for water for basic landholder rights

**Note.** Under the Act, basic landholder rights are defined as domestic and stock rights, native title rights and harvestable rights. However, there are no harvestable rights in the water source under this Plan.

#### 16 Domestic and stock rights

As at 1 April 2019, the water requirements of persons entitled to domestic and stock rights are estimated to total 1,200 megalitres per year (*ML/year*).

**Note.** Domestic and stock rights are set out in section 52 of the Act and must be exercised

in accordance with any mandatory guidelines established under the Act on the taking and use of water for domestic consumption or stock watering.

## 17 Native title rights

As at 1 April 2019, no determinations of native title rights have been made in relation to the water source under the *Native Title Act 1993* of the Commonwealth.

As at that date, no water requirements have been identified for native title holders.

### Notes.

- 1 **Native title holder** is defined in the Act, in relation to any waters, as a person who holds native title rights in relation to those waters pursuant to a determination under the *Native Title Act 1993* of the Commonwealth.
- 2 A determination of native title may be made during the term of this Plan under the *Native Title Act 1993* of the Commonwealth.

## Division 3 Requirements for water under access licences

### Notes.

- 1 The share components in this Division include licensed environmental water as defined in section 8 of the Act. The Environmental Water Register maintained by the NSW Department of Industry provides a record of licensed environmental water, as well as other water intended to be used for environmental purposes.
- 2 As at 1 April 2019, the licensed environmental water referred to in Note 1 comprises one access licence with adaptive environmental water conditions totalling 1,111.5 ML.
- 3 As at 1 April 2019, there are 14 other access licences with share components totalling 173,531.5 ML that are not identified as licensed environmental water but are intended to be used for environmental purposes. Some of these are held by the Commonwealth Government and others by the NSW Government. These access licences are regulated river (general security), regulated river (high security) access licences and supplementary water access licences.
- 4 This Division sets out the total volumes or unit shares in the share components of access licences in the water source as at 1 April 2019. The actual volume of water available at any time will depend on climate, access licence priority and the rules in this Plan.

## 18 Share components of domestic and stock access licences

As at 1 April 2019, the share components of domestic and stock access licences total 14,265 ML/year.

## 19 Share components of local water utility access licences

As at 1 April 2019, the share components of local water utility access licences total 22,681 ML/year.

## 20 Share components of regulated river (high security) access licences

As at 1 April 2019, the share components of regulated river (high security) access licences total 19,419 unit shares.

## **21 Share components of floodplain harvesting (regulated river) access licences**

As at 1 April 2019, the share components of floodplain harvesting (regulated river) access licences total [to be added] unit shares.

### **Minister's note.**

Floodplain harvesting (regulated river) access licence share components are currently being determined through modelling under the NSW Healthy Floodplains Project. Share component estimates for these licences will be updated in the Plan once this process is complete. It is currently anticipated that this will occur prior to the amendment of this Plan. Further stakeholder engagement on the floodplain harvesting modelling methodology and key assumptions, together with an independent model peer review process is being undertaken to provide all stakeholders with confidence that the revised modelling is based on best available information.

## **22 Share components of regulated river (general security) access licences**

As at 1 April 2019, the share components of regulated river (general security) access licences total 632,428 unit shares.

## **23 Share components of supplementary water access licences**

As at 1 April 2019, the share components of supplementary water access licences total 50,000 unit shares.

## Part 5 Bulk access regime

### 24 Bulk access regime

- (1) This Plan establishes a bulk access regime for the extraction of water under access licences in this water source having regard to the following:
  - (a) the planned environmental water established under Part 3 of this Plan,
  - (b) the requirements for basic landholder rights identified under Part 4 of this Plan,
  - (c) the requirements for water for extraction under access licences identified under Part 4 of this Plan,
  - (d) the access licence dealing rules established under Part 9 of this Plan.
- (2) The bulk access regime established by this Plan:
  - (a) establishes rules according to the following:
    - (i) which access licences are granted as provided for in Part 6 of this Plan,
    - (ii) which available water determinations are to be made as provided for in Part 7 of this Plan,
    - (iii) which access licences are managed as provided for in Division 1 and 2 of Part 8 of this Plan, and
  - (b) establishes rules with respect to the priorities according to which water allocations are to be adjusted as a consequence of any reduction in the availability of water due to an increase in average annual extraction against the long-term average annual extraction limit or cumulative annual extraction against the cumulative annual extraction limit contained in Part 7 of this Plan, and
  - (c) recognises, and is consistent with, the following:
    - (i) the limits to the availability of water as provided for in Part 7 of this Plan
    - (ii) the water management principles set out in section 5 of the Act,
    - (iii) the effect of climatic variability on the availability of water as described in clause 25, and
  - (d) contains provisions with respect to the conditions that are required to be

imposed as mandatory conditions on access licences in Part 11 of this Plan.

## 25 Climatic variability

- (1) This Plan recognises the effects of climatic variability on river flow in the water source through provisions:
- (a) contained in Part 7 of this Plan:
    - (i) that manage the sharing of water within the limits of water availability on a long-term average annual basis, and
    - (ii) that establish priorities according to which water allocations are to be adjusted as a consequence of any reduction in the availability of water due to an increase in the average annual extraction against the long-term average annual extraction limit or the cumulative annual extraction limit, and
  - (b) contained in Division 5 of Part 7 of this Plan that manage the sharing of water between categories of access licences on an annual basis.

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

## Part 6 Rules for granting access licences

### Notes.

- 1 This Part is made in accordance with sections 20 (2) (b), 61 and 63 of the Act.
- 2 Access licences granted in the water source will be subject to mandatory conditions imposed by this Plan, the regulations and the Act, and may also be subject to discretionary conditions.

### 26 Rules for granting access licences

**Note.** Section 61 of the Act provides for the granting of specific purpose access licences under the regulations and the relevant water sharing plan.

- (1) The Minister must not grant a specific purpose access licence unless satisfied that the share and extraction components of the access licence are the minimum required for the proposed use.
- (2) A person may make an application for a regulated river (high security) (Aboriginal cultural) access licence if the share component of the proposed access licence is no greater than 10 ML/year.
- (3) The Minister may only grant a regulated river (high security) (Aboriginal cultural) access licence for the taking of water by an Aboriginal person or Aboriginal community for any personal, domestic or communal purpose, including drinking, food preparation, washing, manufacturing traditional artefacts, watering domestic gardens, cultural teaching, hunting, fishing, gathering, and for recreational, cultural and ceremonial purposes.

**Note.** *Aboriginal person* is defined in the Dictionary.

## **Part 7 Limits to the availability of water**

**Note.** This Part sets out the rules for managing the availability of water for extraction in accordance with the following annual extraction limits:

- (a) a long-term average annual extraction limit, and
- (b) a cumulative annual extraction limit.

### **Division 1 Calculations under this Part**

#### **27 Exclusions, inclusions and variations in calculations**

- (1) This clause applies to the calculation of the following limits and extraction:
  - (a) the long-term average annual extraction limit under clause 28,
  - (b) the average annual extraction under clause 29,
  - (c) the cumulative annual extraction limit under clause 31,
  - (d) the cumulative annual extraction under clause 32.
- (2) The calculation by the Minister of the limits and extraction to which this clause applies must:
  - (a) exclude the following:
    - (i) allocations assigned from an access licence in the water source to an access licence in another water source under section 71T of the Act,
    - (ii) planned environmental water provided for in Division 1 and 2 of Part 10 of this Plan,
    - (iii) replenishment flows made in accordance with clause 77 of this Plan, and
  - (b) include allocations assigned to an access licence in the water source from an access licence in another water source, and
  - (c) be varied by any change to the amount of water committed as licensed environmental water as determined under section 8F of the Act.

### **Division 2 Long-term average annual extraction limit**

#### **28 Calculation of the long-term average annual extraction limit**

- (1) Following the end of each water year, the Minister must calculate the long-term average annual extraction limit for the water source in accordance with this clause and clause 27.

- (2) The long-term average annual extraction limit is the average annual extraction calculated over the duration of available climate records using the hydrological computer model approved by the Minister, based on the following:
- (a) the water storages and water use development that existed in 1999/2000,
  - (b) the basic landholder rights and access licence share components that existed on 1 July 2004,
  - (c) the level of development for commercial plantations that existed on 30 June 2009,
  - (d) the level of development for floodplain harvesting that existed in the 1999/2000 water year in connection with extractions from a regulated river in the water source, as assessed by the Minister,
  - (e) the maximum crop area and the crop planting behaviour representative of baseline conditions used for assessment of Cap under Schedule E of the Murray-Darling Basin Agreement,
  - (f) the environmental water provisions specified in clause 15 (2), 15 (3), 15 (6), 15 (7), 15 (8), 15 (12), 15 (16) and 15 (22) of the *Water Sharing Plan for the Macquarie and Cudgegong Regulated River Water Source 2003*, as at 1 July 2004,
  - (g) the rules in the *Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2003* as at 1 July 2004, other than the environmental water provisions in Part 3 of that Plan.

**Minister's Note**

The method of calculating the long-term average annual extraction limit is being revised as part of the Healthy Floodplains Project. Further stakeholder engagement on the floodplain harvesting modelling methodology and key assumptions, together with an independent model peer review process is being undertaken to provide all stakeholders with confidence that the revised modelling is based on best available information.

**Notes.**

- 1 The baseline diversion limit for the Macquarie-Castlereagh SDL resource unit as defined in Schedule 3 of the Basin Plan includes the long-term average annual extraction limit for the water source and the long-term average annual extraction limits under the *Water Sharing Plan for the Macquarie Bogan Unregulated River Water Sources 2012* and the *Water Sharing Plan for the Castlereagh Unregulated River Water Sources 2011*.
- 2 The long-term average annual extraction limit has been assessed using the Macquarie IQQM computer model scenario run number MacWSP06. As at 1 July 2019 the long-term average annual extraction is assessed to be [to be added] ML.

- 3 Under section 8F of the Act the long-term average annual extraction limit is to be varied by any change to licensed environmental water, excluding water committed under section 8C of the Act.
- 4 The long-term average annual extraction limit recognises the effect of climatic variability on the availability of water, in accordance with section 20 (2) (c) of the Act as historic climate and river flow information is used in its determination.
- 5 **Commercial plantation** is defined in the Dictionary.

## 29 Calculation of average annual extraction

The Minister, using the hydrological computer model approved by the Minister, is to calculate the average annual extraction following the end of each water year, calculated over the duration of available climate records and based on the following:

- (a) the water storages and water use development that existed in that water year,
- (b) the basic landholder rights and access licence share components that existed in that water year,
- (c) the current rules in this Plan,
- (d) the level of development for commercial plantations in that water year,
- (e) if not included under subclause (b), the level of development for floodplain harvesting.

## 30 Assessment of compliance with the long-term average annual extraction limit

- (1) Following the calculations under clauses 28 and 29, the Minister is to compare average annual extraction against the long-term average annual extraction limit.
- (2) There is non-compliance with the long-term average annual extraction limit if average annual extraction exceeds the long-term average annual extraction limit by 3% or more.

## Division 3 Cumulative annual extraction limit

### 31 Calculation of the cumulative annual extraction limit

The cumulative annual extraction limit for the water source is the long-term average annual extraction limit calculated under clause 28 minus 65,000 ML/year and minus the shared reduction amount for the Macquarie-Castlereagh SDL resource unit as determined under section 6.05 of the Basin Plan.

#### Notes.

- 1 The sustainable diversion limit for the Macquarie-Castlereagh SDL resource unit as specified in Schedule 2 of the Basin Plan comprises the cumulative annual extraction limit in this Plan and the long-term average annual extraction limits under the *Water*

*Sharing Plan for the Macquarie Bogan Unregulated River Water Sources 2012 and the Water Sharing Plan for the Castlereagh Unregulated River Water Sources 2011.*

- 2 The subtraction of 65,000 ML/year is prescribed in Schedule 2 of the Basin Plan.

### **32 Calculation of cumulative annual extraction**

- (1) Following the end of each water year, the Minister is to calculate cumulative annual extraction in accordance with Division 2 of Part 4 of Chapter 6 of the Basin Plan.
- (2) For the purposes of the calculation, references to the long-term annual diversion limit and the SDL resource unit in Division 2 of Part 4 of Chapter 6 of the Basin Plan are taken to be references to the cumulative annual extraction limit and the water source, respectively.

**Note.** Under section 6.10 of the Basin Plan, take of licensed environmental water and under licences held by the Commonwealth Environmental Water Holder are not included in this assessment as they fall outside the definition of take for consumptive use under the *Water Act 2007* of the Commonwealth.

### **33 Assessment of compliance with the cumulative annual extraction limit**

- (1) Following the calculations under clauses 31 and 32, the Minister is to compare cumulative annual extraction against the cumulative annual extraction limit.
- (2) There is non-compliance with the cumulative annual extraction limit in the circumstances set out in Division 2 of Part 4 of Chapter 6 of the Basin Plan.

## **Division 4 Compliance with extraction limits**

### **34 Action following non-compliance**

- (1) Subject to subclauses (2) to (6), if an assessment under clauses 30 or 33 demonstrates that there is non-compliance with an extraction limit, the Minister may take any of the following actions for the water year after the assessment:
  - (a) make an available water determination for supplementary water access licences under clause 41 of less than 1 ML per unit share,
  - (b) make an available water determination for floodplain harvesting (regulated river) access licences under clause 39 of less than 1 ML per unit share,
  - (c) in relation to available water determinations for regulated river (general security) access licences, both of the following:
    - (i) reduce the limit under clause 35 (2), and
    - (ii) make an available water determination under clause 40 (4) of less than 1 ML per unit share.

**Note.** Action under this clause will have effect for the water year following the assessment which will be two water years after the non-compliance occurred.

- (2) An action under subclause (1) may only be taken to the extent to which the Minister considers the following is necessary:
  - (a) in the case of non-compliance with the long-term average annual extraction limit— to return long-term average annual extraction in the water source to the long-term average annual extraction limit, or
  - (b) in the case of non-compliance with the cumulative annual extraction limit— to meet the requirements of Division 2 of Part 4 of Chapter 6 of the Basin Plan.
- (3) Unless the Minister otherwise determines, any action taken under subclause (1) is to apply to floodplain harvesting (regulated river) access licences to the extent to which the non-compliance was caused by floodplain harvesting.

**Note.** The intent of this subclause is to allow compliance action to more closely target where the growth in extractions is occurring, i.e. extractions from the floodplain or from the river.
- (4) The Minister must not take action under subclause (1) (c) unless the Minister has made an available water determination for supplementary water access licences of zero under subclause (1) (a).
- (5) Before taking action under subclause (1), the Minister may consult with water user representatives on the following:
  - (a) the data used for the calculations under Divisions 2 and 3, and
  - (b) the proposed actions under Division 4.

## **Division 5 Available water determinations**

### **35 General**

- (1) Available water determinations for access licences are to be expressed as one of the following:
  - (a) with respect to access licences specifying share components as ML/year – a percentage of the share component,
  - (b) with respect to access licences specifying share components as a number of unit shares – ML per unit share.
- (2) The sum of available water determinations made for any access licence, other than regulated river (high security) access licences under clause 38 (3), floodplain harvesting (regulated river) access licences under clause 39 (1), or regulated river

(general security) access licences under clause 40 (4), must not exceed the following in any water year:

- (a) for any access licence where share components are specified as ML/year – 100% of the access licence share component,
- (b) for any access licence specifying the share component as a number of unit shares – 1 ML per unit share of the access licence share component.

### **36 Available water determinations for domestic and stock access licences**

Unless the Minister otherwise determines, at the commencement of each water year an available water determination of 100% of the access licence share component is to be made for domestic and stock access licences.

**Note.** If the Minister makes an available water determination of less than 100%, the Minister may make further available water determinations during a water year, subject to subclause 35 (2).

### **37 Available water determinations for local water utility access licences**

Unless the Minister otherwise determines, at the commencement of each water year an available water determination of 100% of the access licence share component is to be made for local water utility access licences.

**Note.** If the Minister makes an available water determination of less than 100%, the Minister may make further available water determinations during a water year, subject to subclause 35 (2).

### **38 Available water determinations for regulated river (high security) access licences**

- (1) Unless the Minister otherwise determines and subject to subclause (2), at the commencement of each water year an available water determination is to be made for regulated river (high security) access licences of 1 ML per unit share.

**Note.** If the available water determination is less than 1 ML per unit share, the Minister may conduct further assessments of available water resources and may make further available water determinations subject to subclause 35 (2).

- (2) The Minister must not make an available water determination under subclause (1):
  - (a) unless water is available for the following, including for any water losses associated with the holding and delivery of that water:
    - (i) to meet the environmental water allowance rules in Divisions 1 and 2 of Part 10,
    - (ii) to meet the requirements for basic landholder rights,

- (iii) available water determinations totalling 100% of access licence share components for both domestic and stock access licences and local water utility access licences,
  - (iv) existing water allocations in regulated river (general security) access licence water allocation accounts, and
- (b) sufficient water is available for water losses associated with holding and delivering water as a result of the available water determination.
- (3) The Minister is to make an available water determination for regulated river (high security) access licences of 1 ML per unit share after taking any action to withdraw water allocations under clause 51.

**Note.** Clause 51 allows the Minister to withdraw all water allocations remaining in all AWD sub-accounts. If this occurs, the Minister is to make further available water determinations to re-credit regulated river (high security) access licence and regulated river (general security) access licence accounts. Once this has occurred, this process of withdrawal and re-crediting will occur again for the remainder of the water year, each time the water level in Burrendong Dam water storage re-enters the flood mitigation zone (*FMZ*).

### **39 Available water determinations for floodplain harvesting (regulated river) access licences**

- (1) On the establishment of floodplain harvesting (regulated river) access licences for the water source, the Minister is to make an available water determination for floodplain harvesting (regulated river) access licences of [to be added] ML per unit share.
- (2) At the commencement of each water year following the determination in subclause (1), the Minister is to make an available water determination for floodplain harvesting (regulated river) access licences of 1 ML per unit share, unless a lower amount is determined under clause 34.

**Minister's note.**

The available water determinations for floodplain harvesting (regulated river) access licences described in clause 39 are linked to the account management rules for these licences outlined in Part 8. Consistent with the NSW Floodplain Harvesting Policy, these measures, together with the draft entitlements (once finalised), will be designed so that the extraction limits are not exceeded.

Importantly, unlike most other water access licences in NSW, floodplain harvesting (regulated river) access licences will be based on average rather than maximum historic water usage. This, together with the highly variable availability of floodplain water, means that account management rules for floodplain harvesting need to provide significantly more flexibility than other licence categories.

Recent amendments to the NSW Floodplain Harvesting Policy provide for different account management rules to be applied in individual valleys given their differing characteristics. It is worth noting that the draft rules in this Plan are more restrictive than the default settings in the original Policy before amendment.

Should revised floodplain harvesting modelling (being undertaken as part of the Healthy Floodplains Project) suggest that growth-in-use could be better managed or individual impacts more equitably distributed through changes to the floodplain harvesting rules set out in this draft Plan, then a second public consultation process will be undertaken on those components.

**40 Available water determinations for regulated river (general security) access licences**

- (1) The Minister is to assess if water is available for the making of an available water determination for regulated river (general security) access licences, at least monthly.
- (2) For the purposes of the assessment, water is not available unless:
  - (a) water is available for the following, including for any losses associated with the holding and delivery of that water:
    - (i) to meet the environmental water allowance rules in Divisions 1 and 2 of Part 10,
    - (ii) to meet the requirements for basic landholder rights,
    - (iii) available water determinations totalling 100% of access licence share components for both domestic and stock access licences and local water utility access licences,
    - (v) available water determinations totalling 1 ML per unit share for regulated river (high security) access licences,

- (vi) existing water allocations in regulated river (general security) access licence water allocation accounts, and
  - (b) water is available for water losses associated with holding and delivering water that would occur as a result of the available water determination.
- (3) If the Minister assesses under subclause (1) that water is available, the Minister is to consider making an available water determination for regulated river (general security) access licences.
- (4) If the Minister takes action to withdraw water allocations under clause 51, the Minister is to make an available water determination for regulated river (general security) access licences of 1 ML per unit share, unless a lower amount is determined under clause 34.

**Note.** Clause 51 allows the Minister to withdraw all water allocations remaining in all AWD sub-accounts. If this occurs, the Minister is to make further available water determinations to re-credit regulated river (high security) access licence and regulated river (general security) access licence accounts. Once this has occurred, this process of withdrawal and re-crediting will occur again for the remainder of the water year, each time the water level in Burrendong Dam water storage re-enters the FMZ.

#### **41 Available water determinations for supplementary water access licences**

At the commencement of each water year, the Minister is to make an available water determination for supplementary water access licences of 1 ML per unit share, unless a lower amount is determined under clause 34.

**Note.** The taking of water under a supplementary water access licence is subject to Division 3 of Part 8.

## Part 8 Rules for operating water accounts and managing access licences

**Note.** Section 85 of the Act provides for the keeping of water allocation accounts for access licences. The rules in this Part restrict the water that may be taken under, or assigned from, an access licence over a specified period of time, and the unused water allocations in water allocation accounts that may be carried over from one water year to the next. These restrictions are in addition to any other limits on access licences for the taking or assignment of water. It is an offence under section 60C of the Act to take water under an access licence for which there is no or insufficient water allocation.

### Division 1 General water allocation account management rules

#### 42 Debits from an individual water allocation account for water take

- (1) Subject to subclause (2), in managing the water allocation account of an access licence other than a supplementary access licence, the Minister must debit the volume of water extracted by the water supply works nominated by the access licence.
- (2) In managing the water allocation account of a regulated river (high security) access licence or regulated river (general security) access licence, if the Minister has first given written notice to the holder of the licence in accordance with a water order debiting protocol established by the Minister, the Minister may debit the greater of the following from the account:
  - (a) the volume of water extracted by water supply works nominated by the access licence,
  - (b) the water ordered for extraction under the access licence.

**Note.** It is intended that the Minister may take action under subclause (2) if water orders from a particular licence holder exceed the volume of water taken under the licence and this cannot be explained by rainfall or other unavoidable factors, as set out in the Macquarie-Cudgegong Water Order Debiting Protocol developed in consultation between the Department, WaterNSW and water user representatives.

- (3) In managing the water allocation account of a supplementary water access licence, the Minister must, in accordance with any applicable supplementary water announcement, debit the volume of water extracted by the water supply works nominated by the access licence.

#### 43 Limits on water allocation accounts, carryover and floodplain harvesting take

- (1) The Minister must not allow allocations in the water allocation account of a floodplain harvesting (regulated river) access licence to exceed [to be added] ML per unit share at any time.

- (2) The Minister must not carry over water allocations remaining in the water allocation account from one water year to the next water year for the following categories of licence:
  - (a) domestic and stock access licence,
  - (b) local water utility access licence,
  - (c) regulated river (high security) access licence,
  - (d) supplementary water access licence.
- (3) The Minister must carry over water allocations remaining in the water allocation account from one water year to the next water year for the following categories of licence:
  - (a) regulated river (general security) access licence, subject to clause 47,
  - (b) floodplain harvesting (regulated river) access licence.
- (4) For a floodplain harvesting (regulated river) access licence, the total amount of water taken in the first five water years following the establishment of the licence must not exceed [to be added] ML per unit share.

**Minister's note.**

Consistent with the NSW Floodplain Harvesting Policy, the available water determinations and account management rules for floodplain harvesting (regulated river) access licences, together with the draft entitlements (once finalised), will be designed so that the extraction limits are not exceeded.

Importantly, unlike most other water access licences in NSW, floodplain harvesting (regulated river) access licences will be based on average rather than maximum historic water usage. This, together with the highly variable availability of floodplain water, means that account management rules for floodplain harvesting need to provide significantly more flexibility than other licence categories.

Recent amendments to the NSW Floodplain Harvesting Policy provide for different account management rules to be applied in individual valleys given their differing characteristics. It is worth noting that the draft rules in this Plan are more restrictive than the default settings in the original Policy before amendment.

Should revised floodplain harvesting modelling (being undertaken as part of the Healthy Floodplains Project) suggest that growth-in-use could be better managed or individual impacts more equitably distributed through changes to the floodplain harvesting rules set out in this draft Plan, then a second public consultation process will be undertaken on those components.

#### 44 Taking of uncontrolled flows

**Notes.**

- 1 This clause is made under section 85A of the Act.
- 2 **Uncontrolled flows, rainfall runoff** and **registered chemical product** are defined in the Dictionary.
  - (1) In this clause:

**developed area** means, in relation to a water supply work approval nominated on a floodplain harvesting (regulated river) access licence, the area developed for irrigation or that contains associated water supply works.

**rainfall runoff event** means an occasion during which rainfall runoff occurs.
  - (2) The Minister may, by order published on the Department's website, authorise the holders of floodplain harvesting (regulated river) access licences to take water, which is rainfall runoff, that has not been credited to the water allocation account of that licence.
  - (3) Holders of floodplain harvesting (regulated river) access licences may take rainfall runoff from a developed area in accordance with the order but must not take more than 0.55 ML per hectare of a developed area that has been treated with a registered chemical product since the last rainfall runoff event.
  - (4) The Minister must specify in the order how a developed area that has been treated with a registered chemical product since the last rainfall runoff event is taken to be calculated.
  - (5) The Minister must debit the water that is taken under this clause in that water year from the relevant water allocation account after making an available water determination for floodplain harvesting (regulated river) access licences at the commencement of the following water year.

**Minister's note.**

Modelling is ongoing through the Healthy Floodplains Project. The accounting rules for floodplain harvesting (regulated river) access licences will be defined as part of the process.

## Division 2 Account management rules for regulated river (high security) and regulated river (general security) access licences

### Notes:

- 1 This Division is made under sections 21 (c) and 85 (5) of the Act.
- 2 This Division provides for the keeping of water allocation accounts for regulated river (high security) and regulated river (general security) access licences in the form of two sub-accounts, in accordance with clause 17 of the *Water Management (General) Regulation 2018*.
- 3 This Division sets out when water allocations are to be withdrawn by the Minister in the Cudgegong and Macquarie segments of the water source.
- 4 **Cudgegong AWD sub-account, Cudgegong carryover sub-account, Macquarie AWD sub-account and Macquarie carryover sub-account** are defined in the Dictionary.

### 45 General

- (1) This Division applies to regulated river (high security) access licences and regulated river (general security) access licences.
- (2) The Minister is to maintain the following sub-accounts within each water allocation account:
  - (a) an available water determination sub-account (the **AWD sub-account**),
  - (b) a carryover sub-account.

**Note.** The only way a regulated river (high security) access licence can obtain water in its carryover sub-account is through an assignment from the carryover sub-account of a regulated river (general security) access licence under section 71T of the Act.

### 46 Credits and debits to water allocation sub-accounts

- (1) Water allocations arising from an available water determination must be credited to each AWD sub-account.
- (2) Water allocations debited under subclauses 42 (1) or (2) must be debited from the carryover sub-account until that sub-account balance reaches zero, and then from the AWD sub-account.
- (3) Water allocations assigned under section 71T of the Act from a carryover sub-account must be credited to the receiving carryover sub-account.
- (4) Water allocations assigned under section 71T of the Act from an AWD sub-account must be credited to the receiving AWD sub-account.
- (5) At the end of each water year, water allocations remaining in an AWD sub-account are to be debited from that account and, subject to the limits specified in clause 47, credited to the carryover sub-account.

#### 47 Limits on carryover sub-accounts

- (1) The Minister must not allow allocations in a Cudgegong carryover sub-account to exceed the greater of the following:
  - (a) 1 ML per unit share,
  - (b) the amount specified in Column 3 of Schedule 1 for access licences that arose from the *Water Act 1912* licences listed in Column 1 of that Schedule, if no dealing has taken place which, in the opinion of the Minister, has resulted in all or part of the water extracted under the access licence being used on a landholding other than the landholding on which the water was being used as at 1 July 2004,
  - (c) the amount specified in Column 3 of Schedule 1 for access licences that arose from the *Water Act 1912* licences listed in Column 1 of that Schedule, minus the share component of the access licence affected by any dealing which, in the opinion of the Minister, has resulted in all or part of the water extracted under the access licence being used on a landholding other than the landholding on which the water was being used as at 1 July 2004.
- (2) The Minister must not allow allocations in a Macquarie carryover sub-account to exceed 1ML per unit share.

#### 48 Withdrawals from carryover sub-accounts due to evaporation

At the end of each three month period, the Minister is to withdraw an amount of water allocation from each carryover sub-account to reflect additional storage losses arising from water carried over under clause 43 (3) (a), as determined by the Minister.

**Note.** Water which is carried over leads to additional surface area in Windamere Dam and Burrendong Dam, which in turn increases the evaporation losses.

#### 49 Withdrawals from Cudgegong carryover sub-accounts due to dam spills

**Notes:**

- 1 The effect of clauses 49, 50 and 51 is to “reset” the water allocation accounts for regulated river (high security) and regulated river (general security) access licences when water levels in the dams reach a certain height, which is effectively following dam spills or if water levels in Burrendong Dam are in the FMZ. When this occurs, the Minister is to make a new available water determination under clause 40 (4).
- 2 ***Burrendong Dam water storage, Cudgegong carryover sub-account, Cudgegong EWA carryover sub-account, FMZ and Macquarie carryover sub-account*** are defined in the Dictionary.
  - (1) The Minister must withdraw an amount of water allocation from each Cudgegong carryover sub-account after the end of each month during which:

- (a) water spills from Windamere Dam, or
  - (b) the water level in Burrendong Dam water storage is in the FMZ for all or part of the month.
- (2) The total amount of water allocation to be withdrawn from all Cudgegong carryover sub-accounts under subclause (1) is the lesser of the following:
- (a) the total amount in all Cudgegong carryover sub-accounts at the end of the month (excluding any remaining water allocations assigned from a Macquarie carryover sub-account in that water year), minus the amount debited from the Cudgegong EWA carryover sub-account under clause 65 (1),
  - (b) the total volume of water spilled from Windamere Dam water storage during the time the water level in Burrendong Dam water storage was in the FMZ, minus the amount debited from the Cudgegong EWA carryover sub-account under clause 65 (1),
- (3) The amount of water allocation the Minister is to withdraw under subclause (1) from each Cudgegong carryover sub-account is to be calculated using the following formula:

$(TA / TC) \times IC$ , where:

*TA* is the total amount referred to in subclause (2),

*TC* is the total amount in all Cudgegong carryover sub-accounts at the end of the month (excluding any remaining water allocations assigned from a Macquarie carryover sub-account in that water year),

*IC* is the amount in the individual Cudgegong carryover sub-account at the end of the month, excluding any water allocations assigned from a Macquarie carryover sub-account in that water year.

## **50 Withdrawals from Macquarie carryover sub-accounts due to dam spills**

- (1) The Minister must withdraw an amount of water allocation from each Macquarie carryover sub-account at the end of each month in which the water level in Burrendong Dam water storage is in the FMZ for all or part of the month.
- (2) The total amount of water allocation the Minister is to withdraw from all Macquarie carryover sub-accounts under subclause (1) is the lesser of the following:

- (a) the total amount of water allocation in all Macquarie carryover sub-accounts (excluding any water allocations assigned from a Cudgegong carryover sub-account in that water year) at the end of the month,
- (b) the amount calculated in accordance with the following formula:

$TI \times TC / (TC + EC)$ , where:

*TI* is the total volume of inflow to Burrendong Dam water storage when the water level in Burrendong Dam water storage is in the FMZ,

*TC* is the total amount in Macquarie carryover sub-accounts at the end of the month (excluding any remaining water allocations assigned from a Cudgegong carryover sub-account in that water year),

*EC* is the volume of water carried over in the Macquarie EWA from the previous water year.

- (3) The amount of water allocation the Minister is to withdraw under subclause (1) from each Macquarie carryover sub-account is to be calculated in accordance with the following formula:

$(TA / TC) \times IC$ , where:

*TA* is the total amount referred to in subclause (2),

*TC* is the total amount in all Macquarie carryover sub-accounts at the end of the month (excluding any remaining water allocations assigned from a Cudgegong carryover sub-account in that water year),

*IC* is the amount remaining in the individual Macquarie carryover sub-account.

## **51 Simultaneous emptying of Cudgegong and Macquarie sub-accounts**

- (1) If, as a result of action under subclause 50 (1), the balance of all Macquarie carryover sub-accounts reaches zero, the Minister is to withdraw all water allocations from the following:
  - (a) all Cudgegong and Macquarie AWD sub-accounts,
  - (b) all Cudgegong carryover sub-accounts.
- (2) If the Minister has taken action under subclause (1) and the water level of Burrendong Dam water storage re-enters the FMZ in that water year, the Minister is to withdraw all water allocations from all Cudgegong and Macquarie AWD sub-accounts.

**Note.** The effect of this clause and the available water determination rules in clauses 38 and 40 is that all AWD sub-accounts will be emptied and re-credited with a volume equivalent to 1 ML per unit share (or a lower amount if required for extraction limit compliance purposes) when all water allocations held in Macquarie carryover sub-accounts has been withdrawn by the Minister under this clause. Once this has occurred in a water year, all AWD sub-accounts will continue to be emptied and re-credited whenever the water level in Burrendong water storage re-enters the FMZ in that water year.

### **Division 3      Supplementary water events**

#### **Notes.**

- 1 This Division is made under section 70 of the Act.
- 2 **Supplementary water event** is defined in the Dictionary.

#### **52 Taking of water under supplementary water access licences**

The holder of a supplementary water access licence may only take water in accordance with supplementary water event announcements made by the Minister that are relevant to that licence.

#### **53 Announcement of supplementary water event**

- (1) The Minister may announce a supplementary water event if, in the Minister's opinion, there will be uncontrolled flows or a release of water from the Burrendong Dam FMZ, or both, that exceed those required for the following:
  - (a) the Cudgegong EWA specified in Division 1 of Part 10,
  - (b) the Macquarie EWA specified in Division 2 of Part 10,
  - (c) domestic and stock rights and native title rights,
  - (d) access licences, other than floodplain harvesting (regulated river) access licences and supplementary water access licences,
  - (e) replenishment flows as specified in clause 77.
- (2) The Minister must not announce a supplementary water event in the segments of the water source downstream of Burrendong Dam water storage unless flows in the water source will, in the Minister's opinion and after providing for the purposes in subclauses (1) (a) to (f), exceed 5,000 ML per day in the Macquarie River at Warren Weir gauge (421004).
- (3) The Minister must not announce a supplementary water event in the segment of the water source upstream of Burrendong Dam water storage unless all of the following apply:
  - (a) water is spilling from Burrendong Dam, or water is being released from the Burrendong Dam FMZ,

- (b) flows in the Macquarie River exceed those required for the purposes in subclauses (1) (a) to (f),
  - (c) flows in the water source will, in the Minister's opinion, exceed 5,000 ML per day in the Macquarie River at Warren Weir gauge (421004),
  - (d) flows in the Cudgegong River exceed those required for the following:
    - (i) the Cudgegong EWA specified in Division 1 of Part 10,
    - (ii) the Macquarie EWA specified in Division 2 of Part 10,
    - (iii) domestic and stock rights and native title rights upstream of Burrendong Dam water storage,
    - (iv) to meet orders for access licences upstream of Burrendong Dam water storage, other than floodplain harvesting (regulated river) access licences and supplementary water access licences.
- (4) In making an announcement the Minister must consider whether and how access opportunities can be evenly shared between all holders of supplementary water access licences.

## Part 9 Access licence dealing rules

### Notes.

- 1 Access licence dealings in the water source are subject to the provisions of the Act, the regulations, any access licence dealing principles established by order made under section 71A of the Act and the access licence dealing rules established under this Part.
- 2 As at 1 July 2019 the *Access Licence Dealing Principles Order 2004* applies. The access licence dealing principles prevail over the access licence dealing rules in this Plan to the extent of any inconsistency, as provided under section 71Z (3) of the Act.
- 3 An application for a dealing may be refused or conditions applied on an access licence or water supply work approval at the time of a dealing to give effect to the provisions of this Plan.

### Minister's note.

The Department of Industry - Water is considering an option to allow limited conversion of regulated river (high security) entitlements from downstream regulated river water sources to access licences in connected upstream unregulated water sources. This would enable some additional water to be taken in upstream areas without affecting water availability in the downstream storage/s, but may need to be subject to an assessment of potential local impacts of any such trade on the environment and access to water by other water users, and may be limited in scope.

This is a new concept that is yet to be discussed with stakeholders (including the Macquarie Stakeholder Advisory Panel). As such, no provisions to facilitate it have been included within this draft amended plan, other than an amendment provision within Part 12. If pursued, new provisions will need to be incorporated into the plan.

More information will be prepared for additional stakeholder consultation before this issue is formally considered, however early stakeholder feedback on the concept is welcome.

### 54 Conversion of access licence to new category

Dealings under section 71O of the Act are prohibited.

### 55 Assignment of rights dealings (within the water source)

#### Notes.

- 1 In some segments of the water source, the ability to deliver water is limited by supply constraints. In these segments, this clause prohibits dealings that would increase the total share components of access licences in those segments above 2004 amounts, until individual daily extraction components are imposed on each licence in that segment, under the Act.
- 2 This clause may be amended once individual daily extraction components are imposed on all licences within each segment of the water source referred to in Table A.
  - (1) A dealing under section 71Q of the Act is prohibited if all of the following apply:
    - (a) the dealing would increase the share component of an access licence which nominates a water supply work,

- (b) that water supply work is located in a segment of the water source specified in Column 1 of Table A below,
- (c) the dealing would increase the total share components of all access licences that nominate a water supply work in that segment to an amount that would exceed that specified in Column 2 of Table A for that segment.

**Table A**

<b>Column 1</b>	<b>Column 2</b>
Crooked Creek	The total of all share components in Crooked Creek that are within the water source at the time of the determination under section 71Q of the Act.
The Prohibited Area of the Macquarie Marshes as defined in the <i>Macquarie Marshes Water Management Plan 1996</i> , published by the Department of Land and Water Conservation and the National Parks and Wildlife Service	The total of all share components in the segment of the Prohibited Area of the Macquarie Marshes that are within the water source at the time of the determination under section 71Q of the Act.
Windamere Dam water storage to Burrendong Dam water storage	40,000 unit shares
Gunningbar Creek above Fairview Dam	36,000 unit shares
Gunningbar Creek below Fairview Dam	1,700 unit shares
Duck Creek	5,000 unit shares
Bulgeraga Creek	45,000 unit shares

**Notes.**

- 1 The limit in Table A for Gunningbar Creek above Fairview Dam includes licences that draw from the Albert Priest Channel, as supply to that channel is via Gunningbar Creek.
  - 2 The limit in Table A for Bulgeraga Creek was increased from 33,000 unit shares in 2019 as a result of an updated assessment of Bulgeraga Creek channel capacity. The supply capability of Bulgeraga Creek will be shared amongst water users in accordance with protocols to be developed by WaterNSW in consultation with affected water users.
- (2) A dealing under section 71Q of the Act is prohibited if it would increase the total of all share components in the segment of the water source upstream of Burrendong Dam water storage and the dealing would, in the Minister's opinion, significantly affect the reliability of supply to regulated river (general security) access licences in that segment of the water source.

**56 Amendment of share component dealings (change of water source)**

Dealings under section 71R of the Act are prohibited.

**57 Interstate access licence transfer and assignment of water allocations**

Dealings under sections 71U or 71V of the Act are prohibited.

## 58 Assignment of water allocations dealings

- (1) A dealing under section 71T of the Act is prohibited in any of the following circumstances:
  - (a) the dealing involves an assignment of water allocation to an access licence that nominates a water supply work located in any of the following:
    - (i) the segment of Crooked Creek within the water source,
    - (ii) the segment of the Prohibited Area of the Macquarie Marshes as defined in the *Macquarie Marshes Water Management Plan 1996*, published by the Department of Land and Water Conservation and the National Parks and Wildlife Service that is within the water source.
  - (b) the dealing involves an assignment of water allocation to a supplementary water access licence from an access licence of any other category.

**Note.** As at 1 July 2019, dealings under section 71T of the Act involving the assignment of water allocations from a supplementary water access licence to an access licence of any other category are also prohibited under clause 17 of the *Access Licence Dealing Principles Order 2004*.
- (2) Dealings under section 71T of the Act between access licences in different water sources are prohibited.

## 59 Nomination of water supply work dealings

- (1) A dealing under section 71W of the Act is prohibited if all of the following apply:
  - (a) the dealing nominates a water supply work located in a segment of the water source specified in Column 1 of Table A in clause 55,
  - (b) following the dealing, the total share components of all access licences that nominate a water supply work in the segment of the water source will exceed the amount specified in Column 2 of Table A for that segment.
- (2) A dealing under section 71W of the Act is prohibited if:
  - (i) it would increase the total share components of all access licences which nominate works in the segment of the water source upstream of Burrendong Dam water storage, and
  - (ii) the dealing would, in the Minister's opinion, significantly affect the reliability of supply to regulated river (general security) access licences in the segment of the water source upstream of Burrendong Dam water storage.

**Note.** This clause may be amended if individual daily extraction components are imposed on all licences within each relevant segment of the water source.

- (3) Dealings under section 71W of the Act involving an access licence in the water source nominating a water supply work outside of NSW are prohibited.
- (4) Dealings under section 71W of the Act involving an access licence from outside NSW nominating a water supply work in the water source are prohibited.

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## Part 10 System operation rules

### Notes.

- 1 The approximate location of the places referred to in this Part are in the overview map at Appendix 1.
- 2 **Operator** and **NSW Environmental Water Manager** are defined in the Dictionary.

### Division 1 Cudgegong environmental water allowance

**Note.** *Cudgegong EWA* is defined in the Dictionary.

#### 60 Definitions

In this Division, *residual Cudgegong environmental water* means any planned environmental water releases from Windamere Dam that were suspended in 2010 and 2012.

#### 61 Accounts for the Cudgegong EWA

- (1) The operator must maintain the Cudgegong EWA for environmental purposes in the Cudgegong River between Windamere Dam and Burrendong Dam water storages, as set out in this Division.
- (2) The operator must keep an account of water credited to and debited from the Cudgegong EWA in:
  - (a) an available water determination sub-account (*Cudgegong EWA AWD sub-account*), and
  - (b) a carryover sub-account (*Cudgegong EWA carryover sub-account*).

#### 62 Release rules for the Cudgegong EWA

- (1) Subject to subclauses (2) to (4), the operator may release water from the Cudgegong EWA on the request of the NSW Environmental Water Manager for delivery to the Cudgegong River at Rocky Water Hole gauge (421149), in accordance with an applicable environmental watering plan.

**Note.** The annual environmental watering plan for this water source will be established following consultation with the Environmental Water Advisory Group.
- (2) The operator must not release Cudgegong EWA water, excluding any residual Cudgegong environmental water, if:
  - (a) the total volume of water in Windamere Dam water storage is equal to or less than 110,000 ML, or
  - (b) the water level of Burrendong Dam water storage is within the FMZ.

- (3) The operator must not release Cudgegong EWA water, including any residual Cudgegong environmental water, if:
  - (a) the release would cause the flow in the Cudgegong River at Rocky Water Hole gauge (421149) to exceed 1,500 ML per day, or
  - (b) the water would be used to supply basic landholder rights or water access licence requirements between Windamere Dam and Burrendong Dam water storage.
- (4) The operator must not release residual Cudgegong environmental water if:
  - (a) the total volume of water in Windamere Dam water storage is equal to or less than 70,000 megalitres, or
  - (b) the water level of Burrendong Dam water storage is within the FMZ.
- (5) Once Cudgegong EWA releases have entered Burrendong Dam water storage, the water is not to be treated as environmental water for the purposes of this Plan.

**Note.** The effect of this subclause is that any Cudgegong EWA releases that flow into Burrendong Dam can be captured by the operator and may be used in the operation of the water supply system or re-allocated to access licences by AWDs made in accordance with this Plan.

### 63 Credits, debits and carryover of the Cudgegong EWA sub-accounts

- (1) On [insert date amendments commence], the operator is to credit the Cudgegong EWA carryover sub-account with an amount equal to the residual Cudgegong environmental water that has not been released by that date.
- (2) Whenever the Minister makes an available water determination for regulated river (general security) access licences under clause 40 (3), the Cudgegong EWA AWD sub-account is to be credited with an amount equal to 12,330 ML multiplied by the ML per unit share specified in that available water determination.

#### **Minister's note.**

It is proposed to replace the existing translucent flow rules with an EWA for the Cudgegong River which is based on the long-term annual average volume determined for translucent releases over the period of record. This will ensure there is no reduction in the volume of planned environmental water available over the long term and that no third party impact will occur as a result of this change.

The size of the allowance will be confirmed once additional model improvements are made to include floodplain harvesting, which is expected to be completed by around April 2019.

- (3) If the Minister does not make an available water determination for regulated river (general security) access licences because the Minister has taken action under clause 34 (1) (c) (i):
- (a) the Minister is to assess if water is available for the making of an available water determination under clause 40 (1), and
  - (b) if the Minister determines that sufficient water is available, the operator is to credit the Cudgegong EWA AWD sub-account as if the Minister had not taken action under clause 34 (1) (c) (i).
- Note:** This subclause is to ensure that the Cudgegong EWA AWD sub-account is not affected if action is taken in relation to regulated river (general security) access licences to ensure compliance with an extraction limit.
- (4) The operator must carry over any water remaining in the Cudgegong EWA from one water year to the next water year as follows:
- (a) water in the Cudgegong EWA carryover sub-account is to remain in that sub-account,
  - (b) water in the Cudgegong AWD sub-account is to be debited from that sub-account and credited to the Cudgegong EWA carryover sub-account,
  - (c) the Minister must not allow water in the Cudgegong EWA carryover sub-account to exceed 12,330 ML plus the residual Cudgegong environmental water that has not been released by the end of that water year.
- (5) The operator is to debit the lesser of the following from the Cudgegong EWA after releasing water under clause 65 (1):
- (a) the volume of Cudgegong EWA requested for delivery to the Cudgegong River at Rocky Water Hole gauge (421149), minus any downstream water orders and associated losses,
  - (b) the flow at Rocky Water Hole gauge (421149) on the days that the Cudgegong EWA water arrives at Rocky Water Hole gauge, minus downstream water orders and associated losses.
- (6) Water debited under sub-clause (5) is to be debited from the Cudgegong EWA carryover sub-account first and then from the Cudgegong EWA AWD sub-account.

#### **64 Withdrawals from Cudgegong EWA due to evaporation**

At the end of each three month period, the Minister is to withdraw an amount from the Cudgegong EWA carryover sub-account to reflect additional storage losses

arising from water carried over under clause 63 (4) (a), as determined by the Minister.

**Note:** Water which is carried over leads to additional surface area in Windamere Dam, which in turn increases the evaporation losses.

## 65 Withdrawals from Cudgegong EWA due to spills

- (1) The Minister must withdraw an amount of water from the Cudgegong EWA carryover sub-account after the end of each month during which:
  - (a) water spills from Windamere Dam, or
  - (b) the water level in Burrendong Dam water storage is in the FMZ for all or part of the month.
- (2) The amount withdrawn under subclause (1) is to be the lesser of the following:
  - (a) the amount of water in the Cudgegong EWA carryover sub-account at the end of the month,
  - (b) the amount resulting from the following formula:

$(TS / (TC + EC)) \times EC$ , where:

*TS* is the total volume of water spilled from Windamere Dam in the month,

*TC* is the total volume in Cudgegong carryover sub-accounts at the end of the month (excluding any water assigned from a Macquarie carryover sub-account),

*EC* is the volume remaining in the Cudgegong EWA carryover sub-account at the end of the month.
- (3) If the Minister has taken action under clauses 38(3) and 40 (4), the Cudgegong EWA is to be credited with an amount necessary to bring the total allowance to 12,330 ML.

**Note:** The effect of this clause is that the Cudgegong EWA will be topped up to 12,330 ML whenever the water allocations in the accounts of regulated river (high security) and regulated river (general security) access licences are withdrawn under clauses 50 and 51 and recredited under the available water determination rules in clauses 38 (3) and 40 (4).

## Division 2 Macquarie environmental water allowance

**Note.** *Macquarie EWA* is defined in the Dictionary.

### 66 Account for the Macquarie EWA

- (1) The operator must maintain the Macquarie EWA to improve environmental outcomes in the Macquarie Marshes and the Macquarie River between Burrendong Dam and the Macquarie Marshes, as set out in this Division.

- (2) The operator must keep an account of water credited to and debited from the Macquarie EWA, distributed between the following two sub-allowances:
  - (a) sub-allowance 1 (*translucent sub-allowance*),
  - (b) sub-allowance 2 (*active sub-allowance*).

#### 67 Release rules for translucent sub-allowance water

- (1) The operator is to release translucent sub-allowance water from Burrendong Dam in accordance with this clause.
- (2) Releases of translucent sub-allowance water must be between 15 March and 30 November (inclusive) of each year, or such narrower period within those dates as determined by the Minister at the beginning of the water year.
- (3) Releases may only be made if either of the following apply:
  - (a) if the water level in Burrendong Dam water storage is not within the FMZ—the sum of inflows to Burrendong Dam water storage and tributary inflows downstream of Burrendong Dam are likely, in the operator’s opinion, to provide a flow of at least 500 ML per day for 5 days or more in the Macquarie River at Marebone Weir gauge (421089),
  - (b) the sum of tributary inflows between Burrendong Dam and Marebone Weir gauge (421089) is no more than 1000 ML per day.

**Note.** Clause 84 requires that water releases from the FMZ be made to provide beneficial flooding for the regulated Macquarie River, the Macquarie Marshes, Marebone floodplain and effluent creeks.
- (4) The rate of release must be the lesser of the following:
  - (a) the rate of inflow to Burrendong Dam water storage,
  - (b) the rate of release necessary to achieve a flow of 4,000 ML/day in the Macquarie River at Marebone Weir gauge (421089).
- (5) Releases must cease if any of the following apply:
  - (a) when the sum of inflows to Burrendong Dam water storage and tributary inflows downstream of Burrendong Dam reduces below the volume specified by subclause (3) (a),
  - (b) when the translucent sub-allowance balance reaches zero.
- (6) Releases may also cease if the Minister considers that further releases of translucent sub-allowance water would not significantly improve the health of the

Macquarie River segment of the water source, its effluent rivers or the Macquarie Marshes.

- (7) The NSW Environmental Water Manager may direct the operator to extend releases of translucent sub-allowance water using releases of active sub-allowance water under clause 68 after consideration of advice from the Environmental Water Advisory Group or the Minister for the Environment.

**Notes.**

- 1 Release of active sub-allowance water under clause (7) will be debited from the active sub-allowance.
- 2 The Minister may seek advice from the Environmental Water Advisory Group at the commencement of each water year on the timing of releases under subclause (2), and the circumstances in which releases may cease under subclause (6) or be extended under subclause (7). If this advice is not provided, the Minister may seek the advice of the Minister for Environment before taking action under subclauses (2), (6) or (7).

**68 Release rules for active sub-allowance water**

- (1) The operator may release active sub-allowance water to the Macquarie River downstream of Marebone Weir gauge (421090) or Marebone Break at downstream Marebone Regulator gauge (421088) (or both of those locations), in accordance with:
- (a) a request of the NSW Environmental Water Manager, and
  - (b) an applicable environmental watering plan.

**Note.** The annual environmental watering plan for the water source will be established following consultation with the Environmental Water Advisory Group.

- (2) The operator must release active sub-allowance water carried over from the previous water year before releasing active sub-allowance water credited in that water year.

**69 Credits and debits to the Macquarie EWA**

- (1) If the Minister makes an available water determination for regulated river (general security) access licences under clause 40 (3), the Macquarie EWA is to be credited as follows:
- (a) with an amount equal to 160,000 ML multiplied by the ML per unit share specified in that available water determination,
  - (b) distributed 40% to the translucent sub-allowance and 60% to the active sub-allowance.

- (2) If the Minister does not make an available water determination for regulated river (general security) access licences because the Minister has taken action under clause 34 (1) (c) (i):
  - (a) the Minister is to assess if water is available for the making of an available water determination under clause 40 (1), and
  - (b) if the Minister determines that sufficient water is available, the operator is to credit the Macquarie EWA as if the Minister had not taken action under clause 34 (1) (c) (i).
- (3) The operator must carry over any water remaining in the Macquarie EWA from one water year to the next water year as follows:
  - (a) the maximum volume that is to be carried over is 160,000 ML,
  - (b) the water that is carried over is to be redistributed between the sub-allowances as set out in subclause (1) (b).

#### **70 Accounting rules for debits from the translucent sub-allowance**

- (1) Whenever translucent sub-allowance water is released under clause 67, the translucent sub-allowance is to be debited as follows:
  - (a) if the flow arriving at Marebone Weir gauge (421089) minus downstream water orders and associated losses is less than or equal to the flow specified in subclause 67 (4) (b), a volume equal to the flow arriving at Marebone Weir gauge (421089) minus downstream water orders and associated losses, minus the daily flow rate specified in subclause 67 (3) (a),
  - (b) if the flow arriving at Marebone Weir gauge (421089) minus downstream water orders and associated losses is greater than the flow specified in subclause 67 (4) (b) — a volume equal to the flow specified in subclause 73 (4) (b), minus the daily flow rate specified in subclause 67 (3) (a).
- (2) In this clause, ***downstream water orders and associated losses*** means the volume of water required to meet orders to take water downstream of the Marebone Weir, and the transmission losses associated with delivery of those water orders.
- (3) In accounting for any releases of translucent sub-allowance water under subclause (1), water carried over from the previous water year is to be debited before debiting any water credited in the current water year.

## 71 Accounting rules for debits from the active sub-allowance

- (1) Whenever active sub-allowance water is released under clause 68, the active sub-allowance is to be debited with the lesser of the following:
  - (a) the volume of active sub-allowance water requested for delivery on the days that the active sub-allowance water arrives at Marebone Weir gauge (421089), minus downstream water orders and associated losses,
  - (b) the flow at Marebone Weir gauge (421089) minus downstream water orders and associated losses, on the days that the active sub-allowance water arrives at Marebone Weir gauge (421089).
- (2) In this clause, *downstream water orders and associated losses* means the volume of water required to meet orders to take water downstream of the Marebone Weir, and the transmission losses associated with delivery of those water orders.

## 72 Withdrawals from Macquarie EWA due to evaporation

At the end of each three month period, the Minister is to withdraw an amount from the Macquarie EWA that reflects additional storage losses generated by water carried over under clause 67 (3) (a), as determined by the Minister.

**Note:** Water which is carried over leads to additional surface area in Windamere Dam and the Burrendong Dam, which in turn increases the evaporation losses.

## 73 Withdrawals from Macquarie EWA due to spills

- (1) The Minister is to withdraw an amount of water carried over from the previous water year from each sub-allowance of the Macquarie EWA at the end of each month in which the water level in Burrendong Dam water storage was in the FMZ for all or part of that month.
- (2) The amount withdrawn under subclause (1) from each sub-allowance is to be the lesser of the following:
  - (a) the amount of water carried over from the previous water year in that sub-allowance,
  - (b) the amount resulting from the following formula:

$TI \times EC / (TC + EC)$ , where:

*TI* is the total volume of inflow to Burrendong Dam water storage while the water level in Burrendong Dam water storage is in the FMZ,

*TC* is the total volume in Macquarie carryover sub-accounts of regulated river (high security) and regulated river (general security) access licences at the end of the month, and

*EC* is the amount of water carried over from the previous water year in that sub-allowance at the end of the month.

- (3) If the Minister has taken action under clauses 48 and 40 (4), the Macquarie EWA is to be credited with an amount necessary to bring the total allowance to 160,000 ML.

#### **74 Variations to distribution of Macquarie EWA between sub-allowances**

- (1) At the commencement of each water year the Minister may alter the distribution specified in clause 69 (1) (b), as long as each sub-allowance receives at least 40% of the total allowance.
- (2) Before taking action under subclause (1) the Minister may seek advice from the Environmental Water Advisory Group on the need for, and extent of, changes under subclause (1), in light of the following:
  - (a) the environmental outcomes achieved from the release of water from the Macquarie EWA and from other flows in the water source in the previous 12 months,
  - (b) the current and likely condition of the Macquarie Marshes over the coming 12 months,
  - (c) the desired environmental outcomes for the regulated Macquarie River and the Macquarie Marshes.
- (3) If advice from the Environmental Water Advisory Group has not been provided under subclause (2), the Minister may seek the advice of the Minister for the Environment before taking action under subclause (1).

### **Division 3 Consultation**

#### **75 Consultation**

The NSW Environmental Water Manager may consult with any government agency or the Environmental Water Advisory Group, or both, and consider any relevant advice, before taking action under Divisions 1 and 2 of this Part.

**Notes.**

- 1 The Environmental Water Advisory Group (EWAG) for the water source was formerly known as the Environmental Flows Reference Group.

- 2 In undertaking its role in managing the Cudgegong EWA, OEH will seek advice from both the EWAG and from local Cudgegong stakeholders.

## Division 4 General system operation rules

### 76 Maintenance of water supply

- (1) The operator must operate the water supply system in such a way that water would be able to be supplied during a repeat of the worst drought, to meet the following:
  - (a) the annual water requirements of persons exercising domestic and stock rights and native title rights,
  - (b) available water determinations for domestic and stock access licences and local water utility access licence of 100% of share components,
  - (c) available water determinations for regulated river (high security) access licences of 1 ML per unit share.
- (2) For the purposes of subclause (1), the operator must set aside sufficient volumes of water from inflows into the water source and in reserves held in Burrendong Dam and Windamere Dam water storages.
- (3) In this clause, **worst drought** means the worst period of low inflows into the water source, as identified in flow information held by the Department before 1 July 2004.

**Note.** *Reserves* and *water supply system* are defined in the Dictionary.

### 77 Replenishment flows

- (1) Unless the operator otherwise determines, the operator is to provide the following replenishment flows each water year when water is available from uncontrolled flows:
  - (a) up to 10,000 ML/year to the Gum Cowal/Terrigal system,
  - (b) up to 4,000 ML/year to Crooked Creek below “Mumblebone”,
  - (c) up to 1,000 ML/year to the Bogan River, from Nyngan to the Gunningbar Creek confluence,
  - (d) up to 1,000 ML/year to Beleringar Creek, downstream of Albert Priest Canal,
  - (e) up to 1,500 ML/year to Reddenville Break,
  - (f) up to 5,000 ML/year to Beleringar Creek.

**Note.** The replenishment requirements may vary considerably from year to year due to seasonal conditions. The volumes in subclause (1) are what may be necessary to replenish the entire river length in dry antecedent conditions.

- (2) Unless the operator otherwise determines, the operator is to provide the following replenishment flows each water year:
  - (a) up to 15,000 ML/year to Marra Creek, from its offtake, downstream to its junction with the Barwon River,
  - (b) up to 15,000 ML/year to the lower Bogan River, downstream of its junction with Gunningbar Creek to its junction with the Barwon River.
- (3) To achieve subclause (2), the operator must set aside sufficient volumes of water from inflows into the water source and in reserves held in Windamere Dam and Burrendong Dam water storages.
- (4) The operator is to provide a replenishment flow of up to 50 ML/day below the Macquarie Marshes, from “Miltara” to the Barwon River, at least twice each water year.
- (5) The operator is to provide a replenishment flow of 100 ML/day in the Macquarie River at Oxley Station gauge (421022) for up to 20 days in September if:
  - (a) the total flow at the Oxley Station gauge for the period 1 March to 31 August did not exceed 2,500 ML, or
  - (b) a flow equal to or greater than 60 ML/day at the Oxley Station gauge did not occur for 10 consecutive days within the same 1 March to 31 August period.
- (6) The operator is to provide a replenishment flow of 100 ML/day in the Macquarie River at Oxley Station gauge (421022) for up to 20 days in March if:
  - (a) the total flow at Oxley Station gauge for the period 1 September to 29 February did not exceed 4,500 ML, or
  - (b) a flow equal to or greater than 60 ML/day at the Oxley Station gauge did not occur for 10 consecutive days within the same 1 September to 29 February period.
- (7) Only one replenishment flow under either subclause (5) or (6) is to be made each water year.
- (8) Whenever possible, the operator is to use inflows entering the water source from tributary streams downstream of Burrendong Dam to provide replenishment flows required under subclause (2), (4), (5) and (6).

**Notes.**

- 1 The Northern By-pass Channel may be used to provide the flows under subclause (4), supplementing natural flows through the marshes to maintain the target flow.
- 2 In most years, flows through the Macquarie Marshes will provide a continuous water supply at "Miltara".

**78 Water delivery and channel capacity constraints**

In managing the water supply system, the operator must consider, determine and specify the operating channel capacities throughout the water source in accordance with procedures established by the Minister, taking into account the following:

- (a) the inundation of private land or interference with access,
- (b) the effects of inundation on the floodplain and associated wetlands,
- (c) the transmission losses expected to occur,
- (d) the capacities of structures in the water supply system.

**79 Priority of extraction for access licences and delivery of EWA**

- (1) This clause does not apply to supplementary water access licences or floodplain harvesting (regulated river) access licences.
- (2) If supply capability in any segment of the water source is insufficient to satisfy all water orders, basic landholder rights and the delivery of EWA water, the following rules of priority apply:
  - (a) the operator is to give first priority to the requirements for water to satisfy basic landholder rights,
  - (b) once the requirements in (a) have been met, the operator is to supply water to domestic and stock access licences, local water utility access licences and regulated river (high security) access licences that have placed orders for water, in that order,
  - (c) once the requirements in (b) have been met, unless otherwise directed by the Minister, any remaining supply capability is to be shared between regulated river (general security) access licences that have placed an order for water and EWA deliveries that have been requested, in accordance with a method determined by the operator in consultation with the NSW Environmental Water Manager.
- (3) The operator is to consult with water user representatives and relevant government agencies, as the Minister considers appropriate, before determining the method in subclause (2) (c).

**Notes.**

- 1 During periods of channel capacity constraint, the implementation of the above provisions may result in ordering delays and an inability to supply water requirements from regulated water deliveries on a daily basis.
- 2 **Supply capability** is defined in the Dictionary.
- 3 This clause may be amended if individual daily extraction components are applied.

**80 Rates of change to storage releases**

In changing the rate of the release of water from a water storage or other water supply system structure, the operator must consider relevant environmental matters, damage to river banks and public safety.

**81 Supply of orders when remaining allocations are low**

- (1) The operator may group water orders and periodically release water if the operator determines that the total remaining volume of water in access licence allocation accounts has reduced to a level where the continuous delivery of water orders would involve unacceptably high delivery losses.
- (2) The operator is to consult with water user representatives before grouping water orders and releasing water in accordance with subclause (1).

**82 Bulk transfer rules between storages**

- (1) The operator is to make high volume transfer releases of water from Windamere Dam as required to prevent the volume of water in Burrendong Dam water storage becoming insufficient to supply downstream basic landholder rights, access licence water allocations, the Macquarie EWA and to meet any water losses associated with the delivery of that water.
- (2) Releases made under subclause (1) will be undertaken in accordance with protocols established by the Minister that address the following:
  - (a) the determination of volumes to be transferred,
  - (b) seasonality of flows,
  - (c) total duration of transfer events,
  - (d) maximum discharge rates and their duration,
  - (e) rates of rise and fall in flow heights,
  - (f) access and agronomic requirements of landholders,
  - (g) ecological and geomorphological benefits,
  - (h) likely effects on native species and their habitat, particularly platypus and threatened aquatic species,

- (i) any other matters that may impact on the riverine environment or community.
- (3) Prior to establishing the protocols under subclause (2), the Minister may seek advice from appropriate representatives from the local community along the Cudgegong River downstream of Windamere Dam in regard to the issues specified in subclause (3).
- (4) The operator must make the proposed dates and rates of releases under subclause (1) publicly available.

### **83 Dam operation during floods and spills**

- (1) The operator must operate Windamere Dam and Burrendong Dam during times of flood and spilling of water from those dams:
  - (a) in a manner that maintains the safety of dam infrastructure, and
  - (b) subject to subclause (a), as follows:
    - (i) leave the storages as full as possible after the flood or spilling of water, subject to the FMZ operation rules in clause 84,
    - (ii) ensure that the general rate of increase of outflow does not exceed the rate of increase of inflow, subject to airspace requirements in clause 84,
    - (iii) seek to lessen downstream flood damage.

**Note.** *Airspace* is defined in the Dictionary.

### **84 Burrendong Dam flood mitigation zone operation rules**

- (1) The operator must manage the FMZ of Burrendong Dam in accordance with this clause.
- (2) When not in flood operation, the operator may make releases from the Burrendong Dam FMZ to provide beneficial flooding for the regulated Macquarie River, the Macquarie Marshes, Marebone floodplain and the effluent rivers and creeks of the Macquarie River.
- (3) Unless the Minister determines otherwise, the sharing and distribution of releases from the FMZ are to be as follows:
  - (a) when flows at Warren Weir gauge (421004) are less than 4,000 ML/day – to the Macquarie River and Macquarie Marshes,

- (b) when flows at Warren Weir gauge (421004) are between 4,000 and 12,000 ML/day – to the Macquarie River, Macquarie Marshes and Marebone floodplain, then to Crooked, Gunningbar and Duck Creeks,
  - (c) when flows at Warren Weir gauge (421004) are greater than 12,000 ML/day – to the Macquarie River, Macquarie Marshes and Warren floodplain, then to Crooked, Gunningbar, Duck, Ewenmar and Beleringar Creeks.
- (4) In managing the FMZ, the operator must, where possible, seek to make controlled releases during the flood event so that the water level of Burrendong Dam water storage does not increase.

**Notes.**

- 1 This attempts to balance the benefits of providing airspace in Burrendong Dam to mitigate large inflow events with the damage of controlled releases that can extend the duration of flooding on the Warren floodplains.
  - 2 Releases from the FMZ will vary according to the level of water in storage, rates of inflow and the need to maintain airspace to capture likely future inflows into the storage. The following subclause sets maximum release rates that vary depending on the water level in Burrendong Dam.
- (5) The maximum rate of release from each bay of the FMZ in excess of that required to meet water orders is to be the rate of inflow to Burrendong Dam up to the following rate, calculated including downstream tributary flow:
- (a) when Burrendong Dam water storage is between 100% and 120% (**Bay 1**)— 5,000 ML/day at Warren Weir gauge (421004), equating to a river level of approximately 5.5 metres at Warren Town gauge (421014),
  - (b) when Burrendong Dam water storage is between 120% and 130% (**Bay 2**)— 12,000 ML/day at Gin Gin gauge (421031), equating to a river level of approximately 6.5 metres at Warren Town gauge (421014),
  - (c) when Burrendong Dam water storage is between 130% and 142% (**Bay 3**)— 18,000 ML/day at Gin Gin gauge (421031), equating to a minor flood level of 7.5 metres at Warren Town gauge (421014).
- (6) The operator may vary the release rates in subclause (5) if, in the operator's opinion, the rates specified will result in any of the following:
- (a) prolonged inundation of the floodplain and economic losses to agriculture,
  - (b) restricted landholder access to the landholder's properties for extended periods,
  - (c) benefits to the environment and community.

**Note.** As at 1 July 2019, WaterNSW seeks the advice from its Flood Panel on the matters specified in (a), (b) and (c) before taking action under subclause (7).

- (7) The operator may use releases from the FMZ to meet water orders made by the holders of regulated river (high security) access licences, regulated river (general security) access licences and, subject to clause 53, supplementary water access licences.

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## Part 11 Mandatory conditions

### Division 1 General

#### 85 Requirement to notify

In this Part, a requirement to notify the Minister in writing will only be satisfied by writing to the address listed in Schedule 2 of this Plan or to the email address for enquiries on the Department's website.

**Note.** As at 1 April 2019, the email address for enquiries on the Department's website is [water.enquiries@dpi.nsw.gov.au](mailto:water.enquiries@dpi.nsw.gov.au).

### Division 2 Access licences

#### 86 Mandatory conditions on access licences

- (1) Each access licence must have the following mandatory conditions:
  - (a) upon becoming aware of a breach of any condition of the access licence, the licence holder must:
    - (i) notify the Minister as soon as practicable, and
    - (ii) if the notification under paragraph (i) is not in writing, confirm this notification in writing within seven days of becoming aware of the breach,
  - (b) extraction under the access licence is subject to the relevant available water determinations,
  - (c) the taking of water in accordance with the access licence may only occur if the resulting debit to the access licence account does not exceed the volume of water allocation remaining in the licence account,
- (2) Each access licence, other than a supplementary water access licence or floodplain harvesting (regulated river) access licence, must have a mandatory condition that the licence holder must not take water unless it has been ordered in accordance with procedures established by the Minister.
- (3) Each domestic and stock access licence must have a mandatory condition that water may only be taken for the purpose of domestic consumption or stock watering as defined in section 52 of the Act.
- (4) Each regulated river (general security) access licence must have a mandatory condition that the licence holder may only take the water available in the water allocation account for the licence.

- (5) Each supplementary water access licence must have a mandatory condition that gives effect to Division 3 of Part 8.
- (6) Each floodplain harvesting (regulated river) access licence must have a mandatory condition to give effect to clause 43 (4).

### **Division 3 Water supply work approvals**

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

#### **87 General**

The conditions set out in this Division must be imposed on each water supply work approval in the water source, unless otherwise specified.

#### **88 General conditions**

- (1) The water supply work must not be used to take water under an access licence unless in compliance with the relevant access rules for the taking of water as specified in Part 8.
- (2) The approval holder, upon becoming aware of a breach of any condition of the approval, must:
  - (a) notify the Minister as soon as practicable, and
  - (b) if the notification under subclause (a) was not in writing, confirm this notification in writing within seven days of becoming aware of the breach.
- (3) Flow measurement devices must be installed and maintained on all works used for extraction of water under an access licence and must be of a type and maintained in a manner, which is acceptable to the Minister.
- (4) Water extraction, water management infrastructure and cropping details must be provided on request, in the form and in accordance with procedures established by the Minister.
- (5) The taking of water may only occur in accordance with the conditions applying to the access licence that will have its water allocation account debited for that take.
- (6) Subclauses (3) to (5) do not apply to approvals for water supply works held by WaterNSW provided the approval is not nominated by an access licence.

#### **89 Conditions to modify a water supply work**

A water supply work approval nominated by a floodplain harvesting (regulated river) access licence must have a mandatory condition that the approval holder must comply with any direction by the Minister to modify the work to reflect any

reduction in the share component of the access licence arising from any of the following:

- (a) a dealing under section 71Q or 71W of the Act,
- (b) the surrender under section 77 of the Act of the access licence,
- (c) the amendment of the share component of the access licence by the Minister under section 68A of the Act,
- (d) the cancellation of the access licence under section 78 of the Act,
- (e) the compulsory acquisition of the access licence under section 79 of the Act.

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## Part 12 Amendment of this Plan

**Note.** This Part sets out the amendments authorised by this Plan.

### 90 General

- (1) An amendment authorised by the Plan is taken to include any consequential amendments required to be made to this Plan to give effect to that particular amendment.

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

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

### 91 Amendments relating to Part 1

Part 1 may be amended to add, modify or remove a river or section of river to or from the water source providing that:

- (a) any amendment is consistent with any applicable regulated river order, and
- (b) the Minister is satisfied that there will be no impact on environmental water, or on the available water to any access licence in the water source.

### 92 Amendments relating to supplementary water access licences

- (1) Clause 53 (2) may be amended if it can be demonstrated that there has been no progress on improving the ability to provide regulated flows in excess of 5,000 ML/day at Warren.
- (2) The primary factors for demonstrating progress as referred to in subclause (1) are the alteration of structures on the Warren floodplain to permit higher operational flows in that area, and an increased ability to release volumes larger than 8,200 ML/day from the valves of Burrendong Dam.
- (3) The Minister may seek advice from the Environmental Water Advisory Group regarding whether or not progress, as described in subclause (2) can be demonstrated, and if so, what changes should be made to the flow threshold and the times at which they should apply.
- (4) Any amendment of clause 53 (2) that increases the flow threshold at specified times is to also alter the threshold at other times so that the long-term access to flows by supplementary water access licences is not impacted as a result of that variation.

**Note.** This clause provides that the supplementary flow threshold may be amended to protect flows that promote the breeding success of native fish, subject to progress being made in removing impediments that limit the management of regulated flow.

### **93 Amendments relating to system operation rules**

- (1) Subject to subclause (2), the Macquarie EWA rules in Division 2 of Part 10 of this Plan may be amended with respect to the 500 ML/day release trigger in clause 67 (3) (a) and the 4,000 ML/day maximum flow target in clause 67 (4) (b) for release of the translucent sub-allowance.
- (2) An increase to the maximum flow target of 4,000 ML/day under subclause (1) may only be made if:
  - (a) changes have been made to the flow constraints on the Warren floodplain or water management outlet works during the term of this Plan, so that community assets are not at risk from higher storage releases, or
  - (b) an assessment using the performance indicators specified in clause 9 demonstrates that the Macquarie River or the Macquarie Marshes would benefit from a higher maximum flow target to maintain ecological condition.
- (3) Before making any amendment authorised by subclause (1), the Minister is to seek advice from the Environmental Water Advisory Group regarding the need for and extent of changes, which considers:
  - (a) the outcomes achieved from the use of the Macquarie EWA to date,
  - (b) the current and likely future condition of the Macquarie Marshes, and
  - (c) the desired environmental outcomes for the regulated Macquarie River and its effluents and the Macquarie Marshes.

### **94 Amendment of Plan relating to floodplain harvesting**

This Plan may be amended five years after floodplain harvesting (regulated river) access licences are established in the water source, to amend, omit or insert any rule or provision relating to floodplain harvesting (regulated river) access licences.

### **95 Amendments relating to individual daily extraction components**

This Plan may be amended to provide for individual daily extraction components.

### **95A Amendments relating to access licence dealing rules**

The access licence dealing rules may be amended to provide for the limited conversion of regulated river (high security) entitlements from downstream regulated river water sources into access licences in connected upstream unregulated water sources.

## **96 Dictionary**

The Dictionary may be amended to add, modify or remove a definition.

## **97 Schedules**

Schedule 2 may be amended to add or remove and office.

## **98 Effect of certain amendments to this Plan**

- (1) A reference to a repealed provision of this Plan extends to the corresponding provision of the amended plan, as the case may be.
- (2) If a provision is omitted and replaced or reinserted by an amendment to this Plan, the omission and the replacement does not affect the operation (if any) or meaning of the provision, and accordingly the provision is to be construed as if it had not been omitted and replaced.
- (3) Subclause (2) applies whether or not the provision is modified but has effect subject to any such modification.

## Dictionary

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

**active sub-allowance** is as defined in clause 66 (2) (b) of this Plan.

**airspace** is a volume in a water storage, which is kept empty for the purpose of mitigating potential floods.

**AWD sub-account** means the available water determination sub-account maintained within the water allocation account for each regulated river (high security) access licence and regulated river (general security) access licence, as referred to in clause 45.

**Basin Plan** means the *Basin Plan 2012* made under section 44 (3) (b)(i) of the *Water Act 2007* of the Commonwealth.

**Burrendong Dam water storage** is as defined in the Central West Water Management Area Regulated River Order (Government Gazette No 110 of 1 July 2004), as amended by item [89] of Schedule 1 of the *Water Management Amendment Act 2018*.

**carbon and nutrient pathways** means the connected networks of streams, riparian zones, floodplains and wetlands that transport dissolved and suspended organic material and nutrients to support ecosystems.

**carryover sub-account** means the carryover sub-account maintained within the water allocation account for each regulated river (high security) access licence and regulated river (general security) access licence, as referred to in clause 45.

**commercial plantation** means a commercial forestry plantation as defined in section 1.07 of the Basin Plan.

**Cudgegong AWD sub-account** means the AWD sub-account of a licence that nominates a water supply work upstream of Burrendong Dam water storage.

**Cudgegong carryover sub-account** means the carryover sub-account of a licence that nominates a water supply work upstream of Burrendong Dam water storage.

**Cudgegong EWA** means an environmental water allowance within Windamere Dam water storage, comprised of the water in the Cudgegong EWA AWD sub-account and the Cudgegong EWA carryover sub-account.

**Cudgegong EWA AWD sub-account** is as defined in clause 61 (2) (a) of this Plan.

**Cudgegong EWA carryover sub-account** is as defined in clause 61 (2) (b) of this Plan.

**EWA** means an environmental water allowance referred to in Divisions 1 and/or 2 of Part 10 of this Plan, as relevant.

**floodplain harvesting** means the collection, extraction or impoundment of water flowing across floodplains, including rainfall runoff and overbank flow, excluding the take of water pursuant to any of the following:

- (a) a water access licence other than a floodplain harvesting access licence,

- (b) a basic landholder right,
- (c) an exemption from the need to hold a licence to take water under the Act.

**flow regimes** mean, collectively, the magnitudes, durations, frequency and patterns of flows that characterise a river or water source.

**FMZ** means flood mitigation zone of Burrendong Dam.

**Macquarie AWD sub-account** means the AWD sub-account of a licence that nominates a water supply work from, and downstream of, Burrendong Dam water storage.

**Macquarie carryover sub-account** means the carryover sub-account of a licence that nominates a water supply work from, and downstream of, Burrendong Dam water storage.

**Macquarie EWA** means an environmental water allowance within Burrendong Dam water storage, comprised of water in the translucent sub-allowance and the active sub-allowance.

**Minister** means the Minister administering the Act.

**ML** means megalitres.

**natural flow** means a flow that occurs in a watershed or waterbody under natural unregulated conditions.

**NSW Environmental Water Manager** means the NSW Government department with the conservation role for water-dependent assets. This responsibility extends to managing the NSW environmental water portfolio.

**Note.** As at 1 July 2019, the Minister has delegated the lead role in managing environmental water allowances established under water sharing plans to the NSW Office of Environment and Heritage (OEH). OEH also administers and supports Environmental Water Advisory Groups (EWAGs) to inform the management of environmental water allowances and licensed environmental water. For more information on EWAGs, see *Cooperative management of environmental water to improve river and wetland health in NSW* (2014), available from OEH's website at [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au).

**operator** means the operator of the water supply system.

**Note.** As at 1 July 2019, this is WaterNSW.

**rainfall runoff** means that portion of rainfall that runs off the land.

**registered chemical product** means a registered chemical product as defined in the *Agricultural and Veterinary Chemicals Code Act 1994* of the Commonwealth.

**replenishment flows** means flows provided to refill pools and water holes in river systems downstream, and outside of, the water source.

**reserves** means volumes of water put aside in a water storage to provide for future water requirements.

**residual Cudgegong environmental water** is as defined in clause 60 of this Plan.

**supplementary water event** means a period during which the taking of water under supplementary water access licences is permitted in all or part of the water source.

**supply capability** means the rate at which the Minister determines water can be supplied to a segment of the water source without incurring unacceptable transmission losses.

**translucent sub-allowance** is as defined in subclause 66 (2) (a) of this Plan.

**uncontrolled flow** means flow in excess of that needed to meet the environmental provisions of this Plan, basic landholder rights and water orders placed by access licences.

**water source** means the Macquarie and Cudgegong Regulated Rivers Water Source within the Central West Water Management Area.

**water storage** means a state owned dam, weir or other structure that is used to regulate and manage river flows in the water source and the water body impounded by this structure.

**water supply system** means the water storages and all other infrastructure that can influence water supply controlled by the Minister, including regulators and weirs.

**water use development** means all privately owned water management structures, and all aspects of farm, industry, town and private household development that affect the volumes of water taken from the water source, and the management practices that are applied in relation to them.

**water year** means a period of 12 months commencing on 1 July and ending on 30 June.

**weighted average price** means the total price (dollars per ML) of all units sold divided by the number of units sold.

## Schedule 1 Cudgegong regulated river (general security) access licence carryover volumes for the purposes of clause 47

Water Act Licence number	Area developed at 1 July 2004 (hectares)	Carryover volume (ML)
80SA010585	470.7	7061
80SA010582	527	7905
SL095112	101.6	1524
SL095604	140	2100
SL095477	98	1470
SL095474	8	120
SL095671	39.5	593
SA010562	428	6416
SL095343	40	600
SL095663	5	75
SL095586	4.5	68
SL095276	56	840
SL095739	62.2	933
SL095581	101.4	1521
SA010580	79.3	1190
SL095053	33	495
SL050028	32.5	488
SL095449	21	315
SL039504	53	795
SL039799	122	1830
SL095833	20	300
SL095351	190	2850
SL095880	27.7	416
SL095747	12.1	182
SL051987	230	3450
SL095265	70	1050
SL095720	440	6600
SA010581	53	795
SL029394	10.5	158
SL095682	40	600
<b>TOTAL</b>	<b>3516</b>	<b>52,740</b>

**Note.** The carryover volume calculated in the table above is the result of the area developed as at 1 July 2004, multiplied by 15.

## **Schedule 2 Offices**

Department of Industry, Water  
Level 10, Macquarie Tower  
Locked Bag 5123  
Parramatta NSW 2124

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## **Appendix 1 Overview map of the Macquarie and Cudgegong Regulated Rivers Water Source**

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## Appendix 2 Targeted objectives, strategies and performance indicators

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
<b>Environmental</b>					
<p>Clause 8 (2) (a) (i) Protect and, where possible, enhance the recorded distribution or extent of target ecological populations including native fish and native vegetation over the term of this Plan</p>	<p>Clause 8 (3) (a) – (d)</p>	<p>Clause 8 (5) (a) (i) and (iv), (b) and (c)</p>	<p>Priorities for targeted monitoring within this water source are locations that include the following conditions:</p> <ol style="list-style-type: none"> <li>1. One or more recorded or predicted occurrences of:                             <ol style="list-style-type: none"> <li>a. Murray cod</li> <li>b. Eel-tailed catfish</li> <li>c. Purple-spotted gudgeon</li> <li>d. Olive perchlet</li> <li>e. Golden perch</li> <li>f. High fish diversity locations</li> <li>g. River red gum woodland</li> <li>h. Black box-coolibah woodland EEC</li> </ol> </li> <li>2. River sections that were identified as</li> </ol>	<p>Risk assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11) Add Hyperlink - Guidelines for setting and evaluating plan objectives for water management Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan Add Hyperlink - Macquarie Castlereagh Long-Term Environmental Water Plan Add Hyperlink -</p>	<p>Similar objectives and monitoring targets can be found in other water sharing plan areas Therefore, relevant monitoring data from those water sharing plan areas will be considered when evaluating this objective for this water source.</p>

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			medium or high risk in the Risk Assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)		
<p>Clause 8 (2) (a) (ii)</p> <p>Protect and, where possible, enhance the population structure of target ecological populations including native fish and native vegetation communities over the term of this Plan</p>	<p>Clause 8 (3) (a) – (e)</p>	<p>Clause 8 (5) (a) (i) and (iv), (b) and (c)</p>	<p>Priorities for targeted monitoring within this water source are locations that include the following conditions:</p> <ol style="list-style-type: none"> <li>1. One or more recorded or predicted occurrences of:                             <ol style="list-style-type: none"> <li>a. Murray cod</li> <li>b. Eel-tailed catfish</li> <li>c. Purple-spotted gudgeon</li> <li>d. Olive perchlet</li> <li>e. Golden perch</li> <li>f. High fish diversity locations</li> <li>g. River red gum woodland</li> <li>h. Black box-coolibah woodland EEC</li> </ol> </li> <li>2. River sections that</li> </ol>	<p>Risk assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</p> <p>Add Hyperlink - Guidelines for setting and evaluating plan objectives for water management</p> <p>Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan</p> <p>Add Hyperlink -</p>	<p>Similar objectives and monitoring targets can be found in other water sharing plan areas</p> <p>Therefore, relevant monitoring data from those water sharing plan areas will be considered when evaluating this objective for this water source.</p>

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			<p>were identified as medium or high risk in the Risk Assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</p>		
<p>Clause 8 (2) (a) (iii) Protect and, where possible, enhance the connectivity between water sources to support downstream processes including priority carbon and nutrient pathways and priority fish passages during the term of this Plan</p>	<p>Clause 8 (3) (a) – (e)</p>	<p>Clause 8 (5) (a) (iii) and (iv), (b) and (c)</p>	<p>Priorities for targeted monitoring within this water source include the following conditions:</p> <ol style="list-style-type: none"> <li>1. One or more river sections that include:                             <ol style="list-style-type: none"> <li>a. Tributary catchments that can contribute unregulated carbon and nutrient loads into the regulated river</li> <li>b. Low lying floodplains or benches that can be rich sources of carbon and nutrients</li> <li>c. Catchments that have extensive</li> </ol> </li> </ol>	<p>Risk assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</p> <p>Add Hyperlink - Guidelines for setting and evaluating plan objectives for water management</p> <p>Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan</p> <p>Add Hyperlink -</p>	<p>Similar objectives and monitoring targets can be found in other water sharing plan areas</p> <p>Therefore, relevant monitoring data from those water sharing plan areas will be considered when evaluating this objective for this water source.</p>

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			<p>riparian vegetation</p> <p>d. Significant barriers to migratory fish movement</p> <p>2. River sections that were identified as medium or high risk in the Risk Assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</p>		
<p>Clause 8 (2) (a) (iv)</p> <p>Protect and, where possible, enhance water quality to support water dependent ecosystems and ecosystem functions within this water source</p>	<p>Clause 8 (3) (a) - (e)</p>	<p>Clause 8 (5) (a) (iv) and (v), (b) and (c)</p>	<p>Priorities for targeted monitoring within this water source are locations that include the following conditions:</p> <ol style="list-style-type: none"> <li>1. Representative river sections identified in the NSW State Water Quality Assessment and Monitoring Program</li> <li>2. River sections that were identified as medium or high risk in the Risk Assessment</li> </ol>	<p>Risk assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</p> <p>Add Hyperlink -</p> <p>Water quality management plan for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</p> <p>Add Hyperlink –</p> <p>NSW Cold Water Pollution Strategy</p> <p>Add Hyperlink –</p> <p>NSW Draft algal risk</p>	<p>Similar objectives and monitoring targets can be found in other water sharing plan areas and programs. Therefore, relevant monitoring data from those water sharing plan areas and programs may be considered when evaluating this objective for this water source.</p>

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)	management sub plan Add Hyperlink – Guidelines for setting and evaluating Plan objectives for water management Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan Add Hyperlink -	
Clause 8 (2) (b) Support environmental watering in the water source to contribute to maintaining or enhancing ecological condition in streams, riparian zones, dependent wetlands and floodplains within this water source, including the purposes outlined in clause 57A	Clause 8 (3) (a), (c) and (d)	Clause 8 (5) (a) (i) – (iv), (b) and (c)	Priority monitoring sites within this water source include the target assets and locations that EWA water is delivered to during the term of this Plan.	Macquarie Wetlands Adaptive Environmental Management Plan Add Hyperlink - Macquarie Catchment Annual Environmental Watering Priorities Add Hyperlink - Macquarie Long-Term Environmental Water Plan Add Hyperlink -	EWA environmental watering priorities and locations are determined by the NSW Environmental Water Manager on an annual basis. Monitoring is undertaken by the NSW Environmental Water Manager and coordinated with other monitoring activities that can contribute to evaluating this objective

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
<b>Economic</b>					
<p>Clause 9 (2) (a) Provide water trading opportunities for water-dependent economic activities</p>	<p>Clause 9 (3) (a), (d) and (f)</p>	<p>Clause 9 (5) (a), (b), (c) and (d)</p>	<p>Priority locations for targeted monitoring within this water source are locations that include one or more of the following conditions:</p> <p>(1) High community dependency on surface water extraction (for agriculture, business, landholders) as evidenced by:</p> <ul style="list-style-type: none"> <li>a. the number of Water Access Licence (WAL): by WAL category</li> <li>b. water made available (ML) each year over the past 5 years by WAL licence category</li> <li>c. Water usage (ML) each year over the last five years by WAL category</li> <li>d. Gross value of</li> </ul>	<p>Guidelines for setting and evaluating Plan objectives for water management</p> <p>Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan</p> <p>Add Hyperlink -</p>	<p>Similar objectives and monitoring targets are found in other water sharing plan areas.</p> <p>The performance indicators and selection criteria have been chosen to work particularly well in situations where people or the economy are highly dependent on water extraction</p>

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			irrigated production each year over the last five years e. Gross value of dryland agriculture production each year over the last five years f. The number, total value and VWAP of allocation trades in- and out- of the region each year over the last five years g. The number, total value and VWAP of entitlement trades in- and out- of the region each year over the last five years h. Town population (2) Economic diversity (measured using the		

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			Shannon-Weaver Index <sup>1</sup> ).		
Clause 9 (2) (b) Maintain or enhance access to water for agriculture, business and landholders	Clause 9 (3) (a), (b), (c), (e) and (f)	Clause 9 (5) (a), (c) and (d)	Priority locations for targeted monitoring within this water source are locations that include one or more of the following conditions: (1) High community dependency on surface water extraction (for agriculture, business, landholders) as evidenced by: a. the number of Water Access Licence (WAL): by WAL category b. water made available (ML) each year over the past 5 years by WAL licence category c. Water usage (ML)	Guidelines for setting and evaluating Plan objectives for water management Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan Add Hyperlink -	Similar objectives and monitoring targets are found in other water sharing plan areas  The performance indicators and selection criteria have been chosen to work particularly well in situations where people or the economy are highly dependent on water extraction

<sup>1</sup> <https://implanhelp.zendesk.com/hc/en-us/articles/115009505687-The-Shannon-Weaver-Index-of-Economic-Diversity-An-Overview-and-Descriptive-Analysis>  
[http://www.jrap-journal.org/pastvolumes/2010/v47/jrap\\_v47\\_n2\\_a4\\_thorvaldson\\_squibb.pdf](http://www.jrap-journal.org/pastvolumes/2010/v47/jrap_v47_n2_a4_thorvaldson_squibb.pdf)

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			<p>each year over the last five years by WAL category</p> <p>d. Gross value of irrigated production each year over the last five years</p> <p>e. Gross value of dryland agriculture production each year over the last five years</p> <p>f. The number, total value and VWAP of allocation trades in- and out- of the region each year over the last five years</p> <p>g. The number, total value and VWAP of entitlement trades in- and out- of the region each year over the last five years</p> <p>h. Town population</p> <p>(2) Economic diversity (measured using the</p>		

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			Shannon-Weaver Index <sup>2</sup> ).		
Clause 9 (2) (c) Contribute to maintaining water quality for agriculture, business and landholders	Clause 9 (3) (a), and (f)	Clause 9 (5) (a), (c) and (e)	<p>Priorities for targeted monitoring within this water source are locations that include the following conditions:</p> <ol style="list-style-type: none"> <li>1. Representative river sections identified in the NSW State Water Quality Assessment and Monitoring Program</li> <li>2. River sections that were identified as medium or high risk in the Risk Assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</li> </ol>	<p>Risk assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11) Add Hyperlink - Water quality management plan for the Macquarie Macquarie-Castlereagh water resource plan area (SW11) Add Hyperlink – NSW Draft algal risk management sub plan Add Hyperlink – Guidelines for setting and evaluating Plan objectives for water management Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan</p>	<p>Similar objectives and monitoring targets can be found in other water sharing plan areas and programs. Therefore, relevant monitoring data from those water sharing plan areas and programs may be considered when evaluating this objective for this water source.</p>

<sup>2</sup> <https://implanhelp.zendesk.com/hc/en-us/articles/115009505687-The-Shannon-Weaver-Index-of-Economic-Diversity-An-Overview-and-Descriptive-Analysis>  
[http://www.jrap-journal.org/pastvolumes/2010/v47/jrap\\_v47\\_n2\\_a4\\_thorvaldson\\_squibb.pdf](http://www.jrap-journal.org/pastvolumes/2010/v47/jrap_v47_n2_a4_thorvaldson_squibb.pdf)

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
				Add Hyperlink -	
<b>Aboriginal cultural</b>					
Clause 10 (2) (a) Provide access to water in the exercise of native title rights	Clause 10 (3) (a)	Clause 10 (5) (a) to (f)	Priorities for targeted monitoring within this water source are locations that include the following conditions: (1) the number of Water Access Licence (WAL): by WAL category <sup>3</sup> (2) water made available (ML) each year over the past 5 years by WAL licence category <sup>4</sup> (3) Water usage (ML) each year over the last five years by WAL category <sup>5</sup> (4) Indigenous population (5) Population / groups holding native title with respect to water,	Guidelines for setting and evaluating Plan objectives for water management Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan Add Hyperlink -	

<sup>3</sup> Aboriginal Cultural Water Access Licence/Aboriginal Community Development Water Access Licences

<sup>4</sup> WAL categories as above

<sup>5</sup> WAL categories as above

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			as determined under the Native Title Act 1993 (Cwlth) <sup>6</sup>		
Clause 10 (2) (b) Provide access to water for aboriginal cultural use, including fishing	Clause 10 (3) (b)	Clause 10 (5) (a) to (c), (e) and (f)	Priorities for targeted monitoring within this water source are locations that include the following conditions: (1) the number of Water Access Licence (WAL): by WAL category <sup>7</sup> (2) water made available (ML) each year over the past 5 years by WAL licence category <sup>8</sup> (3) Water usage (ML) each year over the last five years by WAL category <sup>9</sup>	Guidelines for setting and evaluating Plan objectives for water management Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan Add Hyperlink -	

<sup>6</sup> The *Water Management Act 2000* recognises the cultural and spiritual importance of water to Aboriginal people in NSW. Anyone who holds native title with respect to water, as determined under the *Native Title Act 1993* (Cwlth), can take and use water for a range of needs. These include personal, domestic and non-commercial communal purposes such as manufacturing traditional artefacts, hunting, fishing, recreation, cultural and ceremonial purposes.

<sup>7</sup> Aboriginal Cultural Water Access Licence/Aboriginal Community Development Water Access Licences

<sup>8</sup> WAL categories as above

<sup>9</sup> WAL categories as above

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			(4) Indigenous population (5) Population / groups holding native title with respect to water, as determined under the Native Title Act 1993 (Cwlth) <sup>10</sup> (6) Culturally important fishing locations and species		
Clause 10 (2) (c) Protect identified water-dependent culturally significant areas, including important riparian vegetation communities.	Clause 10 (3) (c) to (e)	Clause 10 (5) (a), (b), (d) to (f)	Priorities for targeted monitoring within this water source are locations that include the following conditions: (1) the number of Water Access Licence (WAL): by WAL category <sup>11</sup> (2) water made available (ML) each year over the past 5 years by	Guidelines for setting and evaluating Plan objectives for water management Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan Add Hyperlink -	

<sup>10</sup> The *Water Management Act 2000* recognises the cultural and spiritual importance of water to Aboriginal people in NSW. Anyone who holds native title with respect to water, as determined under the *Native Title Act 1993* (Cwlth), can take and use water for a range of needs. These include personal, domestic and non-commercial communal purposes such as manufacturing traditional artefacts, hunting, fishing, recreation, cultural and ceremonial purposes.

<sup>11</sup> Aboriginal Cultural Water Access Licence/Aboriginal Community Development Water Access Licences

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			WAL licence category 12 (3) Water usage (ML) each year over the last five years by WAL category 13 (4) Indigenous population (5) Population / groups holding native title with respect to water, as determined under the Native Title Act 1993 (Cwlth) <sup>14</sup> (6) Identified cultural assets including vegetation communities and regions		
Clause 10 (2) (d) Maintain or enhance water quality to ensure suitability of water for Aboriginal	Clause 10 (3) (c) to (e)	Clause 10 (5)(a) to (g)	Priorities for targeted monitoring within this water source are locations that include the following	Water quality management plan for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)	

<sup>12</sup> WAL categories as above

<sup>13</sup> WAL categories as above

<sup>14</sup> The *Water Management Act 2000* recognises the cultural and spiritual importance of water to Aboriginal people in NSW. Anyone who holds native title with respect to water, as determined under the *Native Title Act 1993* (Cwlth), can take and use water for a range of needs. These include personal, domestic and non-commercial communal purposes such as manufacturing traditional artefacts, hunting, fishing, recreation, cultural and ceremonial purposes.

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
cultural use			conditions: (1) the number of Water Access Licence (WAL): by WAL category <sup>15</sup> (2) water made available (ML) each year over the past 5 years by WAL licence category <sup>16</sup> (3) Water usage (ML) each year over the last five years by WAL category <sup>17</sup> (4) Indigenous population (5) Population / groups holding native title with respect to water, as determined under the Native Title Act 1993 (Cwlth) <sup>18</sup> (6) Identified cultural	Add Hyperlink – Guidelines for setting and evaluating Plan objectives for water management Add Hyperlink - Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan Add Hyperlink -	

<sup>15</sup> Aboriginal Cultural Water Access Licence/Aboriginal Community Development Water Access Licences

<sup>16</sup> WAL categories as above

<sup>17</sup> WAL categories as above

<sup>18</sup> The *Water Management Act 2000* recognises the cultural and spiritual importance of water to Aboriginal people in NSW. Anyone who holds native title with respect to water, as determined under the *Native Title Act 1993* (Cwlth), can take and use water for a range of needs. These include personal, domestic and non-commercial communal purposes such as manufacturing traditional artefacts, hunting, fishing, recreation, cultural and ceremonial purposes.

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			assets		
<b>Social and cultural</b>					
<p>Clause 11 (2) (a) Maintain or improve access to water for basic human needs, town water supply and domestic and stock purposes</p>	<p>Clause 11 (3) (a) and (d)</p>	<p>Clause 11 (5) (a), (b), (c) and (d)</p>	<p>Priorities for targeted monitoring within this water source are locations that include the following conditions:</p> <p>(1) High community dependency on water extraction (for basic human needs, town water supply and domestic and stock purposes) evidence by:</p> <p>a. the number of Water Access Licence (WAL): by WAL category<sup>19</sup></p> <p>b. water made available (ML) each year over the past 5 years by WAL licence category<sup>20</sup></p>	<p>Water quality management plan for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</p> <p>Add Hyperlink –</p> <p>Guidelines for setting and evaluating Plan objectives for water management</p> <p>Add Hyperlink -</p> <p>Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan</p> <p>Add Hyperlink -</p>	

<sup>19</sup> High (Town water supply)/Domestic And Stock/Domestic And Stock (Domestic)/Unregulated River (Town water supply)/Local Water Utility/Major Utility/ Aquifer (Town Water Supply)

<sup>20</sup> WAL categories as above

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			c. Water usage (ML) each year over the last five years by WAL category <sup>21</sup> d. Town population (2) Turbidity (NTU), colour (HU) and E.coli and chemicals less than Australian Drinking Water Guidelines and utility service level limit at offtake.		
Clause 11 (2) (b) Maintain or improve access to water for water dependent cultural, heritage and recreational uses, including recreational fishing	Clause 11 (3) (b) and (d)	Clause 11 (5) (a), (b), (c) and (d)	Priority locations for targeted monitoring within this water source are locations that include the following conditions: (1) One or more recorded or predicted occurrences of: a. Murray cod b. Eel-tailed catfish c. Purple-spotted gudgeon d. Olive perchlet	Water quality management plan for the Macquarie Macquarie-Castlereagh water resource plan area (SW11) Add Hyperlink –  Guidelines for setting and evaluating Plan objectives for water management Add Hyperlink -	Similar objectives and monitoring targets can be found in other water sharing plan areas and programs. Therefore, relevant monitoring data from those water sharing plan areas and programs may be considered when evaluating this objective for this water source.

<sup>21</sup> WAL categories as above

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
			<ul style="list-style-type: none"> <li>e. High fish diversity locations</li> <li>(2) Recorded takes of native fish that are important for recreational fishing within legal age and size classes as described in Appendix 3</li> <li>(3) River sections that were identified as medium or high risk in the Risk Assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</li> <li>(4) Number of recreational water sites with Red blue-green algae in past 3 years</li> <li>(5) Recreational water sites with Amber blue-green algae in past 3 years</li> </ul>	<p>Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan</p> <p>Add Hyperlink -</p>	
<p>Clause 11 (2) (c) Maintain or improve water</p>	<p>Clause 11 (3) (b),(c) and (d)</p>	<p>Clause 11 (5) (a), (d) and (e)</p>	<p>Priorities for targeted monitoring within this</p>	<p>Risk assessment for the Macquarie Macquarie-</p>	<p>Similar objectives and monitoring targets can be</p>

Column 1 Targeted objective	Column 2 Strategies	Column 3 Performance indicators	Column 4 Criteria for selecting priority monitoring locations*	Column 5 Supporting documents	Column 6 Comments
<p>quality for basic human needs, town water supply, domestic and stock purposes and water dependent cultural, heritage and recreational uses, including recreational fishing</p>			<p>water source are locations that include the following conditions:</p> <ul style="list-style-type: none"> <li>(1) Representative river sections identified in the NSW State Water Quality Assessment and Monitoring Program</li> <li>(2) River sections that were identified as medium or high risk in the Risk Assessment for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)</li> </ul>	<p>Castlereagh water resource plan area (SW11)                      Add Hyperlink -                      Water quality management plan for the Macquarie Macquarie-Castlereagh water resource plan area (SW11)                      Add Hyperlink -                      NSW Cold Water Pollution Strategy                      Add Hyperlink -                      NSW Draft algal risk management sub plan                      Add Hyperlink -                      Guidelines for setting and evaluating Plan objectives for water management                      Add Hyperlink -                      Macquarie Planned Environmental Water Monitoring, Evaluation and Reporting Plan                      Add Hyperlink -</p>	<p>found in other water sharing plan areas and programs. Therefore, relevant monitoring data from those water sharing plan areas and programs may be considered when evaluating this objective for this water source.</p>