

Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2003

[2003-177]



New South Wales

Status Information

Currency of version

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Provisions in force

The provisions displayed in this version of the legislation have all commenced.

Notes—

- **See also**
[Water Management Amendment Bill 2014](#)
- **Note**
In incorporating the amendments made by the *Water Management (Minister's Plans) Order No 2 of 2004*, published in Gazette No 110 of 1.7.2004, p 5072, changes have been made to the numbering of some of the provisions to maintain appropriate numerical or alphabetical order.
- **Note**
This Plan ceases to have effect on 1.7.2015 — see GG No 45 of 12.5.2014, p 1381.

Authorisation

This version of the legislation is compiled and maintained in a database of legislation by the Parliamentary Counsel's Office and published on the NSW legislation website, and is certified as the form of that legislation that is correct under section 45C of the [Interpretation Act 1987](#).

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Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2003



New South Wales

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Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2003



New South Wales

Part 1 Introduction

1 Name of plan

This Plan is the *Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2003* (hereafter **this Plan**).

2 Nature and status of this Plan

- (1) This Plan is made under section 50 of the *Water Management Act 2000* as amended (hereafter **the Act**).
- (2) This Plan covers the core provisions of section 20 of the Act for water sharing, and additional provisions of section 21 of the Act, and other relevant matters.

3 Date of commencement

This Plan takes effect on 1 July 2004 and ceases ten years after that date.

4 Water source and waters to which this Plan applies

- (1) The water source in respect of which this Plan is made is that between the banks of all rivers, from the upstream limit of Windamere Dam water storage downstream to the junctions of the Macquarie River and its effluent rivers with the Barwon River, which, at the date of commencement of this Plan, have been declared by the Minister to be regulated rivers.

Note—

A regulated river is a river that has been declared by the Minister, by order published in the New South Wales Government Gazette, to be a regulated river.

Note—

The regulated rivers referred to in subclause (1) are listed in Appendix 1.

- (2) The water source shall be known as the Macquarie and Cudgegong Regulated Rivers Water Source (hereafter **this water source**).
- (3) The rivers included in this water source may be varied under section 45 (1) (b) of the Act as set out in Part 14.
- (4) This water source is within the Central West Water Management Area as constituted by the Ministerial Order published in the NSW Government Gazette (hereafter **the Gazette**) on 23 November 2001.

Note—

The Central West Water Management Area is shown on the map in Appendix 2.

- (5) This Plan applies to all water contained within this water source but does not apply to water contained within aquifer water sources underlying this water source or to water on land adjacent to this water source.

Note—

Management of floodplain harvesting will not be a component of individual water sharing plans being produced for the regulated and unregulated rivers. Management of floodplain harvesting will occur according to a number of state-wide management principles, listed in Appendix 3.

5 Interpretation

- (1) Terms that are defined in the Act have the same meaning in this Plan, unless redefined in Schedule 1, and the effect of these terms may be explained in Notes.
- (2) Additional terms are defined in Schedule 1.
- (3) Notes in this Plan do not form part of this Plan.
- (4) Schedules to this Plan form part of this Plan.
- (5) Appendices to this Plan do not form part of this Plan.

6 Effect on licences, authorities and permits under the [Water Act 1912](#)

- (1) This Plan applies from the date of commencement to those matters that are being administered under the Act at that time.
- (2) This Plan applies to other matters from the date the relevant provisions of the Act are commenced.

Note—

To the extent possible, the rules embodied in this Plan will apply to matters administered under the [Water Act 1912](#) in the interim.

Note—

This Plan replaces any existing water sharing arrangements applying to this water source immediately before the

day this Plan took effect, in so far as they relate to matters covered by this Plan.

7 State Water Management Outcomes Plan

- (1) In accordance with section 16 (1) (a) of the Act this Plan is consistent with the State Water Management Outcomes Plan published in the Gazette on 20 December 2002 (hereafter **the SWMOP**).
- (2) Schedule 2 identifies the SWMOP targets applicable to this Plan and how this Plan contributes to meeting those targets.

Part 2 Vision, objectives, strategies and performance indicators

8 Vision, objectives, strategies and performance indicators

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

9 Vision

The vision for this Plan is to provide water management in the Macquarie and Cudgegong Regulated Rivers Water Source that supports a healthy environment and a prosperous community.

10 Objectives

The objectives of this Plan are to:

- (a) maintain or enhance the ecological functions and values of riverine environments,
- (b) support a sustainable regional economy,
- (c) protect the social values and benefits provided by the river system, and
- (d) recognise and respect Aboriginal cultural responsibilities and obligations to the landscape.

Note—

Although there are no specific strategies directly related to objectives in subclause (c) and (d), the specific environmental water provisions in this Plan and the bulk access regime in general, assists to address these objectives.

11 Strategies

The strategies for reaching the objectives set out in clause 10 are to:

- (a) establish environmental water provisions (Part 3 of this Plan),
- (b) identify water requirements for basic landholder rights (Part 4 of this Plan),
- (c) identify water requirements for access licences (Part 6 of this Plan),

- (d) establish rules for granting of access licences (Part 7 of this Plan),
- (e) establish provisions that place limits on the availability of water (Part 8 of this Plan),
- (f) establish rules for making available water determinations (Part 8 of this Plan),
- (g) establish rules for the operation of water accounts (Part 9 of this Plan),
- (h) establish provisions specifying circumstances under which water may be taken (Part 9 of this Plan), and
- (i) establish access licence dealing rules (Part 10 of this Plan).

12 Performance indicators

The following indicators are to be used to determine the performance of this Plan against its objectives:

- (a) change in low flows,
- (b) change in moderate to high flows,
- (c) change in water quality in this water source,
- (d) change in ecological condition of this water source and dependent ecosystems,
- (e) change in economic benefits derived from water extraction and use,
- (f) extent to which domestic and stock rights requirements have been met,
- (g) extent to which local water utility and major utility requirements (where major utilities are involved in urban water provision) have been met,
- (h) extent to which native title rights have been met, and
- (i) extent of recognition of spiritual, social and customary values of water to Aboriginal people.

Note—

Appendix 4 details the objectives to which these performance indicators relate and the methods for assessing indicators.

Part 3 Environmental water provisions

13 Environmental water provisions

This Part is made in accordance with sections 5 (3), 8 (1), 8 (2) and 20 (1) (a) of the Act.

14 Planned environmental water

This Plan establishes the following planned environmental water rules:

- (a) water volume in excess of the long-term extraction limit established in clause 30 of this Plan shall not be taken from this water source and used for any purpose, and
- (b) water availability shall be managed as specified in clause 32 to ensure water volume in excess of the long-term extraction limit is not being taken.

Note—

By limiting long-term extractions to an estimated 391,900 megalitres per year this Plan ensures that approximately 73% of the long-term average annual flow in this water source (estimated to be 1,448,000 megalitres per year) will be preserved and will contribute to the maintenance of basic ecosystem health.

15 Planned environmental water

- (1) This clause establishes the planned environmental water rules for this Plan.
- (2) Subject to the provisions of subclauses (3), (4), (6) and (7), planned environmental water releases shall be made from Windamere Dam whenever the sum of storage inflows plus tributary inflows downstream of the Dam is capable of producing a flow in the Cudgegong River at Rocky Water Hole of at least 150 megalitres per day (hereafter **ML/day**) for 2 days or more, subject to any start and finish dates applied under to subclause (4) (a).
- (3) The rate of planned environmental water release under subclause (2) shall be the lesser of:
 - (a) storage inflow, and
 - (b) the rate of release necessary to achieve 1,500 ML/day in the Cudgegong River at Rocky Water Hole.
- (4) At the commencement of each water year the Minister, may under section 45 (1) (b) of the Act:
 - (a) set start and finish dates in the water year for which planned environmental water releases referred to in subclause (2) can occur, and
 - (b) alter the Cudgegong River at Rocky Water Hole flows referred to in subclauses (2) and (3) (b) providing they remain within the range of 150 to 1,500 ML/day.
- (5) Before taking action under subclause (4) the Minister should seek advice from the Environmental Flow Reference Group if established under subclause (23) regarding the need for, and the extent of any changes.
- (6) Release of planned environmental water from Windamere Dam under subclause (2) shall not be made:
 - (a) when the storage level in Windamere Dam water storage is at or below 110,000 megalitres, or

- (b) after the total volume of water released under subclause (2) during any water year has reached 10,000 megalitres.
- (7) The volume of planned environmental water released from Windamere Dam shall be assessed as:
 - (a) the volume of water released under subclause (2) in excess of the volume of releases required to meet access licence water orders in the Cudgegong River downstream of Rocky Water Hole, and
 - (b) zero, when Windamere Dam is spilling.
- (8) Releases of planned environmental water from Windamere Dam may not be used to supply access licence requirements between Windamere Dam and the upper limit of Burrendong Dam water storage.
- (9) Once planned environmental water released under subclause (2) has entered Burrendong Dam water storage it shall no longer be designated as environmental water.
- (10) An environmental water allowance shall be established for environmental purposes downstream of Burrendong Dam and shall be released:
 - (a) as specified in this clause to improve environmental outcomes in the Macquarie Marshes and Macquarie River between Burrendong Dam and the Macquarie Marshes, and
 - (b) with appropriate regard to the matters listed in subclauses 24 (a) to 24 (f).
- (11) An account of the water credited to and released from the environmental water allowance shall be kept.
- (12) The volumes credited to and debited from the environmental water allowance are to be calculated according to the following:
 - (a) whenever an available water determination is made for regulated river (general security) access licences, the allowance shall be credited with a volume equal to 160,000 megalitres multiplied by the number of megalitres per unit share specified in that available water determination, except when the available water determination is made pursuant to clauses 38 (6) or 38 (7),
 - (b) if the operation of clause 32 results in the limit to the sum of available water determinations for regulated river (general security) access licences being less than 1 megalitre per unit share, then, in any water year when the sum of available water determinations for regulated river (general security) access licences reaches the reduced allowable maximum, the environmental water allowance shall continue to be credited as if the maximum allocation for regulated river (general security) access licences had remained at 1 megalitre per unit share,

- (c) the volume credited to the allowance shall be distributed between two sub-allowances in the following way:
 - (i) sub-allowance 1 (translucent) is to receive three fifths of the volume, and
 - (ii) sub-allowance 2 (active) is to receive two fifths of the volume,
- (d) sub-allowance 1 and sub-allowance 2 shall be debited in accordance with the following:
 - (i) when releases are made under clauses 15 (16) (c) and the flow at u/s Marebone Break minus downstream water orders and associated losses is less than or equal to the flow specified in clause 15 (16) (d) (ii) then sub allowance 1 shall be debited with a volume equal to the flow at u/s Marebone Break minus downstream water orders and associated losses, minus the daily flow rate specified in 15 (16) (c) (i),
 - (ii) when the flow at u/s Marebone Break minus downstream water orders and associated losses is greater than the flow specified in clause 15 (16) (d) (ii) then sub allowance 1 shall be debited with a volume equal to the flow specified in clause 15 (16) (d) (ii), minus the daily flow rate specified in 15 (16) (c) (i), and
 - (iii) when releases of sub allowance 2 are made the volume to be debited from that allowance is to be equal to the lesser of:
 - (1) the volume of sub-allowance 2 water requested for delivery on the days that the sub allowance 2 water arrives at u/s Marebone Break, minus downstream water orders and associated losses, or
 - (2) the flow at u/s Marebone Break minus downstream water orders and associated losses, on the days that the sub allowance 2 water arrives at u/s Marebone Break,
- (e) at the end of each water year:
 - (i) the total volume held in the two sub-allowances that is greater than 160,000 megalitres shall be forfeited, and
 - (ii) the remaining water held in the two sub-allowances shall be redistributed between the sub-allowances according to the proportions set out in subclause (12) (c) or as modified under subclause (13),
- (f) evaporation reductions shall apply to the water carried over in the sub-allowances from the previous water year, based on the net evaporation on the extra surface area in Windamere Dam and Burrendong Dam water storages generated by the carried over water,

(g) the volume of water carried over in the sub-allowances from the previous water year, shall be reduced at the end of each month during which the water level in Burrendong Dam water storage was in the FMZ for all or part of that month,

(h) the total volume of reduction under subclause (12) (g) shall be the lesser of:

(i) the total remaining volume of water carried over in the environmental water sub-allowances from the previous water year, or

(ii) the result of the formula

$$\frac{TI \times EC}{TC + EC}$$

, 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 remaining in carryover sub-accounts of regulated river (general security) access licences with extraction components that permit the taking of water downstream of the upper limit of Burrendong Dam water storage (hereafter **Macquarie regulated river (general security) access licences**), and

EC is the remaining volume of water carried over in the environmental water allowance from the previous water year,

(i) when all water held in carryover sub-accounts of Macquarie regulated river (general security) access licences has been withdrawn under clause 45 (3) (h), and an available water determination of 1 megalitre per unit share or such lower amount as results from clause 32 (2), has been made for all regulated river (general security) access licences under clause 38 (6), then the environmental water allowance shall be credited with sufficient volume to bring the total volume in the allowance to 160,000 megalitres, and

(j) whenever an available water determination of 1 megalitre per unit share or such lower amount as results from clause 32 (2), has been made for all regulated river (general security) access licences as a result of the water level in Burrendong Dam water storage re-entering the FMZ under clause 38 (7), the environmental water allowance shall be credited with sufficient volume to bring the total volume in the allowance to 160,000 megalitres.

(13) At the commencement of each water year the Minister may, under section 45 (1) (b) of the Act, alter the distribution specified in subclause (12) (c), providing that each sub-allowance receives at least two fifths of the total allowance and the sum of the proportions remains one.

(14) Before taking action under subclause (13) the Minister should seek advice from the Environmental Flow Reference Group if established under subclause (23) regarding the

need for and extent of changes under subclause (13), and such advice should consider:

- (a) the environmental outcomes achieved from the release of water from the environmental water allowance and from other flows in this water source in the previous 12 months,
- (b) the current condition and likely condition over the coming 12 months of the Macquarie Marshes, and
- (c) the desired environmental outcomes for the regulated Macquarie River and the Macquarie Marshes,

(15) Pursuant to section 45 (1) (b) of the Act and clause 67 of this Plan, the Minister may amend subclause (13) to the extent specified in clause 67.

(16) Release of sub-allowance 1 (translucent) water shall be made from Burrendong Dam according to the following:

- (a) water carried over from the previous water year shall be released before water that has been credited to sub-allowance 1 (translucent) in the current water year,
- (b) releases shall only be made during the periods 1 June to 30 November (inclusive) and 15 March to 31 May (inclusive) each year,
- (c) releases shall only be made when:
 - (i) the sum of storage inflows plus tributary inflows downstream of Burrendong Dam would be capable of providing a flow of at least 500 ML/day for 5 days or more in the Macquarie River immediately upstream of Marebone Weir, and
 - (ii) the water level in Burrendong Dam water storage is not within the Flood Mitigation Zone (here after the FMZ), or
 - (iii) the sum of tributary inflows between Burrendong Dam and u/s Marebone Break is less than or equal to 1000 megalitres per day.

Note—

Clause 64 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.

(d) the rate of release shall be the lesser of:

- (i) the storage inflow, or
- (ii) the rate of release necessary to achieve up to a maximum flow target of 4,000 ML/day in the Macquarie River immediately upstream of Marebone Weir,

(e) releases of sub-allowance 1 (translucent) water shall cease when the sum of

storage inflows plus tributary inflows reduces to a level which would no longer result in a flow of at least the volume specified by subclause (16) (c), unless releases of sub-allowance 1 (translucent) water are being extended by release of sub-allowance 2 (active),

- (f) releases of sub-allowance 1 (translucent) water shall cease when the allowance volume held in sub-allowance 1 (translucent) reaches zero, subject to the rules for use of sub-allowance 2 (active) water developed under subclause (22),
 - (g) releases of sub-allowance 1 (translucent) water may also cease if the health of the regulated sections of the Macquarie River and its effluents or the Macquarie Marshes would not in the opinion of the Minister, be significantly improved by further releases of sub-allowance 1 (translucent) water,
 - (h) before ceasing releases of sub-allowance 1 (translucent) water, under subclause (16) (g) the Minister should consult with the Minister for the Environment unless the action is in accordance with any advice provided under subclause (16) (i),
 - (i) at the commencement of each water year the Minister should seek advice from the Environmental Flow Reference Group if established under subclause (23), regarding the factors or measurements which would indicate that the circumstances in subclause (16) (g) had occurred, and
 - (j) releases of sub-allowance 1 (translucent) water may be extended using releases of sub-allowance 2 (active) after consideration of advice provided under subclause (22) (k) (ii).
- (17) At the commencement of each water year the Minister may, under section 45 (1) (b) of the Act, alter the dates specified in subclause 16 (b) but only within the extent of the periods specified in subclause (16) (b) at the time of Plan Gazettal.
- (18) Before altering subclause (16) (b) in accordance with subclause (17) the Minister should seek advice from the Environmental Flow Reference Group if established under subclause (23), regarding the need for and extent of changes, and such advice should consider:
- (a) the outcomes achieved from the use of the environmental water allowance and planned environmental water in the previous 12 months,
 - (b) the current condition and likely condition over the coming 12 months of the Macquarie Marshes, and
 - (c) the desired environmental outcomes for the regulated sections of the Macquarie River and its effluents and the Macquarie Marshes.
- (19) At the commencement of each water year the Minister may, under section 45 (1) (b) of the Act alter the release trigger of 500 ML/day in subclause (16) (c) and the

maximum flow target of 4,000 ML/day in subclause (16) (d).

- (20) Pursuant to subclause (19) the maximum flow target of 4,000 ML/day may be increased if:
- (a) changes to the flow constraints on the Warren floodplain or water management outlet works during the term of this Plan are such that community assets are not at risk from higher storage releases, or
 - (b) an assessment using the performance indicators specified in clause 12, demonstrates that the Macquarie River or the Macquarie Marshes would benefit from a higher maximum flow target to maintain its ecological condition.
- (21) Before altering subclause (16) (c) or subclause (16) (d) in accordance with subclause (19) the Minister should seek advice from the Environmental Flow Reference Group if established under subclause (23), regarding the need for and extent of changes, and such advice should consider:
- (a) the outcomes achieved from the use of the environmental water allowance and planned environmental water in the previous 12 months,
 - (b) the current condition and likely condition over the coming 12 months of the Macquarie Marshes, and
 - (c) the desired environmental outcomes for the regulated main stem of the Macquarie River and the Macquarie Marshes,
- (22) Releases of sub-allowance 2 (active) water are to be made from Burrendong Dam according to the following:
- (a) water carried over from the previous water year shall be released before water that has been credited to sub-allowance 2 (active) in the current water year,
 - (b) releases of sub-allowance 2 (active) water may not be made to meet ecological needs in the Macquarie River or the Macquarie Marshes if these needs will be met by releases under subclause (16), unless releases of sub-allowance 2 (active) water are to be made pursuant to subclauses 22 (i), 22 (g) and 22 (j),
 - (c) releases may be made at any time of the year to enhance opportunities for native fish recruitment and dispersal in the Macquarie River and Macquarie Marshes,
 - (d) releases may be made at any time of the year to ensure the successful completion of colonial water bird breeding, except when:
 - (i) the volume of sub-allowance 2 (active) water in storage and climate predictions over the breeding event period indicates that the event can not be sustained, or

- (ii) all water bird colonies can not be sustained, then priority will be dependant on the species type, location of breeding site, number of pairs, vulnerability of the population and long-term ecosystem maintenance overrides individual species or present annual wetland requirements,
 - (e) releases may be made at any time of the year for the purpose of alleviating severe, unnaturally prolonged drought conditions in the Macquarie Marshes where habitat maintenance of semi-permanent wetlands as defined by River Red Gum Woodlands, water couch and common reed is seen as critical,
 - (f) releases may be made at any time of the year for the purpose of any other ecological objectives, identified pursuant to subclause 22 (g),
 - (g) before the commencement of each water year the Minister should identify any other ecological objects for the purpose of subclause (22) (f) and develop detailed rules to govern the releases of sub-allowance 2 (active) water to address these ecological objectives and the ecological objectives or contingent events specified in subclauses (22) (b), (22) (c), (22) (d) (ii) and 22 (e),
 - (h) the Minister should seek advice from the Environmental Flow Reference Group if established under subclause (23), at any time within the water year regarding the use of sub-allowance 2 (active) water for the purposes specified in subclauses (22) (c), (22) (d) (ii), (22) (e) and (22) (f),
 - (i) in the event that the detailed rules referred to in subclause (22) (g) have not been developed, sub-allowance 2 (active) water shall be released according to the rules applying to sub-allowance 1 (translucent) water once the volume in sub-allowance 1 is exhausted,
 - (j) the rules developed under subclause (22) (g) may permit sub-allowance 2 (active) water to be used to extend releases of sub-allowance 1 (translucent) water, and
 - (k) at the commencement of each water year the Minister should seek advice from the Environmental Flow Reference Group if established under clause (23), on:
 - (i) the priority of ecological objectives and the rules that will govern the use of sub-allowance 2 (active) water during the coming water year, and
 - (ii) the circumstances under which releases of sub-allowance 1 (translucent) water may be extended using sub-allowance 2 (active) water when the volume in sub-allowance 1 (translucent) is nearing zero.
- (23) An Environmental Flow Reference Group should be established by the Minister under section 388 of the Act for the purpose of providing advice in accordance with subclauses (5), (14), (16) (i), (18), (21), (22) (h) and (22) (k) and clause 67 (6).
- (24) In providing advice in accordance with subclauses, (5), (14), (16) (i), (18), (21), (22)

(h) and (22) (k) and clause 67 (6), the Environmental Flows Reference Group shall have regard to:

- (a) the objectives of this Plan,
- (b) the principles of adaptive management,
- (c) restoration of river flow variability within the constraints of the regulated river system,
- (d) maintenance, rehabilitation or restoration, where possible, of the links between the river and its floodplain, effluent creeks and wetlands,
- (e) maintenance, rehabilitation or restoration, where possible, of in-channel and riparian habitats, and
- (f) maintenance, rehabilitation or restoration, where possible, of river channel form and processes.

(25) The Environmental Flows Reference Group should be established by 1 October 2004.

(26) The Environmental Flow Reference Group should consist of one full member and one deputy member nominated by:

- (a) Macquarie River Food and Fibre or its successor,
- (b) Macquarie Marshes Environmental Landholders or its successor,
- (c) the Macquarie Effluent Creeks Association or its successor,
- (d) the Department or its successor,
- (e) NSW Fisheries or its successor,
- (f) NSW National Parks and Wildlife Service or its successor,
- (g) Nature Conservation Council or its subsequent organisation with a background in ecology, and
- (h) Cudgegong Valley Water Committee or its successor.

(27) The Environmental Flows Reference Group may also consist of other members as appointed by the Minister.

(28) Members of the Environmental Flows Reference Group should be appointed for a period of 5 years.

(29) Members of the Environmental Flows Reference Group should select the Chair.

(30) A quorum of the Environmental Flows Reference Group should be two community

representatives and representatives of the Department or its successor, and NSW National Parks and Wildlife Service or its successor.

- (31) The Environmental Flows Reference Group should report and communicate on its activities in accordance with procedures established by the Minister.
- (32) In the event the Environmental Flows Reference Group is able to reach consensus on its advice to the Minister, then the Minister should either:
- (a) accept that advice and make the recommended management changes, or
 - (b) manage in accordance with subclauses (2), (3), (6), (7), (8), (12), (16) and (22), or
 - (c) alter or amend management in accordance with the rules in the relevant subclauses of clause 15.
- (33) In the event the Environmental Flows Reference Group is unable to reach consensus on its advice to the Minister, then the Minister should either:
- (b) manage in accordance with subclauses (2), (3), (6), (7), (8), (12), (16) and (22), or
 - (c) alter or amend management in accordance with the rules in the relevant subclauses of clause 15.
- (34) Before taking action in accordance with subclauses (32) (c) or (33) (c) the Minister should consult with the Minister for the Environment.

16 Adaptive environmental water

- (1) At any time an access licence holder may, by a process determined by the Minister, commit all or part of their licence as adaptive environmental water.
- (2) The Minister may grant an access licence in a water source to which this Plan applies if the licence is subject to an adaptive environmental water condition and arises through water savings in the system made in that water source as referred to in section 8C (1) of the Act.
- (2A) The Minister may change the category or subcategory of an access licence in a water source to which this Plan applies if the licence is subject to an adaptive environmental water condition that arises through water savings as referred to in section 8D of the Act.
- (3) At the commencement of this Plan there are no access licences committed to an environmental purpose in accordance with section 8 (1) (c) of the Act.

Part 4 Basic landholder rights

17 Basic landholder rights

This Part is made in accordance with sections 5 (3) and 20 (1) (b) of the Act.

18 Domestic and stock rights

Note—

Water from this water source should not be consumed without prior treatment which is adequate to ensure its safety.

- (1) At the commencement of this Plan the water requirements of holders of domestic and stock rights are estimated to be 1,200 megalitres per year (hereafter **ML/yr**).
- (2) This Plan recognises that the exercise of domestic and stock rights may increase during the term of this Plan.

Note—

Increase in use of domestic and stock rights may occur, as a result of an increase in the number of landholdings fronting this water source or as a result of an increase in the exercise of domestic and stock rights on existing landholdings.

- (3) The water supply system shall be managed so that it would be capable of maintaining supply to those exercising domestic and stock rights through a repeat of the worst period of low inflows to this water source, represented in flow information held by the Department.
- (4) To achieve subclause (3) sufficient volumes of water must be set aside from assured inflows into this water source and reserves held in Burrendong Dam and Windamere Dam water storages.

Note—

The Minister may issue an order under section 328 of the Act to restrict the exercise of domestic and stock basic rights from this water source to protect the environment, for reasons of public health, or to preserve basic landholder rights.

19 Native title rights

Note—

Water from this water source should not be consumed without prior treatment which is adequate to ensure its safety.

- (1) At the commencement of this Plan there are no holders of native title rights in this water source and therefore native title rights are 0 ML/yr.
- (2) This Plan recognises that the exercise of native title rights may increase during the term of this Plan.

Note—

Increase in native title rights may occur, as a result of the granting of native title rights under the Commonwealth *Native Titles Act 1993*.

- (3) The water supply system shall be managed so that it would be capable of maintaining supply to those exercising native title rights through a repeat of the worst period of low inflows to this water source represented in flow information held by the Department.
- (4) To achieve subclause (3) sufficient volumes of water must be set aside from assured inflows into this water source and reserves held in Burrendong Dam and Windamere Dam water storages.

Part 5 Bulk access regime

20 Bulk access regime

- (1) This Part is made in accordance with section 20 (1) (e) of the Act.
- (2) This Plan establishes a bulk access regime for the extraction of water under access licences in this water source having regard to:
 - (a) the environmental water provisions established under Part 3 of this Plan,
 - (b) the requirements for basic landholder rights identified under Part 4 of this Plan, and
 - (c) the requirements for water for extraction under access licences identified under Part 6 of this Plan.
- (3) The bulk access regime established under subclause (2):
 - (a) establishes rules according to which access licences are granted as provided for in Part 7 of this Plan,
 - (b) recognises and is consistent with the limits to the availability of water as provided for in Part 8 of this Plan,
 - (c) establishes rules according to which available water determinations are to be made as provided for in Part 8 of this Plan,
 - (d) recognises the effect of climatic variability on the availability of water as provided for in Part 8 of this Plan,
 - (e) establishes rules with respect to the priorities according to which access licences are to be adjusted as a consequence of any reduction of the availability of water as provided for in Part 8 of this Plan, and
 - (f) establishes rules according to which access licences are managed as provided for

in Part 9 of this Plan.

Part 6 Requirements for water under access licences

21 Requirements for water under access licences

This Part is made in accordance with section 20 (1) (c) of the Act.

Note—

The following clauses in this Part represent the total volumes or unit shares specified in the share components of access licences in this water source. The actual volume of water available at any time will depend on climate, access licence priority and the rules in this Plan.

22 Share component of domestic and stock access licences

It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act, the share components of domestic and stock access licences authorised to extract water from this water source will total approximately 14,265 megalitres per year.

23 Share component of local water utility access licences

It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act, the share components of local water utility access licences authorised to extract water from this water source will total approximately 22,681 megalitres per year.

24 Share component of regulated river (high security) access licences

It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act, the share components of regulated river (high security) access licences authorised to extract water from this water source will total approximately 19,419 unit shares.

25 Share component of regulated river (general security) access licences

It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act, the share components of regulated river (general security) access licences authorised to extract water from this water source will total approximately 632,428 unit shares.

26 Share component of supplementary water access licences

It is estimated that at the time of commencement of Part 2 Chapter 3 of the Act, the share components of supplementary water access licences authorised to extract water from this water source will total 50,000 unit shares.

27 Changes to total share component

This Plan recognises that total requirements for water under access licences in each access licence category may change during the term of this Plan as a result of:

- (a) the granting, surrender, cancellation or non renewal of access licences, or
- (b) variations to local water utility access licences arising from section 66 of the Act.

Part 7 Rules for granting access licences

28 Rules for granting access licences

- (1) This Part is made in accordance with sections 20 (2) (b) and 63 of the Act.
- (2) Access licences may be granted in this water source subject to any embargo on the making of applications for access licences made under Chapter 3 Part 2 Division 7 of the Act.
- (3) The Minister should declare an embargo on the making of applications for access licences in this water source, other than for access licences of the following kinds:
 - (a) local water utility access licences,

Note—

Pursuant to sections 66 (3) and 66 (4) of the Act, the Minister may also vary a local water utility's share component at 5 year intervals, or on application of the local water utility where there is a rapid growth in population.

- (b) domestic and stock (domestic only) access licences,
 - (c) regulated river (high security) (Aboriginal cultural) access licences up to 10 megalitres per year per application, or
 - (d) specific purpose access licences for which applications are provided for under the regulations in accordance with section 61 (1) (a) of the Act.
- (4) In applying for a new access licence, the applicant must establish the purpose and circumstances relating to that access licence, and that the share component sought will be the minimum required to meet that purpose and circumstances.
- (5) Subclause (4) does not apply to an application for a new access licence arising from:
 - (a) section 61 (1) (c), of the Act, where the right has been acquired by auction, tender or other open market process, or
 - (b) an access licence dealing.

Part 8 Limit to the availability of water

Division 1 Long-term extraction limit

29 Limit to the availability of water

This Division is made in accordance with sections 20 (2) (a) of the Act.

30 Volume of the long-term extraction limit

- (1) This Plan establishes a long-term extraction limit for this water source which is the

lesser of:

- (a) the long-term average annual extraction from this water source that would occur with:
 - (i) the water storages, private water management infrastructure and cropping mix that existed in 1999/2000,
 - (ii) the share component existing at the commencement of this Plan,
 - (iii) the maximum crop area and the crop planting behaviour representative of baseline conditions used for assessment of Cap under Schedule F of the Murray Darling Basin Agreement,
 - (iv) the environmental water provisions specified in clauses 15 (2), 15 (3), 15 (6), 15 (7), 15 (8), 15 (12), 15 (16) and 15 (22) of this Plan, and
 - (v) the other water management rules applying at the commencement of this Plan, or
- (b) the long-term average annual extraction from this water source that would occur under the baseline conditions used for assessment of Cap under Schedule F of the Murray Darling Basin Agreement.

Note—

The baseline conditions used for assessment of Cap under Schedule F of the Murray Darling Basin Agreement means the level of water resource development at June 1994.

Note—

An assessment of the long-term average annual extraction that would occur under the conditions specified in subclause (1) (a) has been made using the Macquarie IQQM computer model scenario run number MacWSP06. This indicated a long-term average annual extraction volume of 391,900 megalitres.

Note—

An assessment of the long-term average annual extraction that would result from the baseline conditions in subclause (1) (b) has been made using the Macquarie IQQM computer model Cap scenario run number 86934_87.s6. This indicated a long-term average annual extraction volume of 433,000 megalitres.

Note—

The long-term 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.

- (2) The values referred to in subclauses (1) (a) and (1) (b) shall be adjusted for any access licence dealing under section 71R of the Act.
- (3) For the purposes of establishing the long-term extraction limit and auditing compliance with it, the following shall be included:

- (a) all water extractions by holders of all categories of access licences in accordance with the rules used for accounting of the Cap diversions for Schedule F of the Murray Darling Basin Agreement,
 - (b) domestic and stock rights and native title rights extractions,
 - (c) volumes of water delivered as adaptive environmental water,
 - (d) floodplain harvesting extractions determined to be taken for use in conjunction with extractions from this water source, and
 - (e) assignment of water allocations from the water allocation accounts of access licences in this water source to the water allocation accounts of access licences in other water sources.
- (4) For the purposes of establishing the long-term extraction limit and auditing compliance with it, the following shall not be included:
- (a) replenishment flows made in accordance with this Plan, and
 - (b) diversion of water pursuant to the planned environmental water rules under clause 15.
- (5) For the purposes of establishing the long-term extraction limit and auditing compliance with it, the assessed volume of extractions shall be reduced by the volume of water allocations being assigned from the water allocation accounts of access licences in other water sources to the water allocation accounts of access licences in this water source.

31 Assessment of the long-term extraction limit and current long-term average annual extraction

- (1) Assessment of the long-term extraction limit and the current long-term average annual extraction shall be carried out after the end of each water year, using the hydrologic computer model that, at the time, is approved by the Department for assessing long-term water extraction from this water source.
- (2) To assess the long term extraction limit, the model referred to in subclause (1) shall be set to represent as closely as possible the conditions referred to in clauses 30 (1) (a) and 30 (1) (b).
- (3) To assess the current long-term average annual extraction from this water source, the model referred to in subclause (1) shall be set to represent as closely as possible all water use development, supply system management and other factors affecting the quantity of long-term extraction from this water source, at the time of assessment.
- (4) Any advice provided by a Compliance Assessment Advisory Committee if established under clause 33 should be considered in relation to assessments under subclause (1).

32 Compliance with the long-term extraction limit

- (1) The long-term average annual extraction from this water source shall not be permitted to exceed the long-term extraction limit specified in clause 30 (1).
- (2) Pursuant to subclause (1), the maximum volume that may be made available to a supplementary water access licence, and if necessary to a regulated river (general security) access licence during any water year shall be reduced, if:
 - (a) it has been assessed that the current long-term average annual water extraction from this water source exceeds the long-term extraction limit specified in clause 30 (1) by the lesser of 3%, or half the difference between the volume specified in clause 30 (1) (a) and the volume specified in clause 30 (1) (b), or
 - (b) if it has been assessed that the current long-term average annual extraction from this water source exceeds the volume specified in clause 30 (1) (b), or
 - (c) if assessments in accordance with clause 31 for 3 consecutive water years indicate that the long-term average annual extraction from this water source exceeds the long-term extraction limit.
- (3) The degree of reduction under subclause (2) shall be that assessed necessary to return long term average annual extraction from this water source to the long-term extraction limit.
- (4) The assessment of the degree of reduction required under subclause (2) shall be made using the same computer model used to carry out assessments of extractions compared to the long-term extraction limit under clause 31.
- (5) Any advice provided by a Compliance Assessment Advisory Committee if established under clause 33 should be considered in relation to assessments under subclause (4).
- (6) Any reduction in access under clause 32 shall not be applied to the environmental water allowance for the Macquarie River, established in clause 15.
- (7) The first reduction method used under subclause (2) shall be to reduce the maximum available water determination for supplementary water access licences made under clause 39 (2).
- (8) Once no extractions by supplementary water access licenses are allowed as a result of subclause (7), then the limit to the sum of available water determinations made to regulated river (general security) access licences specified in clause 38 (4), is to be reduced.
- (9) If the maximum total allocation provided by available water determinations in any water year has been reduced as a result of subclause (2) and a subsequent assessment under clause 31 indicates that current long term average annual

extraction is below the long term extraction limit by more than 3%, then previous reductions under subclause (2) may be reversed to the degree that it is assessed necessary to return water use to the levels defined by the long term extraction limit.

- (10) Any reversal of previous reductions under subclause (9) shall:
- (a) first be applied to regulated river (general security) access licences, if action under subclause (8) has occurred, and
 - (b) not exceed the previous reductions made under subclause (2).
- (11) The assessment of the degree to which any previous reductions may be reversed under subclause (9) shall be made using the same computer model used to carry out assessments of usage compared to the long term extraction limit under clause 31.
- (12) Any advice provided by a Compliance Assessment Advisory Committee if established under clause 33 should be considered in relation to assessments under subclause (9).

33 Compliance Assessment Advisory Committee

- (1) The Minister should establish a Compliance Assessment Advisory Committee under section 388 of the Act for the purposes of providing advice regarding assessments under clauses 31 and 32.
- (2) In providing its advice, the Compliance Assessment Advisory Committee should consider possible improvements to:
- (a) assessment of extraction compared to the long-term extraction limit, under clause 31,
 - (b) the computer model referred to in clause 31,
 - (c) the data used in the computer model referred to in clause 31, and
 - (d) the effectiveness of any actions taken in accordance with clauses 32 (2) and 32 (9).
- (13) Membership of the Compliance Assessment Advisory Committee should be for a period of 5 years and should consist of the following:
- (a) a person representing the Department, or its successor,
 - (b) a person representing the State Water arm of the Department, or its successor,
 - (c) a person representing NSW Agriculture, or its successor,
 - (d) no more that 3 persons representing the irrigation industry,
 - (e) a person representing local government,

- (f) a person representing either the National Parks and Wildlife Service, Environmental Protection Authority or NSW Fisheries or their successors,
- (g) a person representing nature conservation interests, and
- (h) other members, as appointed by the Minister.

Division 2 Available water determinations

34 Available water determinations

- (1) This Division is made in accordance with section 20 (2) (b) of the Act.
- (2) All available water determinations in this water source shall be expressed as either:
 - (a) a percentage of the share component for all access licences where share components are specified as megalitres per year, or
 - (b) megalitres per unit share for all regulated river (high security) access licences, regulated river (general security) access licences and supplementary water access licences.

35 Available water determinations for domestic and stock access licences

- (1) The water supply system shall be managed so that available water determinations for domestic and stock access licences of 100% of share components can be maintained through a repeat of the worst period of low inflows to this water source, represented in flow information held by the Department.
- (2) Sufficient volumes of water shall be set aside from assured inflows to this water source and reserves held in Windamere Dam and Burrendong Dam water storages or other water storages to provide for subclause (1).
- (3) The available water determination for domestic and stock access licences made for the commencement of each water year shall be 100% of share components, whenever possible.
- (4) The sum of available water determinations made for domestic and stock access licences in any water year shall not exceed 100% of share components.
- (5) This Plan recognises that the water requirement of domestic and stock access licences may increase during the term of this Plan in accordance with clause 28.
- (6) The volumes of water set aside from assured inflows into this water source and reserves held in Windamere Dam and Burrendong Dam water storages or other water storages shall be adjusted as required over the course of this Plan, if necessary to do so to ensure subclause (1) is satisfied.

36 Available water determinations for local water utility access licences

- (1) The water supply system shall be managed so that available water determinations for local water utility access licences of 100% of share components can be maintained through a repeat of the worst period of low inflows to this water source, represented in flow information held by the Department.
- (2) Sufficient volumes of water shall be set aside from assured inflows into this water source and reserves held in Windamere Dam and Burrendong Dam water storages or other water storages to provide for subclause (1).
- (3) The available water determination for local water utility access licences made for the commencement of each water year shall be 100% of share components, whenever possible.
- (4) The sum of available water determinations made for local water utility access licences in any water year shall not exceed 100% of share components.
- (5) This Plan recognises that the water requirement of local water utility access licences may increase during the term of this Plan in accordance with clause 28 and section 66 of the Act.
- (6) The volumes of water set aside from assured inflows into this water source and reserves held in Windamere Dam and Burrendong Dam water storages or other water storages shall be adjusted as required over the course of this Plan if necessary to do so, to ensure subclause (1) is satisfied.

37 Available water determinations for regulated river (high security) access licences

- (1) The water supply system shall be managed so that available water determinations for regulated river (high security) access licences of 1 megalitre per unit share can be maintained through a repeat of the worst period of low inflows to this water source, represented in flow information held by the Department.
- (2) Sufficient volumes of water shall be set aside from assured inflows into this water source and reserves held in Windamere Dam and Burrendong Dam water storages or other water storages to provide for subclause (1).
- (3) The available water determination for regulated river (high security) access licences made for the commencement of each water year shall be 1 megalitre per unit share, whenever possible.
- (4) If the available water determination made under subclause (3) is less than 1 megalitre per unit share, then further assessments of available water shall be carried out at least monthly and available water determinations made until the sum available water determinations for the water year is 1 megalitre per unit share.

- (5) The sum of available water determinations for regulated river (high security) access licences in any water year shall not exceed 1 megalitre per unit share, except where the available water determination is made under subclause (6).
- (6) When all water held in available water determination sub-accounts of regulated river (high security) and regulated river (general security) access licences has been withdrawn under clause 45 (3), an available water determination of 1 megalitre per unit share, shall be made for all regulated river (high security) access licences.
- (7) Following an available water determination of 1 megalitre per unit share under subclause (6), whenever the water level in Burrendong Dam water storage re-enters the FMZ in that water year, an available water determination of 1 megalitre per unit share, shall be made for all regulated river (high security) access licences.
- (8) Available water determinations made for regulated river (high security) access licences shall take into account:
 - (a) the environmental water provisions established by this Plan,
 - (b) requirements for domestic and stock rights,
 - (c) requirements for native title rights,
 - (d) requirement for domestic and stock access licences,
 - (e) requirements for local water utility access licences,
 - (f) volumes remaining in water allocation accounts from previous available water determinations,
 - (g) water losses associated with the holding and delivery of water to meet the requirements specified in subclauses (a) to (f),
 - (h) an appropriate volume to meet water losses associated with the holding and delivery of water resulting from the available water determination, and
 - (i) any other relevant matters.

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

- (1) An available water determination shall not be made for regulated river (general security) access licences in any water year until the sum of available water determinations for regulated river (high security) access licences for the water year is equivalent to 1 megalitre per unit share.
- (2) An available water determination for regulated river (general security) access licences shall be made for the commencement of each water year if water can be provided to them.

- (3) If the available water determination resulting from subclause (2) is less than the amount specified in subclause (4) assessments of available water shall be made at least monthly and further available water determinations made, if additional water can be provided.
- (4) The sum of available water determinations made for regulated river (general security) access licences in any water year shall not exceed 1 megalitre per unit share, or such lower amount as results from clause 32, except where the available water determination is made under sub-clause (6).
- (5) Subclause (4) shall not apply in water years when all water held in carryover sub-accounts of Macquarie regulated river (general security) access licences has been withdrawn under clause 45 (3).
- (6) When all water held in available water determination sub-accounts of regulated river (high security) and regulated river (general security) access licences has been withdrawn under clause 45 (3), an available water determination of 1 megalitre per unit share or such lower amount as results from clause 32, shall be made for all regulated river (general security) access licences.
- (7) Following an available water determination of 1 megalitre per unit share under subclause (6), whenever the water level in Burrendong Dam water storage re-enters the FMZ in that water year, an available water determination of 1 megalitre per unit share, or such lower amount as results from clause 32 (2), shall be made for all regulated river (general security) access licences.

Note—

The result of subclauses (6) and (7) and the carryover and account rules in clause 45 is that all regulated river (general security) access licence available water determination sub-accounts (established under clause 41) will be re-credited to a volume equivalent to 1 megalitre per unit share when all water held in Macquarie regulated river (general security) access licence carryover sub-accounts has been eliminated. Once this has occurred all available water determination sub-accounts will continue to be re-credited to 1 megalitre per unit share whenever the water level in Burrendong Dam water storage re-enters the FMZ in that water year.

- (8) Available water determinations made for regulated river (general security) access licences shall take into account any relevant operational requirements identified in Part 12 of this Plan and:
 - (a) the environmental water provisions established by this Plan,
 - (b) requirements for domestic and stock rights,
 - (c) requirements for native title rights,
 - (d) requirements for domestic and stock access licences,
 - (e) requirements for local water utility access licences,

- (f) requirements for regulated river (high security) access licences,
- (g) allocations remaining in water accounts from previous available water determinations,
- (h) water losses associated with the holding and delivery of water to meet the requirements specified in subclauses (a) to (g),
- (i) an appropriate volume to meet water losses associated with the holding and delivery of water resulting from the available water determination, and
- (j) any other relevant matters.

39 Available water determinations for supplementary water access licences

- (1) An available water determination for supplementary water access licences shall be made at the commencement of each water year and shall define the number of megalitres per unit share that can be taken in that year.
- (2) The available water determination made under subclause (1) shall not exceed 1 megalitre per unit share or such lower amount as results from the operation of clause 32 (2).

Part 9 Rules for managing access licences

Division 1 General

40 Rules for managing access licences

This Part is made in accordance with sections 20 (2) (b), 20 (2) (e), 21 (a), 21 (c) and 85 (5) of the Act having regard to:

- (a) the environmental water rules established in Part 3 of this Plan,
- (b) requirements for water to satisfy basic landholder rights identified in Part 4 of this Plan, and
- (c) requirements for water for extraction under access licences in Part 6 of this Plan.

Division 2 Water allocation account management

41 Water allocation accounts

- (1) In accordance with section 85 of the Act, a water allocation account shall be established for each access licence in this water source.
- (2) The water allocation account for regulated river (high security) and regulated river (general security) access licences established under subclause (1) shall consist of two sub-accounts, being:

- (a) an available water determination sub-account (hereafter **AWD sub-account**), and
- (b) a carryover sub-account.

Note—

The only way a regulated river (high security) access licence can obtain carryover water is via an assignment of regulated river (general security) carryover water under section 71T of the Act.

42 Accrual of water allocations

- (1) Water allocations for domestic and stock access licences, local water utility access licences and supplementary water access licences shall be accrued into each access licence water allocation account in accordance with the available water determinations made.
- (2) Water allocations for regulated river (high security) and regulated river (general security) access licences shall be accrued into each access licence AWD sub-account in accordance with the available water determinations made.

43 Volume taken under access licences

Note—

Section 341 of the Act makes it unlawful to take a volume of water under an access licence that exceeds the volume of water allocation which is credited to the access licence at the time of water extraction.

- (1) The water allocation taken under domestic and stock access licences, local water utility access licences, regulated river (high security) access licences and regulated river (general security) access licences shall be assessed as:
 - (a) the volume of water extracted by the approved water supply works nominated by the access licence, or
 - (b) the greater of:
 - (i) the volume of water extracted by the approved water supply works nominated by the access licence, or
 - (ii) the volume of water ordered for extraction by the approved water supply works nominated by the access licence,

where the Minister has applied such a discretionary condition to the access licence.

- (2) The Minister should only apply a discretionary condition in relation to subclause (1) (b) where this has been provided for in a compliance management strategy, approved by the Minister.

Note—

It is intended that the discretionary condition referred to above should only be applied where water orders have been exceeding the volume of water being taken under a licence and this cannot be explained by

rainfall or other unavoidable factors.

- (3) The water allocation taken under regulated river (high security) or regulated river (general security) access licences shall be debited from the carryover sub-account until the volume in that sub-account reaches zero, and then from the AWD sub-account.
- (4) The water allocation taken under supplementary water access licences will be the volume of water extracted, in accordance with announcements made and access licence conditions, by the approved water supply works nominated by the access licence.

44 Accounting of assigned allocations and return flows

- (1) Water allocations assigned from a water allocation account under Chapter 3 Part 2 Division 4 of the Act shall be debited from that water allocation account, and water allocations assigned to a water allocation account under Chapter 3 Part 2 Division 4 of the Act shall be credited to that water allocation account.
- (2) Water allocations assigned from a regulated river (high security) or regulated river (general security) access licence carryover sub-account shall be credited to the receiving regulated river (high security) or regulated river (general security) access licence carryover sub-account.
- (3) Water allocations assigned from a regulated river (high security) or regulated river (general security) access licence AWD sub-account shall be credited to the receiving regulated river (high security) or regulated river (general security) access licence AWD sub-account.
- (4) Water allocations may also be re-credited to access licence water allocation accounts under section 76 of the Act, in accordance with water return flow rules established under section 75 of the Act.

45 Carrying over of water allocation credits, water allocation sub-account limits and withdrawal of water allocations that have been carried over

- (1) Water allocation remaining in the water allocation accounts of domestic and stock access licences, local water utility access licences, regulated river (high security) access licences and supplementary water access licences cannot be carried over from one water year to the next.
- (2) The following rules shall apply to the carrying over of water allocations in water allocation accounts of regulated river (general security) access licences:
 - (a) the maximum volume that may be carried over in the water allocation account of regulated river (general security) access licences with extraction components that permit the taking of water upstream of the upper limit of Burrendong Dam water

storage (hereafter ***Cudgegong regulated river (general security) access licences***), from one water year to the next shall be the greater of:

- (i) 1 megalitre multiplied by the number of unit shares specified in the share component, or
 - (ii) the volume specified in Schedule 3 for access licences arising from the Water Act licences listed on that Schedule, where no dealing has taken place which in the opinion of the Minister will result 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 at the commencement of this Plan, or
 - (iii) the volume specified in Schedule 3 for access licences arising from the Water Act licences listed on that Schedule minus the proportion of the share component of the access licence affected by a dealing which in the opinion of the Minister will result 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 at the commencement of this Plan,
- (b) the maximum volume that may be carried over in the water allocation account of a Macquarie regulated river (general security) access licence, from one water year to the next shall be equal to 1 megalitre multiplied by the number of unit shares specified in the share component, and
- (c) water carried over from a water allocation account under subclause (2) shall be held in the carryover sub-account.
- (3) The following rules shall apply to water held in water allocation accounts of regulated river (high security) and regulated river (general security) access licences:
- (a) evaporation reductions shall apply to water in the carryover sub-accounts of regulated river (high security) and regulated river (general security) access licences based on the net evaporation on the extra surface area in Windamere Dam and Burrendong Dam water storages generated by the carried-over water,
 - (b) water allocations shall be withdrawn, under section 85 (5) of the Act, from the carryover sub-accounts of Cudgegong regulated river (high security) and regulated river (general security) access licences at the end of each month, when Windamere Dam water storage is spilling and the water level in Burrendong Dam water storage was in the FMZ for all or part of the month,
 - (c) the total volume of water allocation withdrawn under subclause (3) (b) shall be the lesser of:
 - (i) the total volume of water remaining in carryover sub-accounts of Cudgegong regulated river (high security) and regulated river (general security) access licences, or

- (ii) the total volume of water spilt from Windamere Dam water storage when the water level in Burrendong Dam water storage is in the FMZ,
- (d) pursuant to subclause (3) (b) withdrawals from the individual carryover sub-accounts of each Cudgegong regulated river high security and regulated river (general security) access licence shall be determined using the formula,
 $(TR/TC) \times IC$
, where:
- TR** is the total volume of reduction calculated in subclause (3) (c),
- TC** is the total volume remaining in carryover sub-accounts of Cudgegong regulated river (high security) and regulated river (general security) access licences, and
- IC** is the individual volume remaining in carryover sub-accounts of Cudgegong regulated river (high security) and regulated river (general security) access licences,
- (e) water allocations will be withdrawn, under section 85 (5) of the Act, from the carryover sub-accounts of Macquarie regulated river (high security) and regulated river (general security) access licences at the end of each month, when the water level in Burrendong Dam water storage is in the FMZ for all or part of that month,
- (f) for the purposes of subclause (e) water assigned from the carryover sub-account of a Macquarie access licence to a Cudgegong access licence shall be treated as if it were in a carryover sub-account of a Macquarie access licence,
- (g) the total volume of water allocation withdrawn under subclause (3) (e) shall be the lesser of:
- (i) the total volume of water remaining in carryover sub-accounts of Macquarie regulated river (high security) and regulated river (general security) access licences, or
- (ii) the result of the 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 volume remaining in carryover sub-accounts of Macquarie regulated river (high security) and regulated river (general security) access licences, and
- EC** is the remaining volume of water carried over in the environmental water allowance from the previous water year, and

- (h) pursuant to subclause (3) (e) withdrawals from the individual carryover sub-accounts of each Macquarie regulated river (high security) and regulated river (general security) access licence shall be determined using the formula, $\frac{TR}{TC} \times IC$, where:

TR is the total volume of reduction calculated in subclause (3) (g),

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

IC is the individual volume remaining in carryover sub-accounts of Macquarie regulated river (high security) and regulated river (general security) access licences,

- (i) all water allocations shall be withdrawn, under section 85 (5) of the Act, from the AWD sub-accounts of Cudgegong and Macquarie regulated river (high security) and regulated river (general security) access licences, when all water held in carryover sub-accounts of Macquarie regulated river (high security) and regulated river (general security) access licences has been withdrawn under subclause 3.

Note—

The result of subclauses (2) and (3) and the available water determination rules in clauses 37 and 38 is that all regulated river (high security) and regulated river (general security) access licence AWD sub-accounts will be recredited to a volume equivalent to 1 megalitre multiplied by the number of unit shares specified in share components when all water held in Macquarie regulated river (high security) and regulated river (general security) access licence carryover sub-accounts has been eliminated. Once this has occurred, all AWD sub-accounts will continue to be recredited to a volume equivalent to 1 megalitre multiplied by the number of unit shares specified in share components whenever the water level in Burrendong water storage re-enters the FMZ in that water year.

Division 3 Extraction conditions

46 General priority of extractions

Where extraction components of access licences do not specify the rate as a share of supply capability or a volume per unit of time, the following priority of extractions shall apply whenever supply capability is insufficient to satisfy all orders for water in any section of this water source:

- (a) water shall be supplied to domestic and stock access licences, local water utility access licences and regulated river (high security) access licences that have placed an order for water, then to regulated river (general security) access licences, and
- (b) then any remaining supply capability shall be shared between regulated river (general security) access licences that have placed an order for water, in proportion to the share components specified on the access licences.

47 Numerical specification of extraction components

- (1) At any time during the term of this Plan, the Minister may, in accordance with the mandatory conditions on access licences, amend the extraction components of access licences in this water source, or in any section of this water source.
- (2) Action under subclause (1) should be undertaken as follows:
 - (a) the specified rate in the extraction component of each access licence should be a volume per unit of time or a share of supply capability,
 - (b) the specified rate in the extraction component of each domestic and stock, local water utility and regulated river (high security) access licence should be sufficient to satisfy the maximum daily water needs, and
 - (c) after satisfying subclause (2) (b), the remaining supply capability should be distributed among regulated river (general security) access licences in proportion to the share component of each access licence.
- (3) When action under subclause (1) is undertaken the Minister may also, in accordance with mandatory conditions on access licences, amend the extraction components of access licences in other sections of this water source to exclude extractions in sections of this water source affected by the action under subclause (1).

48 Extraction of water under supplementary water access licences

- (1) The taking of water under supplementary water access licences shall only be permitted in accordance with announcements made by the Minister.
- (2) The maximum volume that may be taken under supplementary water access licences during each period of time to which an announcement applies may be expressed as a number of megalitres per unit share plus any water allocations traded into the account and minus any water allocations traded out of the account.
- (3) Taking of water under supplementary water access licences shall be managed, as far as possible, to evenly share access opportunity amongst all supplementary water access licences.
- (4) Taking of water under supplementary water access licences shall only be permitted when flows, including any releases from Burrendong Dam FMZ, are in excess of those required:
 - (a) under the environmental water provisions specified in Part 3 of this Plan,
 - (b) to supply domestic and stock rights and native title rights,
 - (c) to supply higher priority access licence requirements, and
 - (d) to provide replenishment flows as specified in clause 59.

- (5) Extraction of water by supplementary water access licences with extraction components that permit the taking of water downstream of the upper limit of Burrendong Dam water storage shall only be permitted when flows in the river will produce a flow which exceeds 5,000 ML/day at Warren above the requirements specified in subclause (4).
- (6) Extraction of water by supplementary water access licences with extraction components that permit the taking of water upstream of Burrendong Dam water storage in the Cudgegong River shall only be permitted when Burrendong Dam is spilling, flows in the Macquarie River are consistent with subclause (4) and (5) and flows in the Cudgegong River are in excess of those required:
 - (a) under the environmental water provisions specified in Part 3 of this Plan,
 - (b) to supply domestic and stock rights and native title rights upstream of Burrendong Dam water storage, and
 - (c) to supply higher priority access licence requirements upstream of Burrendong Dam water storage.
- (7) At the 5 year review of this Plan, the Minister may, under section 45 (1) (b) of the Act vary subclause (5) 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.
- (8) Any variation to subclause (5) due to subclause (7) that increases the threshold at specified times shall 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.
- (9) The primary factors for demonstrating progress as referred to in subclause (7) 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.

Note—

Clause 48 (7) reviews the progress made in removing identified impediments that limit the management of regulated flow to enhance native fish breeding and dispersal opportunities. If the identified impediments have not been nullified, clause 48 (7) makes available the opportunity to alter the supplementary flow threshold to protect flows that promote the breeding success of the native fish.

- (10) The Minister should seek advice from the Environmental Flows Reference Group if established under clause 15 (23) regarding whether or not progress, as described in subclause (9) can be demonstrated, and if so, the appropriate changes to the flow threshold specified in subclause (5) and the time at which they will apply.
- (11) In any water year, the holder of a supplementary water access licence may not take more water than that specified in an available water determination made under clause 39.

Part 10 Access licence dealing rules

49 Access licence dealing rules

- (1) This Part is made in accordance with section 20 (1) (d) of the Act and with the Minister's access licence dealing principles gazetted on 27 December 2002 under section 71Z of the Act.
- (2) Applications for access licence dealings may be granted subject to the Minister's access licence dealing principles gazetted from time to time under section 71Z of the Act and the rules in this Part.

Note—

Access licence dealings include changes of licence ownership, conversions of licence category, movement of share component from one access licence to another access licence, movement of water allocation from one access licence allocation account to another access licence allocation account and changes in the location of water supply that can take water available under the licence. These dealings must comply with the provisions of the Act, the Minister's access licence dealing principles, and the rules in this Part.

Note—

Where there is an inconsistency between access licence dealing rules established in this Plan and Minister's access licence dealing principles gazetted subsequent to the commencement of this Plan, section 71Z of the Act provides for the access licence dealing rules in this Plan to prevail.

50 Rules relating to constraints within this water source

- (1) This clause relates to dealings under sections 71O, 71Q and 71W of the Act and to dealings in respect of water allocation assignments within this water source under section 71T of the Act.
- (2) Any dealing shall be prohibited if it would result in an increase in $A + B$ in the section of Crooked Creek that is within this water source, where:
 - (a) **A** is the total number of unit shares specified in access licences nominating water supply works in that section at that time, and
 - (b) **B** is the total number of megalitres specified in share components of access licences nominating water supply works in that section at that time.
- (3) Any dealing shall be prohibited if it would result in an increase in $A + B$ in the rivers in 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 are within this water source, where:
 - (a) **A** is the total number of unit shares specified in access licences nominating water supply works in those rivers at that time, and

- (b) **B** is the total number of megalitres specified in share components of access licences nominating water supply works in those rivers at that time.
- (4) Dealings shall be prohibited that assign water to an allocation account of an access licence nominating water supply works in either:
- (a) the section of Crooked Creek that is within this water source, or
- (b) rivers in 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 are within this water source.
- (5) Until extraction components for access licences in the section of this water source from Windamere Dam water storage to Burrendong Dam water storage have been amended under clause 47 any dealing that would result in $A + B$ exceeding 40,000 megalitres shall be prohibited, where:
- (a) **A** is the total number of unit shares in share components of access licences, excluding supplementary water access licences, nominating water supply works in that section multiplied by 1 megalitre, and
- (b) **B** is the total number of megalitres in share components of access licences nominating water supply works in that section.
- (6) Until extraction components for access licences in the Gunningbar Creek above Fairview Dam section of this water source have been amended under clause 47, any dealing that would result in $A + B$ exceeding 36,000 megalitres shall be prohibited, where:
- (a) **A** is the total number of unit shares in share components of access licences, excluding supplementary water access licences, nominating water supply works in that section multiplied by 1 megalitre, and
- (b) **B** is the total number of megalitres in share components of access licences nominating water supply works in that section.

Note—

The 36,000 megalitre volume in subclause (5) includes licences that draw from the Albert Priest Channel as supply to that channel is via Gunningbar Creek.

- (7) Until extraction components for access licences in the Gunningbar Creek below Fairview Dam section of this water source have been amended under clause 47, any dealing that would result in $A + B$ exceeding 1,700 megalitres shall be prohibited, where:
- (a) **A** is the total number of unit shares in share components of access licences, excluding supplementary water access licences, nominating water supply works in

that section multiplied by 1 megalitre, and

- (b) **B** is the total number of megalitres in share components of access licences nominating water supply works in that section.
- (8) Until extraction components for access licences in Duck Creek have been amended under clause 47, any dealing that would result in $A + B$ exceeding 5,000 megalitres shall be prohibited, where:
- (a) **A** is the total number of unit shares in share components of access licences, excluding supplementary water access licences, nominating water supply works in Duck Creek multiplied by 1 megalitre, and
 - (b) **B** is the total number of megalitres in share components of access licences nominating water supply works in Duck Creek.
- (9) Until extraction components for access licences in Bulgeraga Creek have been amended under clause 47, any dealing that would result in $A + B$ exceeding 33,000 megalitres shall be prohibited, where:
- (a) **A** is the total number of unit shares in share components of access licences, excluding supplementary water access licences, nominating water supply works in Bulgeraga Creek multiplied by 1 megalitre, and
 - (b) **B** is the total number of megalitres in share components of access licences nominating water supply works in Bulgeraga Creek.
- (10) Any dealing that would result in an increase in the total share component of regulated river (high security) access licence nominating water supply works upstream of Burrendong Dam water storage shall be prohibited if it is assessed by the Minister that the assignment would significantly impact on the reliability of supply to regulated river (general security) access licences in that section of this water source.
- (11) Assignment of water allocations from a supplementary water access licence water allocation account to an access licence of any other access licence category shall be prohibited.
- (12) Assignment of water allocations to a supplementary water access licence water allocation account from an access licence of any other access licence category shall be prohibited.
- (13) On application of the access licence holder, the Minister may cancel a domestic and stock access licence and issue a domestic and stock (domestic only) access licence and a domestic and stock access licence subject to:
- (a) the sum of the share component volumes of the two new access licences being equal to the share component volume of the cancelled access licence, and

(b) the share component volume of the new domestic and stock (domestic only) access licence being able to meet the needs of domestic consumption as defined in section 52 of the Act.

(14) On application of the access licence holder, the Minister may cancel a domestic and stock (stock only) access licence and issue a regulated river (high security) access licence. The number of unit shares in the regulated river (high security) access licence share component shall be equal to the number of megalitres per year in the share component of the cancelled domestic and stock (stock only) access licence.

51 Rules for change of water source

(1) This clause relates to dealings under section 71R of the Act.

Note—

Section 71R dealings are the mechanism by which access licences can move from one water source to another. Once the change in water source has been effected, if permitted, the new licence will have to nominate specified works (by a dealing under section 71W of the Act) in the receiving water source before extraction can commence.

(2) Access licences in other water sources outside of this water source may be issued following cancellation of access licences in this water source, only if:

(a) the access licence dealing rules in the receiving water source permit such a dealing, and

(b) a conversion factor, established by the Minister and published in an Order made under section 71Z of the Act that protects environmental water, domestic and stock rights, native title rights and the reliability of supply to all other access licences in this water source, has been applied.

(3) Access licences in this water source may be issued following cancellation of access licences in other water sources, only if:

(a) the access licence dealing rules in the other water source permit such a dealing, and

(b) a conversion factor, established by the Minister and published in an Order made under section 71Z of the Act that protects environmental water, domestic and stock rights, native title rights and the reliability of supply to all other access licences in this water source, has been applied.

52 Rules for conversion of access licence category

(1) This clause relates to dealings under section 710 of the Act.

(2) Conversion of an access licence of one category to an access licence of another category shall be prohibited except as provided for under this clause.

- (3) On application of the access licence holder, the Minister may cancel a regulated river (general security) access licence, and issue a regulated river (high security) access licence, subject to:
- (a) the application of a conversion factor established by the Minister and published in an Order made under section 71Z of the Act that protects environmental water, domestic and stock rights, native title rights and the reliability of supply to all other access licences in this water source, and

Note—

At the commencement of this Plan a separate conversion factor will be applied to each 10,000 megalitres of regulated river (general security) access licence that converts to regulated river (high security) access licence.

- (b) the number of megalitres of water in the regulated river (general security) access licence water allocation account being equal to or greater than the number of unit shares in its share component.

Note—

The amount of water in the regulated river (general security) access licence water allocation account which is in excess of the number of unit shares in the share component of the new regulated river (high security) access licence will not be credited to the new regulated river (high security) access licence water allocation account.

- (4) On application of the access licence holder, the Minister may cancel a regulated river (high security) access licence, and issue a regulated river (general security) access licence, subject to:
- (a) the application of a conversion factor equal to one divided by the conversion factor established in subclause (3), and
 - (b) the total number of unit shares in regulated river (general security) access licence share components not increasing above the total number of unit shares in regulated river (general security) access licence share components at the time of commencement of Part 2 of Chapter 3 of the Act.

Note—

This subclause would allow conversion of a regulated river (high security) access licence to a regulated river (general security) access licence only if there had been a corresponding or larger amount of regulated river (general security) access licence share component converted to regulated river (high security) access licence.

53 Rules for interstate access licence transfer

- (1) This clause relates to dealings under section 71U of the Act.
- (2) Access licences equivalents in other States may not be transferred into this water source.

- (3) Access licences in this water source may not be transferred into another State.

54 Rules for water allocation assignment between water sources

- (1) This clause relates to dealings under section 71T of the Act in relation to water allocation assignments between water sources.
- (2) Water allocations from the water allocation account of an access licence in this water source may not be assigned to the water allocation account of an access licence in any other water source.
- (3) Water allocation from the water allocation account of an access licence in any other water source shall not be assigned to the water allocation account of an access licence in this water source.

55 Rules for interstate assignment of water allocations

- (1) This clause relates to dealings under section 71V of the Act.
- (2) Water allocation equivalents from other States shall not be assigned to the water allocation accounts of access licences in this water source.
- (3) Water allocations from the water allocation accounts of access licences in this water source shall not be assigned to water allocation equivalents in other States.

Part 11 Mandatory conditions

56 Mandatory conditions on access licences

- (1) This Part is made in accordance with sections 17 (c) and 20 (2) (e) of the Act.

Note—

The Minister may impose discretionary conditions at any time on an access licence in accordance with section 66 (1) (b) of the Act.

- (2) All access licences in this water source shall have mandatory conditions to give effect to the following:
- (a) the specification of the share component of the access licence,
 - (b) the specification of the extraction component of the access licence including whether extraction is permitted upstream or downstream of Burrendong Dam water storage,
 - (c) the requirement that extraction under the access licence will be subject to the available water determinations,
 - (d) the requirement that extraction under the access licence will be subject to the water allocation account management rules established in Part 9 of this Plan,

- (e) the requirement that the taking of water in accordance with the access licence may only occur if the resulting debit to the access licence account will not exceed the volume of water allocation remaining in the access licence account,
 - (f) the requirement that water may only be taken by water supply works nominated on the access licence, and
 - (g) any other conditions required to implement the provisions of this Plan.
- (3) All access licences shall have a mandatory condition that facilitates the provisions of clause 47 of this Plan.
 - (4) All domestic and stock access licences, local water utility access licences, regulated river (high security) access licences and regulated river (general security) access licences shall have mandatory conditions that only allow the taking of water if it has been ordered in accordance with procedures established by the Minister.
 - (5) All domestic and stock access licences, except domestic and stock (domestic only) access licences, shall have mandatory conditions that only allow the taking of water for the purpose of domestic consumption or stock watering as defined in section 52 of the Act.
 - (6) All domestic and stock (domestic only) access licences shall have mandatory conditions that only allow the taking of water for the purpose of domestic consumption as defined in section 52 of the Act.
 - (7) All local water utility access licences shall have mandatory conditions that only allow the taking of water for the exercise of a water supply function of the local water utility, or for other such purpose provided for under the Act.
 - (8) All regulated river (high security) (Aboriginal cultural) access licences shall have mandatory conditions that only allow the taking of water by Aboriginal persons or communities for personal, domestic and communal purposes including the purposes of drinking, food preparation, washing, manufacturing traditional artefacts, watering domestic gardens, cultural teaching, hunting, fishing and gathering, and for recreational, cultural and ceremonial purposes.

57 Mandatory conditions on water supply works approvals

- (1) All approvals for water supply works in this water source shall have mandatory conditions to give effect to the following:
 - (a) flow measurement devices shall be installed and maintained on all works used for extraction of water under an access licence and shall be of a type and shall be maintained in a manner, which is acceptable to the Minister,
 - (b) water extraction, property water management infrastructure and cropping details

shall be provided on request, in the form and in accordance with procedures established by the Minister, and

- (c) the taking of water may only occur in accordance with the conditions applying to the access licence from whose water allocation account the taking of water will be debited.
- (2) Subclause (1) does not apply to approvals for water supply works held by State Water provided such an approval is not nominated by an access licence.
- (3) All approvals for water supply works in this water source shall have any other conditions required to implement the provisions of this Plan.

Part 12 System operation rules

58 System operation rules

This Part is made in accordance with section 21 (e) of the Act.

59 Replenishment flows

- (1) The following replenishment flows shall be made when required and when water is available from uncontrolled flows:
 - (a) up to 10,000 ML/yr to the Gum Cowal/Terrigal system,
 - (b) up 4,000 ML/yr to Crooked Creek below “Mumblebone”,
 - (c) up to 1,000 ML/yr to the Bogan River, from Nyngan to the Gunningbar Creek confluence,
 - (d) up to 1,000 ML/yr to Beleringar Creek, downstream of Albert Priest Canal,
 - (e) up to 1,500 ML/yr to Reddenville Break, and
 - (f) up to 5,000 ML/yr to Beleringar Creek.

Note—

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

- (2) The following replenishment flows may be made available when required:
 - (a) up to 15,000 ML/yr to Marra Creek, from its offtake, downstream to its junction with the Barwon River, and
 - (b) up to 15,000 ML/yr to the lower Bogan River, downstream of its junction with Gunningbar Creek to its junction with the Barwon River.

- (3) Sufficient volumes of water shall be set aside from assured inflows to this water source and reserves held in Windamere Dam and Burrendong Dam water storages to provide for subclause (2).
- (4) A replenishment flow of up to 50 ML/day shall be provided below the Macquarie Marshes, from “Miltara” to the Barwon River, at least twice each water year.
- (5) Whenever possible, inflows entering the water source from tributary streams downstream of Burrendong Dam shall be used to provide replenishment flows required under subclause (2).

Note—

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.

Note—

In most years, flows through the Macquarie Marshes will provide a continuous water supply at “Miltara”.

60 Water delivery and channel capacity constraints

Where necessary for determining extraction rights, managing water releases or providing water under access licences, the maximum water delivery or operating channel capacity shall be determined and specified in accordance with procedures established by the Minister, taking into account:

- (a) 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) capacities of water management structures controlled by the Department, and
- (d) the SWMOP targets.

61 Rates of change to storage releases

Rules regarding rates of change in releases from storages should be specified in accordance with procedures established by the Minister, and take into account:

- (a) relevant environmental considerations,
- (b) damage to river banks, and
- (c) public safety.

62 Bulk transfer rules between storages

- (1) High volume transfer releases shall be provided from Windamere Dam in sufficient

time to prevent the storage volume of Burrendong Dam becoming insufficient to supply downstream basic landholder rights, access licence water allocations, the environmental water allowance for the Macquarie River and to meet any water losses associated with the delivery of that water.

- (2) During the first year of this Plan the Minister shall develop rules for determining the pattern and volume of releases under subclause (1).
- (3) Rules under subclause (2) shall consider the following:
 - (a) determination of volumes to be transferred,
 - (b) seasonality of flows,
 - (c) total duration of events,
 - (d) maximum discharge rates and their duration,
 - (e) rates of rise and fall in flow heights,
 - (f) access and agronomic requirements of land holders,
 - (g) ecological and geomorphological benefits,
 - (h) likely effects on native species and their habitat, particularly platypus and threatened aquatic species, and
 - (i) any other matters that may impact on the riverine environment or community.
- (4) Prior to finalising the rules under subclause (2), advice should be sought from appropriate representatives from the local community along the Cudgegong River below Windamere Dam, and such advice should be in regard to the factors specified in subclause (3).
- (5) Release dates and rates under subclause (1) shall be publicly notified.

63 Dam operation during floods and spills

- (1) The operation of Windamere Dam and Burrendong Dam during times of flood shall be undertaken in a manner that maintains the safety of dam infrastructure.
- (2) Providing it is consistent with subclause (1), the operation of Windamere Dam and Burrendong Dam should:
 - (a) leave the storage at full supply level at the completion of the flood event, subject to airspace requirements,
 - (b) ensure the general rate of increase of outflow does not exceed the rate of increase of inflow during floods, and

- (c) minimise downstream flood damage.

64 Airspace operation rules

- (1) Airspace operation of Burrendong Dam shall be undertaken in accordance with the following rules:
 - (a) when not in flood operation, releases from Burrendong Dam FMZ should be made to provide beneficial flooding for the regulated Macquarie River, the Macquarie Marshes, Marebone floodplain and effluent creeks. The sharing and distribution of FMZ releases should be to:
 - (i) the Macquarie River and Macquarie Marshes when flows at Warren are less than 4,000 ML/day,
 - (ii) the Macquarie River and Macquarie Marshes, and Marebone floodplain, then Crooked, Gunningbar and Duck Creeks when flows at Warren are between 4,000 and 12,000 ML/day, and
 - (iii) the Macquarie River and Macquarie Marshes, and Warren floodplain, then Crooked, Gunningbar, Duck, Ewenmar and Beleringar Creeks when flows at Warren are greater than 12,000 ML/day,
 - (b) the FMZ operation shall where possible, place emphasis on making controlled releases during the flood event so that the storage does not increase.

Note—

This attempts to balance the benefits of providing airspace in Burrendong Dam to mitigate large inflow events with the damages of controlled releases that can extend the duration of flooding on the Warren floodplains.

- (c) releases from the FMZ will vary according to the storage level, rate of inflow and the need to maintain airspace to capture likely future storage inflows, and therefore the storage shall be divided into 3 bays,
- (d) each bay shall have different maximum rates of releases, and these releases which are above water orders, shall be equal to the inflow up to the maximum combined release, plus downstream tributary flow, and these releases shall be in accordance with the following:
 - (i) bay 1—Burrendong Dam water storage between 100% and 120%, and releases to a maximum of 5,000 ML/day at Warren, which equates to approximately 5.5 metres at Warren town,
 - (ii) bay 2—Burrendong Dam water storage between 120% and 130%, and releases to a maximum of 12,000 ML/day at Gin Gin, which equates to approximately 6.5 metres at Warren town, and
 - (iii) bay 3—Burrendong Dam water storage between 130% and 142%, and

releases to a maximum of 18,000 ML/day at Gin Gin, which equates to the minor flood level of 7.5 metres at Warren town,

- (e) release rates lower or higher than those indicated in subclause (1) (d) for each FMZ bay may be made if:
 - (i) the release rate specified in subclause (1) (d) will cause prolonged inundation of the floodplain and result in economic losses to agriculture,
 - (ii) the release rates specified in subclause (1) (d) will restrict landholder access to their properties for extended periods, or
 - (iii) the environment and community would benefit from lower or higher rates of release, and
- (f) releases from the FMZ can be used to provide access to water under regulated river (high security) access licences, regulated river (general security) access licences and supplementary water access licences, subject to clause 48.

Part 13 Monitoring and reporting

65 Monitoring

The monitoring of the performance indicators specified in clause 12 shall be undertaken by the Minister.

Note—

Review and Audit of this Plan

In accordance with section 43A of the Act, the Natural Resources Commission must undertake a review of this Plan prior to any decision to extend its term or to make a new plan. The review must consider the extent to which the Plan's water sharing provisions have contributed to achieving or not achieving the State priorities for local land services relevant to natural resource management (as referred to in the [Local Land Services Act 2013](#)).

When undertaking this review the Natural Resources Commission is required to call for public submissions. The Commission will take into consideration any submission received as well as any other relevant State-wide or regional government policies or agreements that apply to the Local Land Services region.

In accordance with section 44 of the Act, this Plan will be audited at intervals of no more than five years, for the purpose of ascertaining whether its provisions are being given effect to. This audit is to be carried out by an audit panel appointed by the Minister in consultation with the water management committee, where one exists.

Note—

Implementation Program

In accordance with section 51 of the Act, the Minister may establish an Implementation Program that sets out the means by which the provisions of this Plan are to be achieved.

It is proposed that the Minister establish an Implementation Program for this Plan. Pursuant to section 51 (5) of the Act, the Implementation Program is to be reviewed annually by the Minister to determine whether it is effective in implementing this Plan.

The results of the review of the Implementation Program are included in the annual report for the Department of Land and Water Conservation.

Part 14 Amendment of this Plan

66 Changes to this water source

The Minister, under section 45 (1) (b) of the Act and by notice published in the Gazette, may add a river or section of river to this water source or remove a river or section of river from this water source providing that:

- (a) any river or section of river that is added has been declared to be a regulated river by an order published in the Gazette, and
- (b) the Minister is satisfied that there will be no impact on environmental water, or on the available water to any access licences in this water source.

67 Changes to planned environmental water rules

- (1) The planned environmental water rules in this Plan can be amended in accordance with the following clauses:
 - (a) clause 15 (4) in respect to planned environmental water releases,
 - (b) clause 15 (13) in respect to the distribution of water between sub-allowance 1 and 2 of the environmental water allowance,
 - (c) clause 15 (17) in respect to the dates specified for release of sub-allowance 1 of the environmental water allowance, or
 - (d) clause 15 (19) in respect to the release triggers and maximum flow targets for release of sub-allowance 1 of the environmental water allowance.
- (2) The Minister may also under section 45 (1) (b) of the Act and by Order published in the Gazette, amend clause 15 (13) prior to the commencement of the sixth year of this Plan and following completion of a review of the minimum sharing proportions for the two sub-allowances of the environmental water allowance, against the environmental objectives of this Plan and those identified in subclause (3).
- (3) The review under subclause (2) should consider and make recommendations on changes to clause 15 (13), regarding:
 - (a) the different minimum proportion, between 0% and 100%, that each sub-allowance must receive, or
 - (b) a maximum proportion, between 0% and 100%, that each sub-allowance must receive.
- (4) In undertaking the review under subclause (2) the Minister should:

- (a) consult with the NSW Environment Protection Authority, NSW Fisheries and NSW National Parks and Wildlife Service, and
- (b) prepare a report documenting:
 - (i) the methodology adopted in assessing environmental outcomes from the release of water under clause 15 of this Plan,
 - (ii) the environmental benefits of releases from sub-allowance 1 (translucent) made since the commencement of this Plan,
 - (iii) the environmental benefits of releases from sub-allowance 2 (active) made since the commencement of this Plan,
 - (iv) implications for the environmental benefits delivered during the first 5 years of this Plan, resulting from proposed changes to clause 15 (13), and
 - (v) implications for long-term average annual extractions and the long-term average volume of water released from the environmental water allowance, resulting from proposed changes to clause 15 (13).
- (5) The review under subclause (2) is to be undertaken and completed within the fifth year of this Plan.
- (6) Before making an Order under subclause (2) the Minister should seek the advice of the Environmental Flow Reference Group, if established under clause 15 (23), on any changes proposed in the review under subclause (2).
- (7) In providing advice to the Minister under subclause (6) the Environmental Flow Reference Group should take into consideration the environmental benefits provided by the use of the environmental water allowance since the commencement of this Plan.
- (8) Before making an Order under subclause (2), the Minister should:
 - (a) be satisfied that the amendment to clause 15 (13) will:
 - (i) result in an improvement in the environmental benefits of this Plan, and
 - (ii) not result in a change in the long-term average volume of water released from the environmental water allowance, and
 - (b) consult with the Minister for the Environment to the making of the Order.

68 Other amendment of this Plan

This Plan can be amended in accordance with clause 48 (7) of this Plan in respect to the minimum flow requirements for extraction of water under supplementary water access licences.

69 Amendment relating to planned environmental water

- (1) The Minister may amend this Plan to provide for the recovery of planned environmental water as follows:
 - (a) the recovery is only to apply where the Minister has cancelled an access licence held by the Minister in accordance with section 8A of the Act,
 - (b) the amount of additional water to be provided as planned environmental water is to be equivalent to the annual average extraction of water under the cancelled licence over the long-term,
 - (c) the average annual long-term availability of water for the remaining access licences that relate to the water source concerned is to be reduced by the average annual long-term extraction of water under the cancelled licence.
- (2) The Minister may amend this Plan to specify the purposes for which planned environmental water committed under section 8A of the Act is to be used.

70 Amendment of Plan relating to floodplain harvesting

The Minister may amend this Plan so as to provide for the floodplain harvesting of water by amending the waters or water sources to which this Plan applies and by consequential amendments so long as the amendments:

- (a) if the Plan has already taken into consideration floodplain harvesting extractions, do not affect the outcomes of the long-term extraction limit specified in the Plan, or
- (b) if the Plan has not already taken into consideration floodplain harvesting extractions, do not allow more water being taken pursuant to access licences for floodplain harvesting than permitted under Schedule F to the Agreement within the meaning of the [Murray-Darling Basin Act 1992](#).

Dictionary

The following definitions apply to this Plan in addition to the definitions set out in the Act:

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

assured inflows are the volumes of water which historic hydrologic information indicates are the minimum which can be expected to flow into the water source.

available water in relation to a water management area or water source, is the water that is available in that area or water source in accordance with an available water determination that is in force in respect of that area or water source.

available water determination is a written Order by the Minister as to the availability of water for the various categories of access licence in relation to a specified water management area or water source.

the Cap is as defined in Schedule F of the Murray Darling Basin Agreement.

conversion factor refers to the adjustment factor that may be applied to the size of share components when they are part of a dealing under section 71O or 71R of the Act.

Department is the Department of Land and Water Conservation or its successor.

environmental contingency allowance is a volume of water held in storage from which releases are made for particular environmental purposes or in response to particular environmental circumstances.

extraction component is the extraction component of an access licence as defined in 56 (1) of the Act.

floodplain harvesting is the collection or capture of water flowing across floodplains.

long-term average annual extraction is the average of annual water extractions from the water source over the period for which an assessment is carried out.

Minister is the Minister for Land and Water Conservation. The Minister may delegate functions under section 389 of the Act.

Murray Darling Basin Agreement is the agreement between the Commonwealth of Australia and the states of New South Wales, Victoria and South Australia as referred to in the *Murray Darling Basin Act 1992*, for the purpose of promoting and co-ordinating effective planning and management for the equitable, efficient and sustainable use of the water, land and other environmental resources of the Murray-Darling Basin.

private water management infrastructure includes pumps, on-farm dams and all other private infrastructure which affect the volume of water taken by access licences.

replenishment flows are flows provided to refill pools and water holes in effluent river systems downstream of the water source and provide water for household and town use and stock.

reserves are volumes of water put aside in a water storage to allow the supply of future water requirements.

share component is the share component of an access licence as defined in 56 (1) of the Act or, for the purposes of this Plan, any right to take water under the [Water Act 1912](#) that gives rise to share component of an access licence under the [Water Management Act 2000](#) (as amended).

supply capability is defined as the rate at which water that can be supplied to a section of a water source after satisfying the environmental water provisions and the requirements for water to satisfy basic land holder rights.

translucent release is the release from a water storage of some portion of inflow to the water storage coincident with the occurrence of that inflow.

uncontrolled flow is flow, in excess of that needed to meet the environmental provisions of this Plan, basic landholder rights and water orders placed by regulated river (general security) access licences and higher priority access licences in a water source.

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

water supply system includes the water storages and all other factors influencing water supply that are under the control of the Minister.

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

water year is defined as a 12 month period from 1 July to 30 June.

Schedule 2 Contribution to relevant targets in the December 2002 State Water Management Outcomes Plan

Levels of assessed contribution:

FULL—contributes to target in full

HIGH—while not fully contributing to target, there is a good level of contribution

PARTIAL—goes some way to meeting the target

LOW—only small degree of contribution to the target

Relevant target	Level of contribution	Comments
Target 1a Extractions in Murray-Darling Basin's regulated rivers limited to the level of the long term average annual extraction below the Murray-Darling Basin Ministerial Council (MDBMC) Cap which results from the long term impact of the environmental water rules	FULL	This Plan clearly sets out the basis for the long-term extraction limit in Part 8.
Target 1f Rules for adjustments to future available water determinations in the event that the extraction limits are exceeded, clearly prescribed in consultation with the relevant management committee, and acted upon.	HIGH	Rules set out in Part 8.

Target 2 All management plans incorporating mechanisms to protect and restore aquatic habitats, and the diversity and abundance of native animals and plants, with particular reference to threatened species, populations and communities and key threatening processes.

HIGH

The environmental flow regimes significantly improve inflows into the Marshes compared to Cap.

4 fish species (Trout cod, Silver perch, Purple spotted gudgeon, Olive perchlet) occur in the Macquarie River system have been listed as threatened. This Plan should assist in the protection/recovery of these species.

16 wetland and riparian dependent birds listed as threatened occur in the Macquarie system. The National Parks and Wildlife Service has assessed the impact of this Plan and concluded that this Plan should improve the quality of most of their habitats.

Little is known about the ecology of the effluent creeks but this Plan has marginally improved medium to high flows into these creeks.

This Plan makes environmental provisions for the Cudgegong River.

This Plan meets the target as follows:

- 50th percentile flows are improved by more than 10% (ie increased from 36% of predevelopment under CAP to 47% under this Plan).
- 30th percentile flows are improved by more than 10% (ie from 34% of predevelopment under CAP to 55% under this Plan).
- 10th percentile flows are 87% of predevelopment under this Plan.

Target 4a Wherever the frequency of “end of system” daily flows would be less than 60 percent of the predevelopment level without environmental water rules or extraction limits, the flows increased to 60 percent of predevelopment levels or increased by at least 10 percent of the predevelopment frequency.

FULL

Target 4b Frequency of “end of system” daily very low flows (as defined by local field investigation) protected or restored to predevelopment levels to maintain or restore their critical ecological functions, drought refuges and habitat connectivity. In the absence of such local assessments, protection extended up to at least the predevelopment 95th percentile.

FULL

This Plan maintains the predevelopment 95th percentile flow frequency for the Macquarie Marshes inflows.

<p>Target 4c The channel capacity of all lower river and effluent creek systems used for the delivery of regulated water determined. Subject to reasonable socio-economic impacts, limits on daily supply volumes established for effluent systems such that they do not exceed 80 percent of the channel capacity for more than 10 percent of days in each month of each year. Where daily supply volumes are currently substantially less than channel capacity, alternative limits established to reduce the impact of unseasonal flows arising from future access licence dealings.</p>	PARTIAL	<p>This Plan provides for the determination of maximum operating channel capacities in accordance with this SWMOP target.</p> <p>This Plan also provides for the distribution of numerical extraction rights that could be used to facilitate management to desired capacity targets.</p>
<p>Target 5 Access rights for water access licensees clearly and legally specified in terms of share and extraction components.</p>	FULL	<p>Access for existing regulated supply licences and supplementary water access licences is clearly specified and tradeable.</p>
<p>Target 6 For surface water sources, a pathway for reducing the share components to 200 percent of the long term average annual extraction limit to be established not later than the end of the term of the SWMOP</p>	FULL	<p>Total entitlements do not exceed 200% of the long-term extraction limit.</p>
<p>Target 9a Flow thresholds for declaration of supplementary water access, which take into account environmental needs, clearly specified.</p>	PARTIAL	<p>This Plan specifies thresholds for access in the Macquarie River but allows small volumes of supplementary access in the Cudgegong based only on the status of Burrendong Dam and the Macquarie River.</p>
<p>Target 9b Annual limits on supplementary water extractions, consistent with the long term average annual extraction limits, established in all regulated river water sources.</p>	FULL	<p>This Plan sets the maximum annual extraction for supplementary water access licences at the full entitlement of 50,000 megalitres.</p>
<p>Target 9c Rules for sharing between supplementary water access licence holders made explicit.</p>	PARTIAL	<p>This Plan does not clearly specify any sharing rules, however it does provide for “even sharing” of access between supplementary water access licences.</p>
<p>Target 9d Supplementary access licence dealings made possible in regulated river water sources, subject to extraction limits and environmental assessment and Aboriginal spiritual and cultural constraints.</p>	FULL	<p>Trading of supplementary water access licences is permitted.</p>
<p>Target 12 Measures in place in all water sources subject to a gazetted water sharing plan to protect domestic and stock rights from the impact of other water access and use.</p>	FULL	<p>Obligations are set out in Part 5 of this Plan.</p>

<p>Target 14 Water sources, ecosystems and sites of cultural or traditional importance to Aboriginal people identified, plans of management prepared, and measures put in place to protect and improve them</p>	<p>PARTIAL</p>	<p>This Plan does not address Aboriginal cultural or traditional requirements and has not identified any sites of particular importance. The significant improvement in environmental flows achieved under this Plan should contribute to protecting or improving Aboriginal values.</p>
<p>Target 16a All share components of access licences tradeable</p>	<p>FULL</p>	<p>All entitlements (including supplementary water access licences) will be tradeable under this Plan.</p>
<p>Target 16c Conversion factors and protocols established to facilitate trading and dealings between water sources, whilst also protecting existing access and environmental water.</p>	<p>FULL</p>	<p>Access licence dealings between water sources are in line with Government policy.</p>
<p>Target 16d Reduced conversion factors only applied when necessary to offset increased losses associated with water supply delivery.</p>	<p>FULL</p>	<p>This Plan does not impose reduction factors.</p>
<p>Target 16f Zones established where necessary for environmental protection and limits/constraints on water dealings in them made explicit</p>	<p>FULL</p>	<p>This Plan establishes a number of zones and sets out access licence dealing restrictions based on either ecological factors or to protect the security of supply to existing users.</p>
<p>Target 35 All management plans incorporating water quality objectives that have considered Government approved Interim Environmental Objectives, the current Australian and New Zealand Environment and Conservation Council Guidelines and the recommendations of relevant Healthy Rivers Commission Inquiries</p>	<p>PARTIAL</p>	<p>This Plan includes a general set of water quality objectives. It is not explicit about the water quality priorities and possible targets, (relevant environmental values, water quality parameters etc) and does not indicate whether improvement or maintenance of existing water quality is the expected from water sharing rules.</p>

Schedule 3 Cudgegong regulated river (general security) access licence carryover volumes for the purpose of clause 45 (3) (a)

Water Act Licence number	Area developed at the commencement of this Plan (hectares)	Carryover volume (megalitres)
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
TOTAL	3516	52,740

Note—

The carryover volume calculated in the table above is the result of the area developed at the commencement of this Plan, multiplied by 15 megalitres.

Appendix 1 Rivers and lakes in the Macquarie and Cudgong Regulated River Water Source

At the commencement of this Plan the Macquarie and Cudgong Regulated Rivers Water Source includes the following:

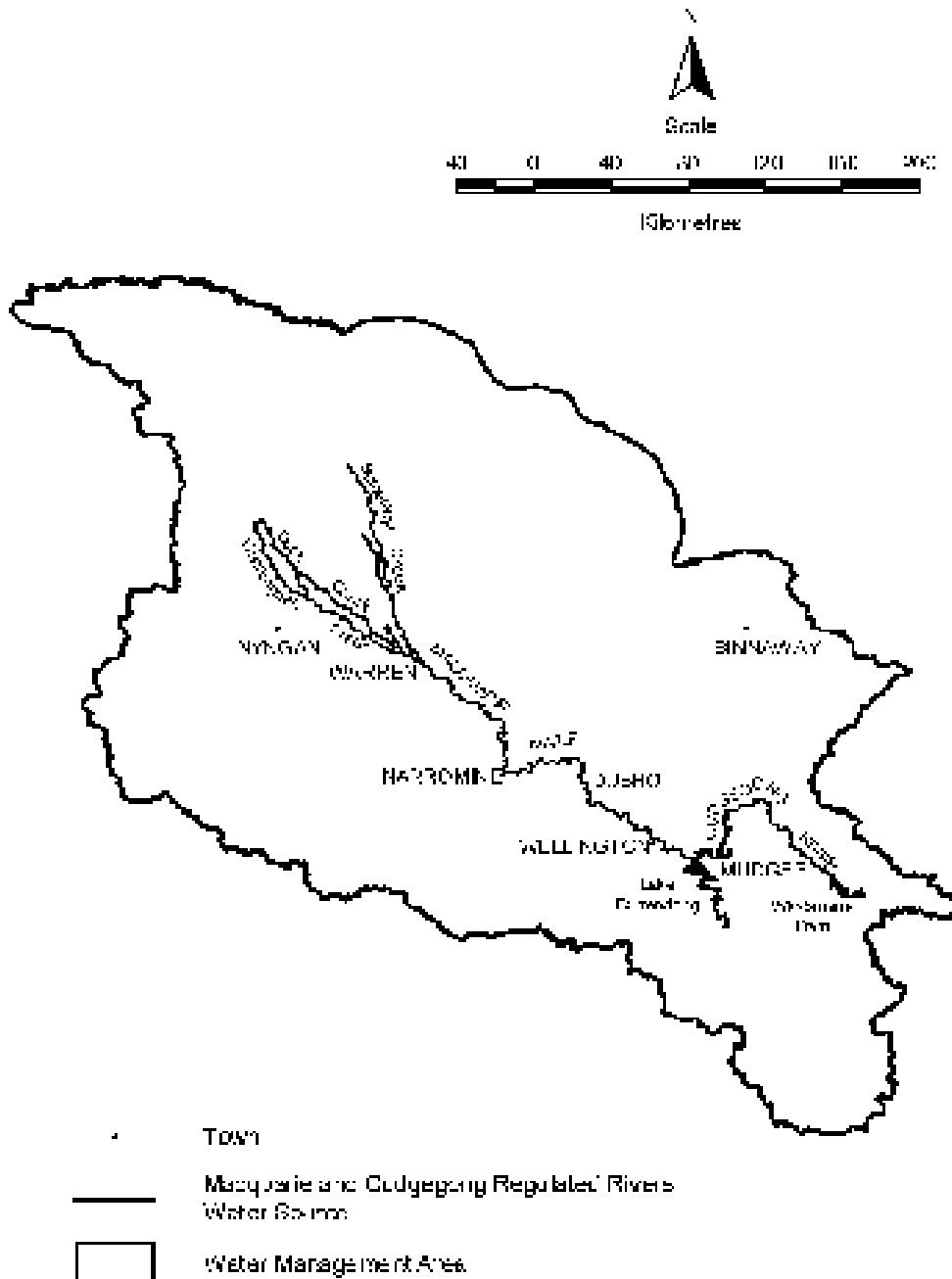
- (i) Macquarie River, from the upper limit of Burrendong Dam water storage, downstream to the Monkeygar Creek offtake,
- (ii) Bena Billa Creek,
- (iii) Bulgeraga Creek, from its confluence with Marebone Break within portion 6, Parish of Marebone, County of Gregory, downstream to the Gum Cowal offtake within portion 13, Parish of Duffity, County of Gregory,
- (iv) Bulgeraga Creek, from the Gum Cowal offtake within portion 13, Parish of Duffity, County of Gregory, downstream to its confluence with the Macquarie River,
- (v) Crooked Creek, from its offtake from Gunningbar Creek within portion 239, Parish of Warren, County of Oxley, downstream to the north-west boundary of portion 93, Parish of Mumblebone, County of Gregory,
- (vi) Cudgegong River, from the upper limit of Windamere Dam water storage downstream to its confluence with the upper limit of Burrendong Dam water storage,
- (vii) Cumboogle Creek, from its junction with Macquarie River to a point 90 metres upstream,
- (viii) Duck Creek,
- (ix) Gunningbar Creek from the downstream end of the Gunningbar Creek cutting downstream to Bogan River,
- (x) Marebone Break, from its offtake from the Macquarie River in the road reserve adjacent to the eastern boundary of portion 12, parish of Marebone, County of Gregory downstream to its confluence with Bulgeraga Creek, in portion 6, Parish of Marebone, County of Gregory,
- (xi) Mebul Creek, from its junction with the Cudgegong River to a point 25 metres upstream, and
- (xii) Ruins Creek, from its junction with the Cudgegong River to a point 20 metres upstream.

Note—

The following rivers receive domestic and stock replenishment flows from this water source, when supplies are available, but do not themselves form part of this water source:

- (a) Gum Cowal/Terrigal system,
- (b) Crooked Creek below "Mumblebone",
- (c) Bogan River from Nyngan to the Gunningbar Creek confluence,
- (d) Bogan River from its junction with Gunningbar Creek to its junction with the Barwon River,
- (e) Marra Creek from its offtake downstream to its junction with the Barwon River,
- (f) Beleringar Creek downstream of Albert Priest Canal,
- (g) Reddenville Break,
- (h) Beleringar Creek, and
- (i) Macquarie River below "Miltata".

Appendix 2 Central West Water Management Area



Appendix 3 State floodplain harvesting principles

Section 1 Definition and categories of floodplain harvesting

- (1) Floodplain harvesting is the collection, extraction or impoundment of water flowing across floodplains. The floodplain flows can originate from local runoff that has not yet entered the main channel of a river, or from water that has overflowed from the main channel of a river during a flood. For the purposes of this policy the floodplain is

defined as extending to the 1 in 100 year flood line.

- (2) Floodplain harvesting can generally be put into one of three categories:
- (a) diversion or capture of floodplain flows using purpose built structures or extraction works to divert water into storages, supply channels or fields or to retain flows,
 - (b) capture of floodplain flows originating from outside of irrigated areas using works built for purposes other than floodplain harvesting. Examples are:
 - (i) levees and supply works such as off river storages constructed in billabongs or depressions that fill from floodplain flows, and
 - (ii) below ground level water channels from which the water is pumped into on farm storages, and
 - (c) opportunistic diversions from floodplains, depressions or wetlands using temporary pumps or other means.

Note—

Capture of rainfall or runoff from farm irrigation fields, via tailwater systems or other means, is not floodplain harvesting.

Section 2 Floodplain harvesting management issues

- (1) The harvesting of water from floodplains reduces the amount of water reaching or returning to rivers. This decreases the amount of water available to meet downstream river health, wetland and floodplain needs and the water supply entitlements of other users.
- (2) Floodplain harvesting can seriously affect the connectivity between the local floodplain, wetlands and the river, through the loss of flow volume and redirection of water flows.
- (3) The [Water Act 1912](#) provided powers to license floodplain harvesting. However this was never applied as there was generally no requirement to restrict total overall water extractions or off-allocation diversions. Harvested floodplain water has been treated as a freely available bonus to a farmer's licensed entitlement.
- (4) This situation has now changed. The Murray-Darling Basin cap applies to all water diverted from inland NSW catchments and rivers. Licensed and off-allocation access has been subject to increasing restrictions. Embargoes on water licences are also in place on many areas on the coast.
- (5) Floodplain harvesting works and water extractions also clearly fall into those activities that the [Water Management Act 2000](#) requires to be only undertaken by way of a licence. The Act also requires such licensing to consider the ecological functioning of floodplains.

- (6) Floodplain harvesting can no longer be left outside of the State's water management and compliance system or as a source of increase in further water extractions. Given this, it is the Government's intention that floodplain harvesting works and taking of water from floodplains be licensed and managed. It will take a number of years to complete the process. However, the water sharing plans must signal the basic principles that will govern the process.

Section 3 Management of floodplain harvesting

- (1) Floodplain harvesting will not be a component of individual water sharing plans being produced for the regulated and unregulated rivers. During flood times water originating in one river system may flow across floodplains and along "flood runners" into adjacent river systems. It is therefore often not possible to assign an area of floodplain to a particular river.
- (2) Management of floodplain harvesting will occur on a state-wide basis, according to the six principles set out in section 4.
- (3) There are many thousands of existing floodplain works which will require licensing and this will be done over the next couple of years. The licensing process will include proper environmental impact assessments.
- (4) A separate category of licence will be established.

Section 4 Floodplain harvesting principles

- (1) Principle 1 is that all existing floodplain harvesting works and floodplain harvesting extractions will be licensed.
- (2) Principle 2 is that licensing will focus initially on controlling the structures, but with movement towards specifying volume limits and flow related access conditions, including metering of pumps

Note—

While all surface and groundwater licences now (or will shortly) specify volume entitlements or annual limits to water, it is not possible to do this for floodplain harvesting licences at this stage. This is because the pattern of use is highly episodic and site and infrastructure specific, and current data on structures and use is minimal.

The Department of Land and Water Conservation will licence existing structures and specify monitoring of use (including metering of pumps) as a licence condition where possible. This may not be possible initially in cases where a tailwater system is also picking up floodplain water as they are difficult to separate, or where overland flow is being captured by a billabong for which we do not have any information on its capacity. Options for application of volumetric conditions will be developed and implemented where appropriate within the first five years of the initial water sharing plans.

- (3) Principle 3 is that no new works or expanded floodplain harvesting activities in the Murray-Darling Basin that will result in the diversion of additional water will be authorised.

Note—

All new floodplain harvesting works are required by law to be licensed. However, as any new works would result in a growth in diversion, which would threaten river health and/or the water entitlements of others, such works would have to be offset by a reduction in other forms of water diversion.

- (4) Principle 4 is that floodplain diversions associated with works in place in the Murray-Darling Basin prior to the end of the 1994 irrigation season will be considered as within the NSW cap.

Note—

Because cap is based on the use of water with development as it was in 1994, NSW considers that the water use that would result from use of the floodplain infrastructure in place in 1994, is part of the cap in each system.

- (5) Principle 5 is that once licensing is completed, an assessment of long-term use resulting from authorised structures against that from structures which existed in 1994 will be carried out and appropriate steps taken to keep harvesting to cap levels.

Note—

It is likely that there has been some growth in floodplain harvesting works and extractions since 1994. However, it is expected that the licensing process will result in some modification of existing works. This may be adequate to offset any post 1994 development. If not, restrictions on the use of the licensed works will have to be applied to return diversions to cap levels. Such restrictions could include restrictions on pumping times or a requirement to modify the work to allow a proportion of flows to be bypassed. By preventing the construction or enlargement of new works, the opportunity for any further growth in floodplain harvesting diversions will be minimised.

- (6) Principle 6 is that floodplain harvesting rights will not be tradeable.

Note—

Trading of floodplain harvesting rights will not be permitted because the frequency and volume of use is site and infrastructure specific, and volume management will take some time to implement.

Appendix 4 Performance indicators

Performance indicators for the Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source

Performance indicator	Related objective	Assessed by	Commentary
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(a) Change in low flows.	11 (a)	<ul style="list-style-type: none"> • Number of days per water year where flow is below natural 95th and 80th percentiles. • Average and maximum number of days per water year of continuous periods of flow which is below natural 95th and 80th percentiles. • Measurement at end of system and specified key sampling sites. 	<ul style="list-style-type: none"> • River Flow Objectives (RFOs) 1 and 6. RFOs are the objectives agreed to by the NSW Government aimed at safeguarding river flows for environmental health. <p>Note— Not every objective is relevant to every river in NSW.</p> <ul style="list-style-type: none"> • Analysis would need to incorporate reference to seasonal indicators. • Long-term modelling will reflect the influence of climate on flows. • Appropriate data relating to flow distribution, such as summer/winter cropping balance, agronomical practices, on farm storage development, management and operation of environmental releases etc. • Baseline audit should be the modelled water sharing plan scenario (rather than natural flows).
		(b) Change in moderate to high flows.	11 (a)

<p>(c) Change in water quality in this water source.</p>	<p>11 (a)</p>	<ul style="list-style-type: none"> • Assessment and statistical analysis of key water quality parameters, and relationship to flow. 	<ul style="list-style-type: none"> • Plan rules will contribute to a long-term change in water quality by affecting flow regimes and flow management to address issues such as algal management. • There are many non-water sharing plan related factors that affect water quality (eg land-based activities and thermal pollution).
<p>(d) Change in ecological condition of this water source and dependent ecosystems.</p>	<p>11 (a)</p>	<ul style="list-style-type: none"> • Monitoring of ecological response to changed flow regimes, by integrated monitoring of environmental flows (IMEF). Each water source will have specific hypotheses from the set developed under the IMEF model. • Other relevant studies as may be undertaken in specific water sources. 	<ul style="list-style-type: none"> • The Integrated Monitoring of Environmental Flows program tests a number of hypotheses to indicate how elements of river ecology respond to different aspects of the flow regime, including environmental flow regimes, irrigation flows, and floods and wetland connectivity.
<p>(e) Change in economic benefits derived from water extraction and use.</p>	<p>11 (b) 11 (c)</p>	<ul style="list-style-type: none"> • Change in regional gross margins versus annual total extractions based on year 1 benchmarks (as represented in IQQM). • Movement of water to higher value crops as measured by increases in area and/or water taken by these enterprises versus lower value uses. • Change in unit price of water transferred. • Annual total volume of access licence transferred (ML) in each water year. 	<ul style="list-style-type: none"> • There are many factors affecting economic status of a region, for example commodity prices and other sources of water (eg groundwater). • The performance indicator is intended to isolate as much as possible the effects of water availability and price on the gross margin returns at a regional level. • Assessment undertaken as part of plan performance monitoring will make assumptions to attempt to identify the impact of the plan's provisions.

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| <p>(f) Extent to which domestic and stock rights requirements have been met.</p> | <ul style="list-style-type: none"> • Basic rights allowances made according to plan provisions/ implementation program requirements. • Flows adequate to meet basic rights requirements (taking into consideration allowances for delivery). | <ul style="list-style-type: none"> • Basic rights usage figures in this water sharing plan are estimated volumes (not actual use). • Basic rights represents a very small proportion of water extraction in regulated systems. |
| <p>(g) Extent to which local water utility and major utility requirements (where major utilities are involved in urban water provision) have been met.</p> | <ul style="list-style-type: none"> • Percentage of years that reserves were adequate to satisfy urban water requirements. | |
| <p>(h) Extent to which native title rights have been met.</p> | <ul style="list-style-type: none"> • Native title rights allowances made according to plan provisions and implementation program requirements. | |
| <p>(i) Extent of recognition of spiritual, social and customary values of water to Aboriginal people.</p> | <p>11 (c)
11 (d)</p> <ul style="list-style-type: none"> • Assessment of amount and type of information collected to identify the range of values of water to Aboriginal people. | <ul style="list-style-type: none"> • The collection of information on the values associated with water is considered the first step in addressing the objects of the Act. It would be expected that at the end of 5 years there should be relevant information collected for each water source, as a minimum requirement. |

Appendix 5 (Repealed)