

extract water from this water source totalled 50,000 unit shares.

26 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

27 Rules for granting access licences

- (1) This Part is made in accordance with sections 20 (2) (b), 61 and 63 of the Act.
- (2) Applications may be made for the following access licences in this water source:
 - (a) local water utility access licences, or

Note. Pursuant to section 66 (3) and (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) specific purpose access licences for which applications are provided for under the regulations in accordance with section 61 (1) (a) of the Act.
- (3) Applications may not be made for a regulated river (high security) (Aboriginal cultural) access licence if the proposed access licence is more than 10 ML/year.
- (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 Limits to the availability of water

Division 1 Long-term extraction limit

28 Limit to the availability of water

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

29 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 on 1 July 2004,
 - (iii) the maximum crop area and the crop planting behaviour representative of baseline conditions used for assessment of Cap under Schedule E of the Murray-Darling Basin Agreement,
 - (iv) the environmental water provisions specified in clause (2), (3), (6), (7), (8), (12), (16) and (22) of this Plan, and
 - (v) the other water management rules applying on 1 July 2004, 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 E of the Murray-Darling Basin Agreement.

Note. The baseline conditions used for assessment of Cap under Schedule E of the Murray-Darling Basin Agreement means the level of water resource development as 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 subclause (1) (a) and (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 E 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 14.
- (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.

30 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 29 (1) (a) and (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 32 should be considered in relation to assessments under subclause (1).

31 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 29 (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 29 (1) by the lesser of 3%, or half the difference between the volume specified in clause 29 (1) (a) and the volume specified in clause 29 (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 29 (1) (b), or
 - (c) if assessments in accordance with clause 30 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 30.
- (5) Any advice provided by a Compliance Assessment Advisory Committee if established under clause 32 should be considered in relation to assessments under subclause (4).
- (6) Any reduction in access under this clause shall not be applied to the environmental water allowance for the Macquarie River, established in clause 14.
- (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 38 (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 37 (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 30 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 30.
- (12) Any advice provided by a Compliance Assessment Advisory Committee if established under clause 32 should be considered in relation to assessments under subclause (9).

32 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 30 and 31.
- (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 30,
 - (b) the computer model referred to in clause 30,
 - (c) the data used in the computer model referred to in clause 30, and
 - (d) the effectiveness of any actions taken in accordance with clause 31 (2) and (9).
- (3) 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 than 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

33 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.

34 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 into this water source (based on historical flow information held by the Department when this Plan commenced).

- (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 27.
- (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.

35 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 into this water source (based on historical flow information held by the Department when this Plan commenced).
- (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 27 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.

36 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 into this water source (based on historical flow information held by the Department when this Plan commenced).
- (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 44 (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 paragraphs (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.

37 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 31, except where the available water determination is made under subclause (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 44 (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 44 (3), an available water determination of 1 megalitre per unit share or such lower amount as results from clause 31, 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 31 (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 44 is that all regulated river (general security) access licence available water determination sub-accounts (established under clause 40) 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 paragraphs (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.

38 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 31 (2).

Part 9 Rules for managing access licences

Division 1 General

39 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

40 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.

41 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.

42 Volume taken under access licences

Note. It is an offence under the Act to take water under an access licence for which there is no or insufficient water allocation.

- (1) Subject to subclause (2), 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 the volume of water extracted by the approved water supply works nominated by the access licence.
- (2) Upon written notice from the Minister to the licence holder, the water allocation taken under a regulated river (high security) access licence or a regulated river (general security) access licence shall be assessed as the greater of:
 - (a) the volume of water extracted by the approved water supply works nominated by the access licence, or
 - (b) the volume of water ordered for extraction by the approved water supply works nominated by the access licence,for the term specified by the Minister.
- (3) The Minister should only take action under subclause (2) in accordance with the procedures specified in a water order debiting protocol approved by the Minister.

Note. It is intended that the Minister may take action under subclause (2) where water orders have been exceeding the volume of water being taken under an access licence and this cannot be explained by rainfall or other unavoidable factors, as set out in the Macquarie-Cudgegong Water Order Debiting Protocol developed in consultation between the NSW Office of Water, State Water and the Macquarie-Cudgegong Customer Service Committee.

- (4) The water allocation taken under regulated river (high security) access licences 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.
- (5) 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.

43 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.

44 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 that arose 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 as at 1 July 2004, 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 as at 1 July 2004,

(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 $\frac{TI \times TC}{(TC + EC)}$, 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, $(TR/TC) \times IC$, 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 36 and 37 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

45 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.

46 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).

47 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 58.
- (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 14 (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 38.

Part 10 Access licence dealing rules

48 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 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.

49 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 46 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 46, 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 46, 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 46, 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 46, 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.

50 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.

51 Rules for conversion of access licence category

- (1) This clause relates to dealings under section 71O 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. On 1 July 2004 a separate conversion factor was applied to each 10,000 megalitres of regulated river (general security) access licence that converted 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.

52 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.

53 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.

54 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

55 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 46 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.

56 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

57 System operation rules

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

58 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”.

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

60 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.

61 Bulk transfer rules between storages

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

62 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.

63 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 47.

Part 13 Monitoring and reporting

64 Monitoring

The monitoring of the performance indicators specified in clause 11 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

65 Changes to this water source

The Minister, under section 45 (1) (b) of the Act and by order published on the NSW legislation website, 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.

66 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 14 (4) in respect to planned environmental water releases,
 - (b) clause 14 (13) in respect to the distribution of water between sub-allowance 1 and 2 of the environmental water allowance,
 - (c) clause 14 (17) in respect to the dates specified for release of sub-allowance 1 of the environmental water allowance, or
 - (d) clause 14 (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 14 (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 14 (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 14 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 14 (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 14 (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 14 (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 14 (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.

67 Other amendment of this Plan

This Plan can be amended in accordance with clause 47 (7) of this Plan in respect to the minimum flow requirements for extraction of water under supplementary water access licences.

68 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.

69 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*.

Schedule 1 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 E 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) (b) 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. 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 landholder 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 Cudgegong regulated river (general security) access licence carryover volumes for the purpose of clause 45 (3) (a)

Water Act Licence number	Area developed at 1 July 2004 (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 as at 1 July 2004, multiplied by 15 megalitres.

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

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

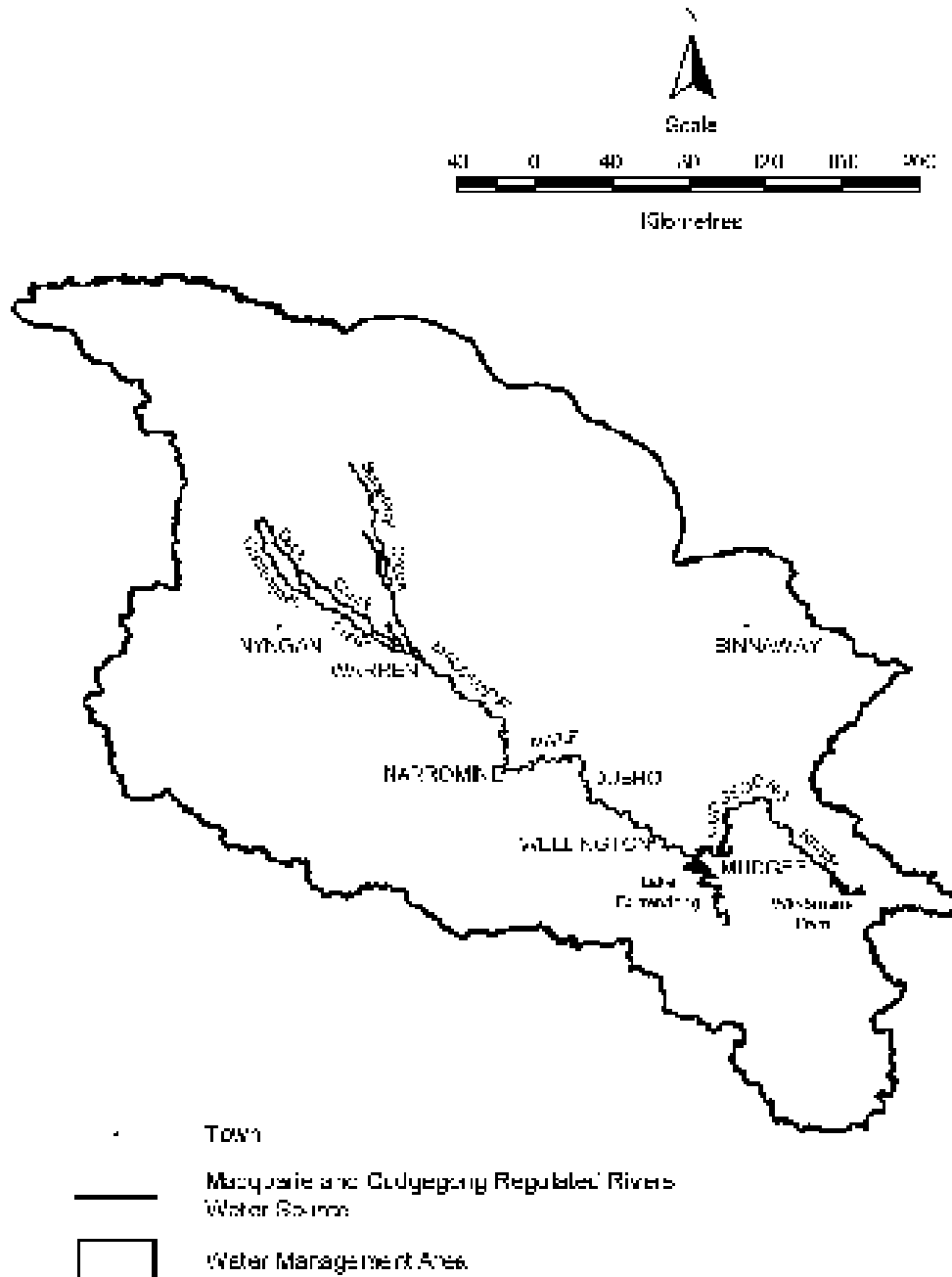
- (i) Macquarie River, from the upper limit of Burrendong Dam water storage, downstream to the Monkeygar Creek offtake,
- (ii) Bena Billa Creek,
- (iii) Bulgeraga Creek, from its confluence with Marebone Break within portion 6, Parish of Marebone, County of Gregory, downstream to the Gum Cowal offtake 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
(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. Note. Not every objective is relevant to every river in NSW. 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)	<ul style="list-style-type: none"> Number of days per water year where flow is above natural 30th, 15th and 5th percentiles. Average and maximum number of days per water year of continuous periods of flow which is above natural 30th, 15th and 5th percentiles. Measurement at end of system and other key sampling sites in the water source. 	<ul style="list-style-type: none"> RFO 3.
(c) Change in	11 (a)	<ul style="list-style-type: none"> Assessment and 	<ul style="list-style-type: none"> Plan rules will contribute to a

<p>water quality in this water source.</p>	<p>statistical analysis of key water quality parameters, and relationship to flow.</p>	<p>long-term change in water quality by affecting flow regimes and flow management to address issues such as algal management.</p> <ul style="list-style-type: none"> • 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.
<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.
<p>(f) Extent to which domestic and stock rights requirements have been met.</p>		<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. • Basic rights allowances made according to plan provisions/implementation program requirements. • Flows adequate to meet basic rights requirements • Basic rights usage figures in this water sharing plan are estimated volumes (not actual use). • Basic rights represents a very small proportion of water

- (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.
- (i) Extent of recognition of spiritual, social and customary values of water to Aboriginal people.
- 11 (c)
11 (d)
- (taking into consideration allowances for delivery) extraction in regulated systems.
- Percentage of years that reserves were adequate to satisfy urban water requirements.
 - Native title rights allowances made according to plan provisions and implementation program requirements.
 - Assessment of amount and type of information collected to identify the range of values of water to Aboriginal people.
 - 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.