

# Water Sharing Plan for the Gwydir Regulated River Water Source 2002 (2003 SI 178)

[2003-178]



New South Wales

## Status Information

### Currency of version

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### Provisions in force

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

### Notes—

- **See also**  
[Water Management Amendment Bill 2014](#)
- **Note**  
This Plan ceases to have effect on 1.7.2015 — see GG No 45 of 12.5.2014, p 1381 (see also erratum published in GG No 46 of 16.5.2014, p 1387).

### Authorisation

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

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# Water Sharing Plan for the Gwydir Regulated River Water Source 2002 (2003 SI 178)



New South Wales

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# Water Sharing Plan for the Gwydir Regulated River Water Source 2002 (2003 SI 178)



New South Wales

## Part 1 Introduction

### 1 Name of plan

This Plan is the *Water Sharing Plan for the Gwydir Regulated River Water Source 2002* (hereafter **this Plan**).

### 2 Nature and status of this Plan

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

### 3 Date of commencement

This Plan takes effect on 1 July 2004 and ceases 10 years after that date.

### 4 Water source and waters to which this Plan applies

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

**Note—**

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

**Note—**

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

- (2) The water source shall be known as the Gwydir Regulated River Water Source (hereafter **this water source**).

- (3) The rivers included in this water source may be varied under section 45 (1) (b) of the Act as set out in Part 14 of this Plan.
- (4) This water source is within the Gwydir and Border Rivers Water Management Areas constituted by the Ministerial order published in the NSW Government Gazette (hereafter **the Gazette**) on 23 November 2001.

**Note—**

The Gwydir River system is shown on the map in Appendix 2.

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

**Note—**

Management of floodplain harvesting is not a component of this water sharing plan. Management of floodplain harvesting will occur according to a number of state-wide management principles, attached in Appendix 3.

## **5 Interpretation**

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

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

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

**Note—**

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

## **7 State Water Management Outcomes Plan**

- (1) In accordance with section 16 (1) (a) of the Act this Plan is consistent with the State Water Management Outcomes Plan published in the Gazette on 20 December 2002 (hereafter **the SWMOP**).

- (2) Schedule 2 identifies the SWMOP targets applicable to this Plan and how this Plan contributes to these targets.

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

### **8 Vision, objectives, strategies and performance indicators**

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

### **9 Vision**

The vision for this Plan is to have a sustainable, healthy river system that provides reliable water through flow management for the community, environment, agriculture and industry.

### **10 Objectives**

The objectives of this Plan are to:

- (a) protect, maintain and enhance the environmental values of the Gwydir Regulated River Water Source,
- (b) manage the Gwydir Regulated River Water Source to ensure equitable sharing of water between all uses,
- (c) protect the Gwydir Regulated River Water Source by ensuring that extraction minimises any adverse impacts,
- (d) improve water quality in the Gwydir Regulated River Water Source,
- (e) provide opportunities for ecologically sustainable market based trading of surface water entitlements in the Gwydir Regulated River Water Source,
- (f) manage the Gwydir Regulated River Water Source to preserve and enhance basic water rights,
- (g) ensure extraction from the Gwydir Regulated River Water Source is managed properly within the Murray Darling Basin Ministerial Council Cap, and
- (h) manage the Gwydir Regulated River Water Source to preserve and enhance cultural and heritage values.

#### **Note—**

Although there are no specific strategies directly related objective (h) in this Plan, the environmental water provisions in the Plan make a contribution towards the preservation of cultural and heritage values.

### **11 Strategies**

The strategies of this Plan are to:



- (a) establish environmental water provisions (Part 3 of this Plan),
- (b) identify water requirements for basic landholder rights (Part 4 of this Plan),
- (c) identify water requirements for access licences (Part 6 of this Plan),
- (d) establish rules for granting of access licences (Part 7 of this Plan),
- (e) establish provisions that place limits on the availability of water (Part 8 of this Plan),
- (f) establish rules for making available water determinations (Part 8 of this Plan),
- (g) establish rules for the operation of water accounts (Part 9 of this Plan),
- (h) establish provisions specifying circumstances under which water may be extracted (Part 9 of this Plan), and
- (i) establish access licence dealing rules (Part 10 of this Plan).

## **12 Performance indicators**

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

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

### **Note—**

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

## Part 3 Environmental water provisions

### 13 Environmental water provisions

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

### 14 Planned environmental water

This Plan establishes the following planned environmental water rules:

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

**Note—**

By limiting long term average annual extractions to an estimated 392,000 megalitres per year this Plan ensures that approximately 66% of the long-term average annual flow in this water source (estimated to be 1,141,000 megalitres per year) will be preserved and will contribute to the maintenance of basic ecosystem health.

- (c) the minimum flow passed through to the Gwydir wetlands is to be the lesser of:
  - (i) the sum of flows in the Horton River at Rider, Myall Creek at Molroy, and Halls Creek at Bingara, plus any water spill or pre-release for flood mitigation purposes from Copeton Dam water storage, and
  - (ii) 500 megalitres per day (hereafter **ML/day**),

**Note—**

At the time of commencement of this Plan, wetland inflow assessment is based on flows in the Gwydir River at Yarraman minus estimated delivery losses and water use between there and the wetland.

- (d) the passing of the flows referred to in subclause (c) to the Gwydir wetlands may be suspended or temporarily curtailed if, in the opinion of the Minister, this would be environmental beneficial to the Gwydir Wetlands,
- (e) advice from the ECA Operations Advisory Committee should be sought before action under subclause (d) is taken, and
- (f) any flows not passed to the Gwydir Wetlands as a result of action under subclause (d) must be used elsewhere to support fundamental ecosystem health and may not be taken or used for other purposes.

### 15 Planned environmental water

This Plan establishes the following planned environmental water rules:

- (a) an environmental contingency allowance (hereafter **ECA**) is to be set aside in Copeton

Dam water storage,

- (b) an account of the water credited to and released from the ECA is to be kept,
- (c) whenever an available water determination for regulated river (general security) access licences is made, the ECA account shall be credited with a volume equal to the lesser of:
  - (i) 45,000 megalitres multiplied by the number of megalitres per unit share specified in that available water determination, and
  - (ii) 90,000 megalitres minus the volume currently in the account,
- (d) water in the ECA account may be released for any of the following purposes:
  - (i) to support a colonially nesting native bird breeding event that has been initiated in the Gwydir wetlands following natural flood inundation,
  - (ii) to provide additional inundation in the Gingham and Lower Gwydir Wetlands during or following periods of extended dry climatic conditions,
  - (iii) to provide inundation of higher level benches in the river reaches between Copeton Dam and the Gwydir River at Gravesend,
  - (iv) to provide short-term inundation of the wetlands to promote germination of Hyacinth as part of a weed management strategy involving a wetting and drying cycle,
  - (v) to provide flows for environmental purposes in effluent streams,
  - (vi) to support native fish populations and habitat,
  - (vii) to support invertebrates and other aquatic species,
  - (viii) to support threatened species, and
  - (ix) to maintain aquatic ecosystem health.
- (e) an ECA Release Program shall be prepared for each water year and shall establish guidelines for the release of water from the ECA account for the purposes listed in subclause (d),
- (f) the guidelines established in each ECA Release Program should be aimed at maximising the environmental benefit of the available ECA volume,
- (g) an ECA Operations Advisory Committee should be established for the purpose of providing advice regarding:
  - (i) the annual ECA Release Program under subclause (e),

- (ii) the making of releases during the course of a water year, and
- (iii) the development of a long term river and wetland health plan,
- (h) the ECA Operations Advisory Committee should consist of:
  - (i) a member from the Department or its subsequent organisation,
  - (ii) a member from the National Parks and Wildlife Service or its subsequent organisation,
  - (iii) a member from NSW Fisheries or its subsequent organisation,
  - (iv) a member from the Gwydir Valley Irrigators Association or its subsequent organisation,
  - (v) a member representing the interests of landholders in the Gingham Watercourse,
  - (vi) a member representing the interest of landholders in the Lower Gwydir Watercourse,
  - (vii) a member representing non-government environmental interests, and
  - (viii) two members, appointed on the recommendation of the ECA Operations Advisory Committee, who are scientists,
- (i) the ECA Operations Advisory Committee should be chaired by the Department's representative, and
- (j) until such time as the ECA Release Program has been developed, releases of water from the ECA account shall be made for the purposes listed in subclause (d) and should be aimed at maximising the environmental benefit of the available ECA volume.

## **16 Adaptive environmental water**

- (1) At any time an access licence holder may, by a process determined by the Minister, commit all or part of their licence as adaptive environmental water.
- (2) The Minister may grant an access licence in a water source to which this Plan applies if the licence is subject to an adaptive environmental water condition and arises through water savings in the system made in that water source as referred to in section 8C (1) of the Act.
- (2A) The Minister may change the category or subcategory of an access licence in a water source to which this Plan applies if the licence is subject to an adaptive environmental water condition that arises through water savings as referred to in section 8D of the Act.

- (3) At the commencement of this Plan there are no access licences committed to an environmental purpose in accordance with section 8 (1) (c) of the Act.

## **Part 4 Basic landholder rights**

### **17 Basic landholder rights**

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

### **18 Domestic and stock rights**

**Note—**

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

- (1) At the commencement of this Plan the water requirements of holders of domestic and stock rights are estimated to be 6,000 megalitres per year (hereafter **ML/yr**).
- (2) This Plan recognises that the exercise of domestic and stock rights may increase during the term of this Plan.

**Note—**

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

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

**Note—**

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

### **19 Native title rights**

**Note—**

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

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

**Note—**

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

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

## **Part 5 Bulk access regime**

### **20 Bulk access regime**

- (1) This Part is made in accordance with section 20 (1) (e) of the Act.
- (2) This Plan establishes a bulk access regime for the extraction of water under access licences in this water source having regard to:
  - (a) the environmental water provisions established under Part 3 of this Plan,
  - (b) the requirements for basic landholder rights identified under Part 4 of this Plan, and
  - (c) the requirements for water for extraction under access licences identified under Part 6 of this Plan.
- (3) The bulk access regime established under subclause (2):
  - (a) establishes rules according to which access licences are granted as provided for in Part 7 of this Plan,
  - (b) recognises and is consistent with the limits to the availability of water as provided for in Part 8 of this Plan,
  - (c) establishes rules according to which available water determinations are to be made as provided for in Part 8 of this Plan,
  - (d) recognises the effect of climatic variability on the availability of water as provided for in Part 8 of this Plan,
  - (e) establishes rules with respect to the priorities according to which access licences are to be adjusted as a consequence of any reduction of the availability of water as provided for in Part 8 of this Plan, and
  - (f) establishes rules according to which access licences are managed as provided for in Part 9 of this Plan.

## **Part 6 Requirements for water under access licences**

### **21 Requirements for water under access licences**

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

**Note—**

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

### **22 Share component of domestic and stock access licences**

It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act, the share components of domestic and stock access licences authorised to extract water from this water source will total 4,245 megalitres per year.

### **23 Share component of local water utility access licences**

It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act, the share components of local water utility access licences authorised to extract water from this water source will total 3,836 megalitres per year.

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

It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act, the share components of regulated river (high security) access licences authorised to extract water from this water source will total 19,293 unit shares.

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

It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act, the share components of regulated river (general security) access licences authorised to extract water from this water source will total 509,500 unit shares.

### **26 Share component of supplementary water access licences**

It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act, the share components of supplementary water access licences authorised to access water from this water source will total 178,000 unit shares.

### **27 Changes to total share component**

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

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

## **Part 7 Rules for granting access licences**

### **28 Rules for granting access licences**

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

#### **Note—**

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

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

## **Part 8 Limits to the availability of water**

### **Division 1 Long-term extraction limit**

#### **29 Limit to the availability of water**

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

#### **30 Volume of the long-term extraction limit**

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



of:

- (a) the long-term average annual extraction from this water source that would occur with the water storages and water use development that existed in 1999/2000, the share components existing at the commencement of this Plan and application of a limit on supplementary water access licence extractions of 1 megalitre per unit share and the other water management rules defined in this Plan, or
- (b) the long-term average annual extraction from this water source that would occur under Cap baseline conditions.

**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 Gwydir IQQM computer model with system file WSP8TST6.SQQ. This indicates a long-term average annual extraction volume of 392,000 megalitres.

**Note—**

An assessment of the long-term average annual extractions resulting from the baseline conditions in subclause (1) (b) has been made using the Gwydir IQQM computer model with system file dv93465a.s6\_IQQMV6.61.001. This indicates a long-term average annual extraction volume of 415,000 megalitres.

**Note—**

The long-term extraction limit recognises the effect of climatic variability on the availability of water, in accordance with section 20 (2) (c) of the Act as historic climate and river flow information is used in its determination.

- (2) The values referred to in subclauses (1) (a) and (1) (b) shall be adjusted for any access licence dealing under section 71R of the Act.
- (3) For the purposes of establishing the long-term extraction limit and auditing compliance with it, the following shall be included:
  - (a) all water extractions by all categories of access licences in accordance with the rules used for accounting of Cap diversions for Schedule F of the Murray Darling Basin Agreement,
  - (b) domestic and stock and native title rights extractions,
  - (c) volumes of water delivered as adaptive environmental water,
  - (d) floodplain harvesting extractions estimated to be taken for use in conjunction with extractions authorised from this water source, and
  - (e) water allocations assigned from access licence water allocation accounts in this water source to access licence water allocation accounts in another water source.
- (4) For the purposes of establishing the long-term extraction limit and auditing

compliance with it:

- (a) 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 any other water source to the water allocation accounts of access licences in this water source, and
- (b) the following shall not be included:
  - (i) replenishment flows made in accordance with this Plan, or
  - (ii) diversion of water pursuant to the planned environmental water rules in Part 3 of this Plan.

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

- (1) Assessment of the long-term extraction limit and the current long-term average annual extraction shall be carried out after the end of each water year, using the hydrologic computer model that, at the time, is approved by the Department for assessing long-term water use from this water source.
- (2) To assess the long-term extraction limit, the model referred to in subclause (1) shall be set to represent as closely as possible the conditions referred to in clauses 30 (1) (a) and 30 (1) (b).
- (3) To assess current long-term average annual extraction from this water source the model referred to in clause 31 (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 average annual extraction from this water source at the time of compliance assessment.
- (4) Any advice provided by a Compliance Assessment Advisory Committee if established under clause 32 (9) should be considered in relation to assessments under subclause (1).

### **32 Compliance with the long-term extraction limit**

- (1) The long-term average annual extraction from this water source may not be permitted to exceed the long-term extraction limit specified in clause 30.
- (2) Pursuant to subclause (1):
  - (a) if it has been assessed that the current long-term average annual extraction from this water source, exceeds:
    - (i) the volume specified in clause 30 (1) (a) by 3% or more,
    - (ii) the volume specified in clause 30 (1) (a) by more than half the difference

between the volume specified in clause 30 (1) (a) and the volume specified in clause 30 (1) (b), or

(iii) the volume specified in clause 30 (1) (b), or

(b) if the assessments for 3 consecutive water years indicate that the current long-term average annual extraction from this water source exceeds the long term extraction limit,

(c) then the maximum available water determination made for supplementary water access licences under clause 39 shall be reduced, and

(d) once the maximum available water determination for supplementary water access licences has reduced to zero, the maximum volumes that may be taken or assigned from a regulated river (general security) access licences under clause 33 shall be reduced.

(3) The degree of reduction under subclause (2) shall be that assessed necessary to return long-term average annual extractions to the long-term extraction limit.

(4) Reductions in the amounts specified in clauses 33 (a) and 33 (b), pursuant to subclause (3), are to be of the same proportion.

**Note—**

Subclause (4) means that if the amount specified in clause 33 (a) is reduced from say 1.25 to 1 (ie by one fifth), then the amount specified in clause 33 (b) is to be reduced from 3 to 2.4 (ie one fifth).

(5) If action has been taken under subclause (2), and a subsequent assessment under clause 31 indicates that the current long-term average annual extractions 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 the long-term average annual extractions to the long term extraction limit.

(6) Any reversal of previous reductions under subclause (5):

(a) shall not exceed previous reductions made under subclause (2), and

(b) shall first reverse any previous reductions relating to regulated river (general security) access licences.

(7) The assessment of the degree of any reduction required under subclause (2) or degree of any reversal under subclause (5), shall be made using the same computer model used to carry out assessments under clause 31.

(8) Any advice provided by a Compliance Assessment Advisory Committee if established under subclause (9) should be considered in relation to assessments under subclauses (2) and (5).

(9) Within 6 months of the commencement of the Plan, the Minister should establish a

Compliance Assessment Advisory Committee under section 388 of the Act for the purpose of providing advice regarding assessments under clauses 31 and 32.

- (10) In providing its advice the Compliance Assessment Advisory Committee should consider possible improvements to:
- (a) the process for assessing current long-term average annual extractions,
  - (b) the computer model referred to in clause 31,
  - (c) the data used in the computer model referred to in clause 31,
  - (d) the assessment of the effect of any actions taken in accordance with subclauses 32 (2) and 32 (5), and
  - (e) remedy any compliance issues encountered through the implementation of the Plan.
- (11) 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,
  - (b) a person representing the State Water,
  - (c) a person representing NSW Agriculture,
  - (d) no more than 3 persons representing the irrigation industry,
  - (e) a person representing local government,
  - (f) a person representing the Department of Environment and Conservation,
  - (g) a person representing nature conservation interests, and
  - (h) other members as required by the Minister.
- (12) The Compliance Assessment Advisory Committee is to meet at least annually.

**33 Limit to the volumes that may be taken under or assigned from regulated river (general security) access licences**

The maximum volume that may be taken under or assigned from a regulated river (general security) access licence in this water source:

- (a) during any water year, shall be equal to 1.25 megalitres multiplied by the number of unit shares specified in the share component of the access licence, or such lower amount that may result from clause 32, plus the volume of water allocations assigned to the access licence from another access licence during that water year, and

- (b) during any 3 consecutive water years, shall be equal to 3.0 megalitres multiplied by the number of unit shares specified in the share component of the access licence, or such lower amount that may result from clause 32, plus the volume of water allocations assigned to the access licence from another access licence during the 3 water years.

## **Division 2 Available water determinations**

### **34 Available water determinations**

- (1) This Division is made in accordance with section 20 (2) (b) of the Act.
- (2) All available water determinations in this water source shall be expressed as:
  - (a) a percentage of the share component for all access licences where share components are specified as megalitres per year,
  - (b) megalitres per unit share for all regulated river (high security) access licences and supplementary water access licences, and
  - (c) as a volume to be distributed to all regulated river (general security) access licences in proportion to the number of unit shares in the share component of each access licence after making allowance for the effect of any water allocation account limits or other relevant provisions in Part 9, Division 2 of this Plan.

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

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

course of this Plan, if necessary to do so to ensure subclause (1) is satisfied.

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

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

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

- (1) The water supply system shall be managed so that available water determinations for regulated river (high security) access licences of 1 megalitre per unit share can be maintained through a repeat of the worst period of low inflows to this water source, as represented in flow information held by the Department.
- (2) Sufficient volumes of water must be set aside from assured inflows into this water source and in reserves held in Copeton Dam water storage 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 resources shall be carried out and available water determinations made until the sum of available water determinations for the water year is 1 megalitre per unit share.

- (5) The sum of available water determinations made for regulated river (high security) licences in any water year shall not exceed 1 megalitre per unit share.
- (6) Available water determinations made for regulated river (high security) access licences must 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) requirements for domestic and stock access licences,
  - (e) requirements for local water utility access licences,
  - (f) volumes remaining in access licence water allocation accounts from previous available water determinations,
  - (g) water losses associated with the holding and delivery of water to meet the requirements specified in subclauses (a) to (f),
  - (h) an appropriate volume to meet water losses associated with the holding and delivery of water resulting from the available water determination, and
  - (i) any other relevant matters.

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

- (1) An available water determination is not to 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) Providing subclause (1) has been satisfied, assessments of available water shall be made at least monthly, and available water determinations made for regulated (general security) access licences, if additional water can be provided to them.
- (3) Available water determinations for regulated river (general security) access licences shall be based on the volume available in Copeton Dam water storage after taking 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) 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 access licence water allocation accounts from previous available water determinations,
- (h) water losses associated with the holding and delivery of water to meet the requirements identified in sub-clauses (a) to (g),
- (i) an appropriate volume to meet water losses associated with the holding and delivery of water resulting from the available water determination, and
- (j) any other relevant matters.

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

- (1) An available water determination for supplementary water access licences shall be made at the commencement of each water year and shall define the number of megalitres per unit share that can be taken in that year.
- (2) The available water determination made under subclause (1) for the first year of this Plan shall be 1.25 megalitres per unit share.
- (3) The available water determination made under subclause (1) for the second and third years of this Plan shall be 1.25 megalitres per unit share subject to:
  - (a) the Gwydir IQQM model being submitted to the Murray Darling Basin Commission by July 2005 for approval in accordance with Schedule F of the Murray Darling Basin Agreement, and
  - (b) the submitted model demonstrating that an available water determination limit of 1 megalitre per unit share will result in long-term extractions being less than or equal to the value referred to in clause 30 (1) (b).
- (4) If the conditions specified in subclause (3) (a) and (3) (b) have not been met then the available water determination made under subclause (1) for the second and third years of this Plan shall be 1 megalitre per unit share or such lower amount as results from the operation of clause 32 (2).
- (5) The available water determination made under subclause (1) shall not exceed 1 megalitre per unit share or such lower amount as results from the operation of clause 32 (2), except where the available water determination is made in accordance with subclause (2) or (3).



## **Part 9 Rules for managing access licences**

### **Division 1 General**

#### **40 Rules for managing access licences**

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

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

### **Division 2 Water allocation account management**

#### **41 Water allocation accounts**

In accordance with section 85 of the Act, a water allocation account shall be established for each access licence in this water source.

#### **42 Accrual of water allocations**

Water allocations shall be accrued into each access licence water allocation account in accordance with the available water determinations made for the category of the access licence.

#### **43 Volume taken under access licences**

- (1) The water allocation taken under access licences, other than supplementary water access licences, 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 water ordered for extraction by the approved water supply works nominated by the access licence.
- (2) The water allocation taken under supplementary water access licences shall be assessed as the volume of water extracted, in accordance with announcements and access licence conditions, by the approved water supply works nominated by the access licence.

#### **44 Accounting of assigned water 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 may also be re-credited to access licence water allocation accounts under section 76 of the Act, in accordance with water return flow rules established under section 75 of the Act.

#### **45 Carrying over of water allocation credits and water allocation account limits**

- (1) The following rules shall apply to the management of water allocation in the water allocation accounts domestic and stock access licences, local water utility access licences and regulated river (high security) access licences:
  - (a) the maximum volume that may be held in the accounts of domestic and stock and local water utility access licences at any time shall be equal to 100% of the access licence share component,
  - (b) the maximum volume that may be held in the accounts of regulated river (high security) access licences at any time shall be equal to 1 megalitre multiplied by the number of unit shares specified in the access licence share component, and
  - (c) water allocation remaining in the accounts cannot be carried over from one water year to the next.
- (2) The following rules shall apply to the management of water allocations in the water allocation accounts of regulated river (general security) access licences:
  - (a) water allocation remaining in the accounts may be carried over from one water year to the next, and
  - (b) the maximum volume that may be held in the accounts at any time shall be equal to 1.5 megalitres per unit share specified in their access licence share component.
- (3) Water allocation remaining in the water allocation accounts of supplementary water access licences cannot be carried over from one water year to the next.

### **Division 3 Extraction conditions**

#### **46 General priority of extractions**

Where extraction components of access licences do not specify the rate as a share of supply capability or a volume per unit 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 orders for water, 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 share components specified on the access licences.

#### **47 Numerical specification of extraction components**

- (1) At any time during the term of this Plan, the Minister may, in accordance with the mandatory conditions on access licences, amend the extraction components of access licences in this water source, or in any section of this water source.
- (2) Action under subclause (1) should be undertaken as follows:
  - (a) the specified rate in the extraction component of each access licence should be a volume per unit time or a share of supply capability,
  - (a) 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 (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 the water source to exclude extractions in sections of the water source affected by the action under subclause (1).

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

- (1) The taking of water under supplementary water access licence shall only be permitted in accordance with announcements made by the Minister, in accordance with the rules in the Plan.
- (2) The maximum volume of water that may be taken under supplementary water access licences during each period of time to which an announcement applies shall 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 should 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 should only be permitted when there are uncontrolled flows at the point of extraction and the uncontrolled flow is in excess of that required to provide any required downstream replenishment flows specified in clause 59.

- (5) No more than 50% of the supplementary water event volume may be permitted to be taken under supplementary water access licences during a supplementary water event.
- (6) The supplementary water event volume is:
  - (a) the volume of uncontrolled flows in the water source that are downstream of Copeton Dam, minus
  - (b) the volume of uncontrolled flows in subclause (a) required to provide sufficient flow to:
    - (i) meet the environmental provisions of the Plan,

**Note—**

This includes the clause 14 provisions requiring that inflows from the Horton River, Myall creek and Halls Creek up to 500 ML/day per day be passed through to the Gwydir wetlands.

- (ii) satisfy downstream domestic and stock rights and native title rights,
    - (iii) satisfy the water orders placed by regulated river (general security) access licences and higher priority access licences, and
    - (iv) provide any required replenishment flows specified in clause 59.
- (7) Taking of water under supplementary water access licences nominating works on the Mehi River, Carole Creek, or on rivers which receive effluent flows from the Mehi River or Carole Creek, shall not be permitted, or shall be restricted, when this is required to ensure the passage to the Barwon-Darling of locally generated uncontrolled flows needed to meet the requirements of the Interim Unregulated Flow Management Plan for the North West.

**Note—**

The Interim Unregulated Flow Management Plan for the North West is also known as the North-West Unregulated Flow Management Plan.

- (8) For the purposes of subclause (7), locally generated uncontrolled flows shall mean any uncontrolled flow or portion of any uncontrolled flow in these rivers that is not the result of inflows from the Gwydir River.
- (9) The requirements of the Interim Unregulated Flow Management Plan for the North West are:
  - (a) a flow of 14,000 ML/day in the Darling River at Brewarrina for 5 consecutive days, or 10,000 ML/day in the Darling River at Bourke for 5 consecutive days, during the period September to February inclusive, providing two such flow events have not already occurred during that period in that water year,

**Note—**

This subclause is intended to provide opportunity for the passage of fish across the major weirs in the Barwon-Darling.

- (b) a flow of 2,000 ML/day in the Darling River at Wilcannia for 5 consecutive days during October to April, inclusive, providing flows of this quantity have not already been reached during the preceding three months within the October to April period, and

**Note—**

This subclause is intended to protect flows needed to suppress blue-green algae blooms.

- (c) a flow of:

- (i) 150 ML/day in the Darling River at Wilcannia,
- (ii) 280 ML/day in the Darling River at Louth,
- (iii) 390 ML/day in the Darling River at Bourke,
- (iv) 550 ML/day in the Darling River at Brewarrina, and
- (v) 700 ML/day in the Barwon River at Walgett,

**Note—**

This subclause is intended to protect flows needed to meet basic landholder rights requirements along the Barwon-Darling River.

- (10) The Minister may, under section 45 (1) (b) of the Act and by notice published in the Gazette, alter or replace the rule set out in subclause (7) or the requirements set out under subclause (9) should the Interim Unregulated Flow Management Plan for the North West be altered, or replaced by new management arrangements, providing that such action:

- (a) only affects the taking of water under supplementary water access licences,
- (b) only relates to ensuring the taking of water under supplementary water access licences does not jeopardise critical environmental needs or the supply of water to basic rights holders, domestic and stock access licence holders and local water utility access licence holders in the Barwon Darling, and
- (c) in the Minister's opinion, does not substantially alter the long-term average volume of water that can be taken under supplementary water access licences in the Gwydir Regulated River Water Source.

## **Part 10 Access licence dealing rules**

### **49 Access licence dealing rules**

- (1) This Part is made in accordance with section 20 (1) (d) of the Act and with the

Minister's access licence dealing principles gazetted on 27 December 2002 under section 71Z of the Act.

- (2) Applications for access licence dealings may be granted subject to the Minister's access licence dealing principles gazetted from time to time under section 71Z of the Act and the rules in this Part.

**Note—**

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

**Note—**

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

**50 Rules relating to constraints within this water source**

- (1) This clause relates to dealings under sections 71O, 71Q, 71T and 71W of the Act.
- (2) Until extraction components for access licences in the following sections of this water source have been amended in accordance with clause 47, a dealing in:
  - (a) the Gwydir River downstream of Tyreel Regulator,
  - (b) the Mehi River downstream of the Moomin Creek junction,
  - (c) Moomin Creek, and
  - (d) Carole Creek,

is prohibited if it would result in the total volume of the share components of domestic and stock access licenses, regulated river (high security) access licences and regulated river (general security) access licences nominating water supply works on any of these sections of this water source exceeding the total at the commencement of this Plan.

- (3) Assignment of water allocations from a supplementary water access licence water allocation account to an access licence of any other access licence category is prohibited.
- (4) Assignment of water allocations to a supplementary water access licence water allocation account from an access licence of any other access licence category is prohibited.

## **51 Rules for change of water source**

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

**Note—**

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

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

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

(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, and

(c) the water source is within the Gwydir Water Management Area.

**Note—**

The degree of hydrologic connection between the Gwydir and other Murray-Darling river systems is insufficient to permit dealings between the Gwydir and these systems to occur.

(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,

(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 these water sources, has been applied, and

(c) the water source is within the Gwydir Water Management Area.

**Note—**

The access licence dealing principles gazetted on 27 December 2002 prohibit a change of water source dealing where the movement is from an unregulated river water source to a regulated river water source.

## **52 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 is 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 these water sources, and
  - (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 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 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.

- (5) 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 (stock only) 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.
- (6) 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.

### **53 Rules for interstate access licence transfer**

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

### **54 Rules for water allocation assignment between water sources**

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

### **55 Rules for interstate assignment of water allocations**

- (1) This clause relates to dealings under section 71V of the Act.
- (2) Water allocation equivalents from other States may 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 may not be assigned to water allocation equivalents in other States.

## **Part 11 Mandatory conditions**

### **56 Mandatory conditions on access licences**

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

**Note—**

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

- (2) All access licences in this water source shall have mandatory conditions to give effect to the following:

- (a) the specification of the share component of the access licence,
  - (b) the specification of the extraction component of the access licence,
  - (c) the requirement that extraction under the access licence shall be subject to the available water determinations,
  - (d) the requirement that extraction under the access licence shall 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 shall not exceed the volume of water allocation remaining in the licence account,
  - (f) the requirement that water may only be taken by water supply works nominated on the access licence, and
  - (g) any other conditions required to implement the provisions of this Plan.
- (3) All access licences shall have a mandatory condition that facilitates the provisions of clause 47 of this Plan.
- (4) All domestic and stock access licences, local water utility access licences, regulated river (high security) access licences and regulated river (general security) access licences shall have mandatory conditions that only allow the taking of water if it has been ordered in accordance with procedures established by the Minister.
- (5) All regulated river (general security) access licences shall have mandatory conditions to give effect to the provisions in clause 33 of this Plan.
- (6) All supplementary water access licences shall have mandatory conditions that only allow the taking of water in accordance with announcements, as specified in clause 48, and after satisfying any procedures established by the Minister,
- (7) All domestic and stock access licences, other than 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.
- (8) 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.
- (9) 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.
- (10) All regulated river (high security) (Aboriginal cultural) access licences shall have

mandatory conditions that only allow the taking of water by Aboriginal persons or communities for personal, domestic and communal purposes including the purposes of drinking, food preparation, washing, manufacturing traditional artefacts, watering domestic gardens, cultural teaching, hunting, fishing, and gathering, and for recreational, cultural and ceremonial purposes.

#### **57 Mandatory conditions on water supply works approvals**

- (1) All approvals for water supply works in this water source shall have mandatory conditions to give effect to the following:
  - (a) flow measurement devices shall be installed and maintained on all works used for extraction of water under an access licence and shall be of a type and shall be maintained in a manner, which is acceptable to the Minister,
  - (b) water extraction, property water management infrastructure and cropping details shall be provided on request, in the form and in accordance with procedures established by the Minister, and
  - (c) the taking of water may only occur in accordance with the conditions applying to the access licence from whose water allocation account the taking of water will be debited.
- (2) Subclause (1) does not apply to approvals for water supply works held by State Water provided such an approval is not nominated by an access licence.
- (3) All approvals for water supply works in this water source shall have any other conditions required to implement the provisions of this Plan.

### **Part 12 System operation rules**

#### **58 System operation rules**

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

#### **59 Replenishment flows**

- (1) The following replenishment flows shall be provided, if required:
  - (a) up to 6,000 megalitres per year to the Gingham Watercourse,
  - (b) up to 4,000 megalitres per water year to the Gwydir River downstream of this water source,
  - (c) up to 6,000 megalitres per water year to Mallowa Creek,
  - (d) up to 4,000 megalitres per water year to Thalaba Creek, and
  - (e) up to 1,000 megalitres per water year to Ballinboora Creek.

- (2) Sufficient volumes of water must be set aside from assured inflows into this water source and reserves held in Copeton Dam water storage to provide for subclause (1).

## **60 Water delivery and channel capacity constraints**

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

- (a) inundation of private land or interference with access,
- (b) the effects of inundation on the floodplain and associated wetlands,
- (c) the transmission losses expected to occur,
- (d) capacities of water management structures controlled by the Minister, and
- (e) SWMOP targets.

### **Note—**

The following capacities have been assessed:

- (i) Carole/Gil Gil—2,200 ML/day,
- (ii) Mehi River—5,800 ML/day,
- (iii) Moomin Creek—2,200 ML/day, and
- (iv) Gwydir River d/s Tyreel—1,100 ML/day.

## **61 Rates of change to storage releases**

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

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

## **62 Supply of orders when remaining allocations are low**

- (1) If, in the opinion of the Minister, the total remaining volume of water in access licence allocation accounts has reduced to a level where the continuous delivery of water orders would involve unacceptably high delivery losses, water orders may be grouped and released periodically.
- (2) The Minister should seek advice from irrigation industry representatives regarding the circumstances under which action under subclause (1) should be taken and the

manner of management.

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

- (1) The operation of Copeton Dam during times of flood and spilling of water is to be undertaken in a manner that maintains the safety of dam infrastructure.
- (2) Providing it is consistent with subclause (1), operation :
  - (a) should leave the storage at full supply level at the completion of the flood or spilling of water,
  - (b) during floods should ensure the general rate of increase of outflow does not exceed the rate of increase of inflow,
  - (c) should aim to lessen downstream flood damage where possible, and
  - (d) may involve temporary storage of water above the normal maximum available storage level to reduce flood effects, and management of the rate of release of this water to avoid aggravating downstream flood damage.

## **Part 13 Monitoring and reporting**

### **64 Monitoring**

The monitoring of the performance indicators specified in clause 12 of this Plan 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.

## **Part 14 Amendment of this Plan**

### **65 Changes to this water source**

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

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

### **66 Other amendments of this Plan**

The Minister, under section 45 (1) (b) of the Act and by notice published in the Gazette, may amend this Plan, in accordance with clause 48 (10), in respect to the requirements or arrangements affecting taking of water under supplementary water access licences nominating works on the Mehi River, Carole Creek, or on rivers which receive effluent flows from the Mehi River or Carole Creek.

### **67 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.

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

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

amendments so long as the amendments:

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

## Dictionary

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

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

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

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

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

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

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

**Cap baseline conditions** are those used for assessment of Cap in Schedule F of the Murray Darling Basin Agreement and relate to the level of water resource development at June 1994.

**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 710 or 71R of the Act.

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

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

**full supply level** is the storage level considered to be the limit for the purposes of storage of water, except in periods of flood operation.

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

**Minister** is the Minister for Land and Water Conservation. The Minister may delegate his 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.

**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 and, 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).

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

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

**uncontrolled flow** is flow, in excess of that needed to meet the environmental provisions of the 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 these water sources, and the management practices that are applied in relation to them.

**water year** is 1 July to 30 June

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

### **Levels of assessed contribution:**

FULL contributes to target in full

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

PARTIAL goes some way to contributing to the target

LOW only small degree of contribution to target



Relevant Target	Level of Contribution	Comments
<p><b>Target 1a</b> Extractions in Murray Darling Basin’s regulated rivers limited to the level of the long-term average annual extraction below the Murray Darling Basin Ministerial Council (MDBMC) Cap which results from the long-term impact of the environmental water rules</p>	FULL	<ul style="list-style-type: none"> <li>• This Plan clearly sets out the basis for the long-term extraction limit in Part 8.</li> </ul>
<p><b>Target 1f</b> Rules for adjustments to future available water determinations in the event that the extraction limits are exceeded, clearly prescribed in consultation with the relevant management committee, and acted upon.</p>	FULL	<ul style="list-style-type: none"> <li>• Rules set out in Part 8.</li> <li>• Environmental flow rules significantly improve inflows into the wetlands compared to Cap.</li> <li>• This Plan provides a 45,000 ML Environmental Contingency Allowance.</li> </ul>
<p><b>Target 2</b> All water management plans incorporating mechanisms to protect and restore aquatic habitats, and the diversity and abundance of native animals and plants, with particular reference to threatened species, populations and communities and key threatening processes.</p>	PARTIAL	<ul style="list-style-type: none"> <li>• 4 species (River Snail, Silver Perch, Purple spotted gudgeon, Olive perchlet) occurring in Gwydir have been listed as threatened. This Plan should assist in the protection/recovery of these species.</li> <li>• 16 wetland and floodplain dependent birds listed as threatened occur in the Gwydir. 14 bird species protected under JAMBA and CAMBA also occur. NPWS have indicated that they consider the environmental flow rules provide only the minimum necessary to protect these species.</li> </ul>
<p><b>Target 4a</b> Where the frequency of “end of system” daily flows would be less than 60 percent of the predevelopment level without environmental water rules or extraction limits, the flows increased to 60 percent of predevelopment levels or increased by at least 10 percent of the predevelopment frequency.</p>	FULL	<ul style="list-style-type: none"> <li>• This Plan meets the target for wetland inflows as follows: 50<sup>th</sup> percentile flows are 100% of predevelopment under Plan, 30<sup>th</sup> percentile flows are 97% of predevelopment under this Plan, 10<sup>th</sup> percentile flows are improved by more than 10% (ie increased from 15% of predevelopment under the Cap to 40% under this Plan).</li> </ul>

<p><b>Target 4b</b> Frequency of “end of system” daily very low flows (as defined by local field investigation) protected or restored to predevelopment levels to maintain or restore their critical ecological functions, drought refuges and habitat connectivity. In the absence of such local assessments, protection extended up to at least the predevelopment 95<sup>th</sup> percentile.</p>	<p>FULL</p>	<ul style="list-style-type: none"> <li>• This Plan maintains the predevelopment 95<sup>th</sup> percentile flow frequency for the wetland inflows.</li> </ul>
<p><b>Target 4c</b> The channel capacity of all lower river and effluent creek systems used for the delivery of regulated water determined. Subject to reasonable socio-economic impacts, limits on daily supply volumes established for effluent systems such that they do not exceed 80 percent of the channel capacity for more than 10 percent of days in each month of each year. Where daily supply volumes are currently substantially less than channel capacity, alternative limits established to reduce the impact of unseasonal flows arising from future access licence dealings.</p>	<p>PARTIAL</p>	<ul style="list-style-type: none"> <li>• This Plan provides for the determination of maximum operating channel capacities.</li> <li>• This Plan provides for the distribution of numerical extraction rights that could be used to facilitate management to desired capacity targets.</li> <li>• This Plan notes a number of maximum channel capacity constraints for the Gwydir River, Mehi River, Moomin Creek and Carole Creek which are to apply at the commencement of the Plan.</li> </ul>
<p><b>Target 5</b> Access rights for water access licensees clearly and legally specified in terms of share and extraction components.</p>	<p>FULL</p>	<ul style="list-style-type: none"> <li>• Access for existing regulated access licences and supplementary water access licences are specified and tradeable.</li> </ul>
<p><b>Target 9a</b> Flow thresholds for declaration of supplementary water access, which take into account environmental needs, clearly specified.</p>	<p>HIGH</p>	<ul style="list-style-type: none"> <li>• This Plan specifies that inflows up to 500 ML/day from 3 of this water source’s major tributaries goes through to the wetlands.</li> <li>• There has been no consideration of thresholds for within river purposes or effluent streams.</li> </ul>
<p><b>Target 9b</b> Annual limits on supplementary water extractions, consistent with the long-term average annual extraction limits, established in all regulated river water sources.</p>	<p>FULL</p>	<ul style="list-style-type: none"> <li>• This Plan sets the maximum available water determination for supplementary access licences at the full entitlement of 170,000 megalitres.</li> </ul>
<p><b>Target 9c</b> Rules for sharing between supplementary water licence holders made explicit.</p>	<p>PARTIAL</p>	<ul style="list-style-type: none"> <li>• This Plan does not clearly specify any sharing rules however, it does provide for “evenly sharing” access between supplementary water access licences.</li> </ul>

<p><b>Target 9d</b> Supplementary access licence dealings made possible in regulated river water sources, subject to extraction limits and environmental assessment and Aboriginal spiritual and cultural constraints.</p>	<p>FULL</p>	<ul style="list-style-type: none"> <li>• Trading of supplementary access water is permitted.</li> </ul>
<p><b>Target 12</b> Measures in place in all water sources subject to a gazetted water sharing plan to protect domestic and stock rights from the impact of other water access and use.</p>	<p>FULL</p>	<ul style="list-style-type: none"> <li>• Obligations are set out in Part 5.</li> </ul>
<p><b>Target 14</b> Water sources, ecosystems and sites of cultural or traditional importance to Aboriginal people identified, plans of management prepared, and measures put in place to protect and improve them.</p>	<p>PARTIAL</p>	<ul style="list-style-type: none"> <li>• This Plan does not specifically address Aboriginal cultural or traditional requirements and has not identified any sites of particular importance.</li> <li>• However, the significant improvement in environmental flows achieved under this Plan should contribute to protecting or improving Aboriginal values.</li> </ul>
<p><b>Target 16a</b> All share components of access licences tradeable.</p>	<p>FULL</p>	<ul style="list-style-type: none"> <li>• All entitlements (including supplementary water) will be tradeable under this Plan.</li> </ul>
<p><b>Target 16c</b> Conversion factors and protocols established to facilitate trading and dealings between water sources, whilst also protecting existing access and environmental water.</p>	<p>FULL</p>	<ul style="list-style-type: none"> <li>• Transfers between water sources are in line with Government policy and the Minister’s Access Licence Dealing Principles.</li> </ul>
<p><b>Target 16d</b> Reduced conversion factors only applied when necessary to offset increased losses associated with water supply delivery</p>	<p>FULL</p>	<ul style="list-style-type: none"> <li>• This Plan does not impose reduction factors.</li> </ul>
<p><b>Target 16f</b> Zones established where necessary for environmental protection and limits/constraints on water dealings in them made explicit.</p>	<p>PARTIAL</p>	<ul style="list-style-type: none"> <li>• There is some delineation of transfer zones and application of transfer restrictions pending numerical specification of extraction rights.</li> </ul>
<p><b>Target 35</b> All water management plans incorporating water quality objectives that have considered Government approved Interim Environmental Objectives, the current ANZECC Guidelines and the recommendations of relevant Healthy Rivers Commission Inquiries.</p>	<p>HIGH</p>	<ul style="list-style-type: none"> <li>• This Plan includes a water quality objective and a 45,000 megalitre ECA.</li> </ul>

## Appendix 1 Rivers and lakes within this water source

The Gwydir Regulated River Water Source includes, but is not limited to, the following rivers and lakes:

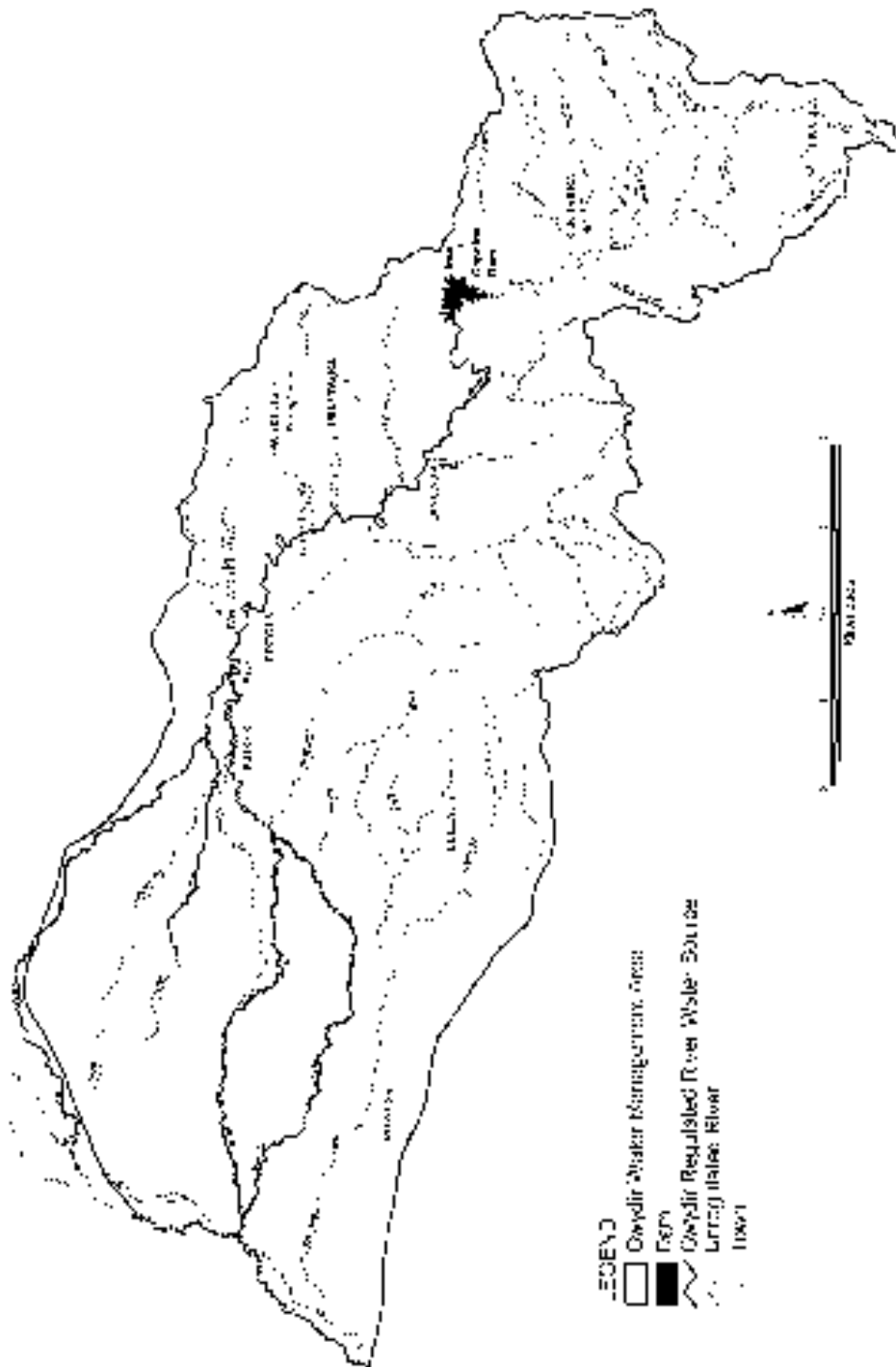
- (a) Boomi River from its confluence with Gil Gil Creek in portion 3, Parish of Bibble, County of Benarba, downstream to its confluence with the Barwon River in portion 2, Parish of Bibble, County of Benarba.
- (b) Carole Creek from its offtake from the Gwydir River in portion 52, Parish of Boolooroo, County of Courallie downstream to its confluence with Gil Gil Creek.
- (c) Gil Gil Creek from its confluence with Carole Creek in T.S.R. 15022, Parish of Gocalla, County of Benarba, downstream to its confluence with Boomi River.
- (d) Gwydir Pool from the bifurcation near portion 56, Parish of Carore, County of Courallie, downstream to "The Raft".
- (e) Gwydir River from Copeton Dam storage downstream to the northwestern boundary of portion 27, Parish of Gin, County of Benarba
- (f) Marshalls Ponds Creek from its confluence with Carole Creek upstream to a point 100 metres east of the common boundary of portions 15 and 16, Parish of Bogree, County of Courallie.
- (g) Mehi River, from the Tareelaroi cutting in portion 16, Parish of Mia Mia, County of Courallie, downstream to the Barwon River.
- (h) Moomin Creek from Combadello Weir downstream to its confluence with the Mehi River.
- (i) Tyreel Anabranh.
- (j) Unnamed Watercourse, from its upstream confluence with Moomin Creek, located approximately 404m downstream from the eastern boundary of portion 33, Parish of Bunna Bunna, County of Benarba, to its downstream confluence with Moomin Creek, located approximately 503m from the upstream confluence, all within the abovementioned portion, parish and county.
- (k) Unnamed watercourse offtaking from the Gwydir River within portion 39, Parish of Ardgowan, County of Courallie and rejoining the Gwydir River within portion 54, Parish of Ardgowan, County of Courallie.

**Note—**

The following rivers receive domestic and stock replenishment flows from the Gwydir Regulated River Water Source but do not themselves form part of this water source:

- Gingham Channel,
- Mallowa Creek,
- Lower Gwydir River,
- Ballinboora Creek, and
- Thalaba Creek.

## Appendix 2 Gwydir River system



## 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 Gwydir Regulated River Water Sharing Plan

Performance indicator	Related objective	As measured by:	Commentary
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(a) Change in ecological condition of the water source and dependent ecosystems.	clause 10 (a) clause 10 (c)	<ul style="list-style-type: none"> <li>• Monitoring of ecological response to changed flow regimes, by IMEF (each water source will have specific hypotheses from the set developed under IMEF).</li> <li>• Other relevant studies as may be undertaken in specific water sources.</li> </ul>	<ul style="list-style-type: none"> <li>• IMEF tests a number of hypotheses to indicate how elements of river ecology respond to different aspects of the flow regime (including EFRs, irrigation flows, and floods and wetland connectivity).</li> </ul>
(b) Change in low flow regime	clause 10 (a) clause 10 (c)	<ul style="list-style-type: none"> <li>• Number of days per water year where flow is below natural 95<sup>th</sup> and 80<sup>th</sup> percentiles.</li> <li>• Average and maximum number of days per water year of continuous periods of flow which is below natural 95<sup>th</sup> and 80<sup>th</sup> percentiles.</li> <li>• Measurement at end of system and specified key sampling sites.</li> </ul>	<ul style="list-style-type: none"> <li>• Government's River Flow Objectives (RFOs) 1 and 6.</li> <li>• Analysis would need to incorporate reference to seasonal indicators.</li> <li>• Long term modelling will reflect the influence of climate on flows.</li> <li>• 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.</li> <li>• Baseline audit should be the modelled WSP scenario (rather than natural flows).</li> </ul>
(c) Change in moderate to high flow regime	clause 10 (a) clause 10 (c)	<ul style="list-style-type: none"> <li>• Number of days per water year where flow is above natural 30<sup>th</sup> 15<sup>th</sup> and 5<sup>th</sup> percentiles.</li> <li>• Average and maximum number of days per water year of continuous periods of flow which is above natural 30<sup>th</sup>, 15<sup>th</sup> and 5<sup>th</sup> percentiles.</li> <li>• Measurement at end of system and other key sampling sites in the water source.</li> </ul>	<ul style="list-style-type: none"> <li>• RFO 3</li> </ul>

(d) Change in water quality	clause 10 (d)	<ul style="list-style-type: none"> <li>• Assessment and statistical analysis of key water quality parameters, and relationship to flow.</li> </ul>	<ul style="list-style-type: none"> <li>• The Plan rules will contribute to a long term change in water quality by affecting flow regimes and flow management to address issues such as algal management.</li> <li>• There are many non-water sharing plan related factors that affect water quality (eg land-based activities and thermal pollution).</li> </ul>
(e) Extent to which basic landholder rights requirements have been met	clause 10 (f)	<ul style="list-style-type: none"> <li>• Basic rights allowances made according to plan provisions/ implementation program requirements.</li> <li>• Flows adequate to meet basic rights requirements (taking into consideration allowances for delivery).</li> </ul>	<ul style="list-style-type: none"> <li>• Basic rights usage figures in water sharing plans are estimated volumes (not actual use).</li> <li>• Basic rights represents a very small proportion of water extraction in regulated systems.</li> </ul>
(f) Extent to which local water utility and major utility requirements (where major utilities are involved in urban water provision) have been met.	clause 10 (b)	<ul style="list-style-type: none"> <li>• Percentage of years that reserves were adequate to satisfy urban water requirements.</li> </ul>	
(g) Change in economic benefits derived from water extraction and use	clause 10 (e)	<ul style="list-style-type: none"> <li>• Change in regional gross margins versus annual total extractions based on year 1 benchmarks (as represented in IQQM).</li> <li>• Movement of water to higher value crops as measured by increases in area and/or water extracted by these enterprises versus lower value uses.</li> <li>• Change in unit price of water transferred.</li> <li>• Annual total volume of access licence transferred (ML) in each water year.</li> </ul>	<ul style="list-style-type: none"> <li>• There are many factors affecting economic status of a region, for example commodity prices, other sources of water (eg groundwater).</li> <li>• The PI is intended to isolate as much as possible the effects of water availability and price on the gross margin returns at a regional level.</li> <li>• Assessment undertaken as part of plan performance monitoring will make assumptions to attempt to identify the impact of the plan provisions.</li> </ul>

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| (h) Extent of recognition of spiritual, social and customary values of water to Aboriginal people. | clause 10 (h) | <ul style="list-style-type: none"><li>• Assessment of amount and type of information collected to identify the range of values of water to Aboriginal people.</li></ul> | <ul style="list-style-type: none"><li>• 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.</li></ul> |
| (i) Extent to which native title rights have been met.   | clause 11 (h) | <ul style="list-style-type: none"><li>• Native title rights allowances made according to plan provisions/implementation program requirements.</li></ul>                 |  |

## **Appendix 5 (Repealed)**