A guide to the
Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source

September 2004

(as amended on 1 July 2004)

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This publication is a guide only. It is not intended to set out all the requirements of the water sharing plan. Anyone requiring details of how their legal rights are affected should refer to the gazetted water sharing plan.
Introduction
This guide provides an explanation of the main sections of the Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source gazetted on 21 February 2003 and including the amendments gazetted on 1 July 2004. The Plan commenced on 1 July 2004 and applies for a period of 10 years to 30 June 2014. It is a legal document made under the Water Management Act 2000 (the Act). The Plan is implemented by the Department of Infrastructure, Planning and Natural Resources (DIPNR).

The water sharing rules in the Plan provide water for the environmental needs of the Macquarie and Cudgegong Regulated Rivers Water Source and direct how the water available for extraction is to be shared. The Plan also sets rules that affect the management of water access licences, water accounts, the trading of or dealings in licences and water allocations, the extraction of water, the operation of dams, and the management of water flows. Many of these provisions are similar to those that were in place prior to the Plan.

A number of the rules in the Plan are quite complex, and cannot be explained in full detail in this summary guide. You should refer to the statutory plan if you wish to know more detail (see Additional information).

In some cases, the terminology used in the Plan differs from that used in the past. This has been necessary for consistency with the Act. New terms used in this guide are highlighted in the text (bold text) and are explained in the glossary provided at the back of this guide.

Background
The Cudgegong River rises in the Great Dividing Range above Rylstone and drains an area of 3,880 square kilometres. It is a major tributary of the Macquarie River and flows into Burrendong Dam. The Macquarie River is formed near Bathurst, following the joining of the Fish and Campbells Rivers, and extends north-west to the Barwon River upstream of Bourke. The major towns within the Macquarie Valley are Bathurst, Orange, Mudgee and Dubbo.

The volume and pattern of flows in the water source have been significantly altered by the construction and operation of Windamere Dam on the Cudgegong River and Burrendong Dam on the Macquarie River to supply downstream water extractors. Traditionally, natural river flows were highest between June and October and lowest in late-summer and autumn. However, flows in much of the system are now at their highest during the irrigation season, which extends from October to March. In particular, the frequency, extent and duration of inundation in the Macquarie Marshes have been reduced.

The Macquarie Marshes are one of the largest semi-permanent wetlands in south-eastern Australia, covering more than 150,000 hectares (ha). Parts of the Marshes are listed on or under the:

- Ramsar convention (18,143 ha),
- National Trust as a Landscape Conservation Area (148,000 ha),
- Australian Heritage Commission’s register of the National Estate (148,000 ha), and
- Directory of Important Wetlands in Australia.

Development of the Plan
The Macquarie Cudgegong River Management Committee was established in 1997 to develop a river management plan and advise on environmental flow rules for the water source. The Committee included representatives of the irrigation industry, environmental interests, indigenous communities, the local Catchment Management Board, local councils and government agencies (the then Department of Land and Water Conservation, National Parks and Wildlife Service, Environment Protection Authority, NSW Agriculture and NSW Fisheries). In March 1996 the NSW Government adopted the Macquarie Marshes Water Management Plan.
In 2001, the Minister for Land and Water Conservation asked the Committee to recommend water sharing rules for both environmental and extractive water. A draft water sharing plan was prepared by the Committee and placed on public exhibition by the Minister in mid 2002.

The statutory plan was made by the Minister in February 2003. It was based on the recommendations of the Committee, submissions received from the community as a result of the public display of the draft plan, and agreed Government policy. Some amendments were made to the Plan in consultation with the Committee and it commenced on 1 July 2004.

**Area of the Plan**

The Plan applies to the regulated sections of the Macquarie and Cudgegong Rivers as shown on the map. The regulated section of the Cudgegong River extends more than 120 km from the upper limit of the Windamere Dam water storage to the upper limit of the Burrendong Dam water storage.

The regulated section of the Macquarie River extends more than 850 km from the upper reaches of Burrendong Dam water storage to the confluence of Bulgeraga and Monkeygar Creeks.

The Plan also applies to the regulated sections of the Gunningbar, Duck, Crooked and Bulgeraga Creeks. While the Macquarie Marshes are not part of the Plan area, the Plan includes rules about the release of flows to improve environmental outcomes within the Marshes.

The Plan provides **replenishment flows** for a number of water sources in the lower Macquarie and lower Bogan River systems.
How is water shared in a regulated river?

This chart shows how the rules of the Plan were developed and relates these 8 key steps to the relevant section in the statutory water sharing plan.

**STEP 1 – ESTABLISH THE FLOW RELATIONSHIPS OF THE RIVER AND ECOLOGICAL PROCESSES**

Based on historical flow records and known physical processes of the river, construct a hydrological model analyse options for river management.

**STEP 2 – PROVIDE WATER FOR THE ENVIRONMENT**

Establish key environmental features of the river and devise flow related rules to provide water to sustain or improve those features.

*Part 3 – environmental water provisions*

**STEP 3 – PROVIDE WATER FOR BASIC LANDHOLDER RIGHTS**

Estimate total requirements for domestic and stock rights and native title rights.

*Part 4 – basic landholder rights*

**STEP 4 – DETERMINE ACCESS LICENCE REQUIREMENTS**

Assess the total share volumes of all access licences and rules for granting of any additional access licences.

*Part 6 – requirements for water under access licences, and Part 7 – rules for granting access licences*

**STEP 5 – SET LIMITS ON WATER FOR EXTRACTION AND SHARE THAT BETWEEN DIFFERENT WATER USERS**

Set a limit on the water for extraction on an average yearly basis, and the rules for managing within these limits. Specify how the water that is available will be shared between all access licences.

*Part 8 (Division 1) - long-term average extraction limit, and Part 8 (Division 2) – available water determinations*

**STEP 6 – PROVIDE ACCESS LICENCE HOLDERS WITH FLEXIBILITY**

Set rules on how water accounts are to be managed and define the dealing rules.

*Part 9 (Division 2) – water allocation account management, and Part 10 – access licence dealing rules*

**STEP 7 – PROVIDE CLEAR LICENSED RIGHTS**

Translate Steps 5 and 6 into mandatory conditions on individual access licences and approvals, and specify any system operation rules, and if and how a plan rule can be amended.

*Part 11 – mandatory conditions, Part 12 – system operation rules, and Part 14 – amendment of this Plan*

**STEP 8 – MONITOR PLAN**

Review the implementation of the Plan each year and audit performance of the Plan every 5 years.

*Part 13 – monitoring and reporting*
**Vision**

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

**Environmental water**

The Act requires that the sharing of water must protect the water source and its dependent ecosystems and that the Plan establishes specific environmental water rules.

Environmental water rules were first incorporated into the water management of the Macquarie River in 1986. These rules were revised in 1996. The environmental water rules in this Plan do not change the environmental shares of the 1996 plan but include further revisions to improve river health benefits. No environmental flow rules were previously applied in the Cudgegong River.

The main environmental water rules are listed in the box below. The volumes of water required under these rules is set aside prior to making water available for access licences. The environmental water rules are designed to:

- ensure that there is no erosion of the long-term average volume of water available to the environment during the life of the Plan,
- provide more natural flows in the upper reaches of the Cudgegong River immediately below Windamere Dam,
- establish an environmental water allowance, which is to be released:
  - to provide more natural flows downstream of Burrendong Dam during autumn, winter and spring months, and
  - when needed for specific environmental purposes in the Macquarie River or Macquarie Marshes.

**The environmental rules are:**

1. **All flows above the Plan extraction limit are reserved for the environment**
   - This means that, on a long-term average basis, approximately 73% of yearly flows in the river are protected for environmental health.

2. **Provide more natural flows in the upper reaches of the Cudgegong River**
   - Release a portion of inflows to Windamere Dam to attain, in combination with any downstream tributary inflows, flows between 150 and 1,500 megalitres per day (ML/day) at Rocky Water Hole.
   - Releases will not be made when the storage level of Windamere Dam is equal to or less than 110,000 ML.
   - Releases will be subject to an annual limit of 10,000 ML.

3. **Establish an environmental water allowance for the Macquarie River**
   - Up to 160,000 ML may be credited to the environmental water allowance in any water year.
   - Part of this environmental water allowance (sub account 1) is to be released to provide more natural flows downstream of Burrendong Dam. Releases from Burrendong Dam shall be made:
     - during the periods 1 June to 30 November, and 15 March to 31 May each year,
     - to attain, in combination with any downstream tributary inflows, flows between 500 and 4,000 ML/day at Marebone Weir.
   - The other part of this environmental water allowance (sub account 2) is to be released when needed for environmental purposes such as:
- to enhance opportunities for native fish recruitment and dispersal in the Macquarie River and Macquarie Marshes, and
- to ensure completion of colonial water bird breeding and to alleviate severe, unnaturally prolonged drought conditions in the Macquarie Marshes.

- An Environmental Flow Reference Group comprising industry, environmental, wetland and Government representatives is to provide advice on when the water should be released for environmental purposes.

### Basic landholder rights

The Plan provides for domestic and stock rights and native title rights – both forms of basic landholder rights which allow some extraction of water from the river without an access licence.

At the commencement of the Plan, domestic and stock extractions under basic landholder rights are estimated to be 1,200 ML/year. There are currently no extractions for native title rights from the water source. However, both forms of extraction may increase during the ten-year term of the Plan.

The water supply system is managed to ensure sufficient water is available to meet basic landholder rights.

The Plan also provides replenishment flows for a number of water sources in the lower Macquarie and lower Bogan River systems.

### Requirements for water under access licences

All other water extraction, other than for basic landholder rights, must be authorised by an access licence.

Each access licence specifies a share component expressed as a volume. The share components of specific purpose licences such as local water utility and domestic and stock are expressed as a number of megalitres per year. The share components of regulated river high security and general security access licences and supplementary water are expressed as a number of unit shares.

The following table lists the categories of access licences in the water source and their estimated total share component at the start of the Plan:

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<th>Access Licence Category</th>
<th>Total Share Component</th>
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<td>General security</td>
<td>632,428 unit shares</td>
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<tr>
<td>High security</td>
<td>19,419 unit shares</td>
</tr>
<tr>
<td>Supplementary water</td>
<td>50,000 unit shares</td>
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<tr>
<td>Domestic and stock</td>
<td>14,265 ML per year</td>
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<td>Local water utility</td>
<td>22,681 ML per year</td>
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Supplementary water access licences are now needed to take water that was previously termed “off-allocation”. These licences are issued to all holders of general security access licences. Special Additional Licences are also replaced by supplementary water access licences.

The share component within each access licence category may change during the term of the Plan as a result of the granting, surrender or cancellation of access licences, conversion from one category to another and trading of access licences between water sources. Towns may also be granted an increased share component as a result of population growth.

### Granting access licences

An embargo on applications for new commercial water access licences for most purposes has been in place for the Macquarie Regulated River since 1982 and for the Cudgegong Regulated River since 1985.
Under the Act the only applications for new access licences permitted to be made are for those categories or sub-categories specified in either the regulations or in the Plan.

Therefore the only applications permitted in the Macquarie and Cudgegong Regulated Rivers Water Source are for:

- a local water utility access licence,
- a domestic and stock access licence (subcategory “domestic”) for the purpose of domestic consumption,
- a high security access licence (subcategory “town water supply”) for the purpose of supply to communities for domestic consumption and commercial activities,
- a specific purpose access licence (subcategory “Aboriginal cultural”) for Aboriginal cultural purposes,
- a high security access licence (subcategory “Aboriginal cultural”) for Aboriginal cultural purposes,
- an access licence with a zero share component, or
- a replacement access licences as a result of access licence dealings.

**Long-term extraction limit**

Water extractions can increase through:

- existing licence holders using more of the water they are allocated as a result of increases in crop area, changes in crop type or watering practices, or the construction of on-farm water storages,
- the sale and subsequent activation of currently unused access licences or share components,
- the sale and subsequent use of currently unused water allocations, and
- the granting of new access licences.

An overall increase in water extraction would threaten the environmental objectives of the Plan, increase year-to-year variation in water supply and worsen the impact of droughts. To prevent this, the Plan establishes a long-term **extraction limit** and rules to be applied if this limit is exceeded.

Compliance with the limit is to be determined using a computer model of the Macquarie and Cudgegong regulated rivers. If this indicates that long-term average annual extractions are in excess of the Plan’s extraction limit, then the volume of water made available to access licences is to be reduced until extraction returns to the Plan limit. The volumes of water made available to supplementary water access licences must be reduced first, then if necessary, to general security access licences.

An advisory committee is to review annual extractions and make recommendations on compliance strategies.

**Available water determinations**

**Available water determinations** are the means by which water is shared between access licences. In the Macquarie and Cudgegong regulated rivers, available water determinations will be made for each access licence category at the start of the **water year** and if required, during the course of the year.

The water sharing rules set by the Plan and the reliability of inflows mean that available water determinations will provide allocations equal to 100% of the share volume of local water utility and domestic and stock access licences and 1 megalitre per unit share for high security access licences, in all but the most exceptional drought years.

The water made available to general security access licences, however, varies from year-to-year depending upon the amount of water held in Windamere and Burrendong Dams and whether more water becomes available during the year.

The volume that may be taken over a water year by each supplementary water access licence will be set by an available water determination made at the start of each water year. Extractions are subject to announcements (see **Extraction conditions for supplementary water access licences**).
Water allocation accounts

A water allocation account has been established for each access licence. Water is credited to the account when an available water determination is made, or when water allocation is moved into the allocation account from another access licence via an assignment of water allocation. Water is debited from the allocation account when water is extracted or moved to another access licence.

The accounts of all high priority category access licences (domestic and stock, local water utility and high security) continue to be managed on an annual basis. This means that any water that remains in an account at the end of each water year is forfeited. The account receives a new allocation of water in the next water year.

More complex rules apply to the accounts of general security access licences. These rules provide opportunity for access licence holders to reduce year-to-year water availability variations by allowing “carry over” of unused water allocations from one year to the next, up to a maximum of 100% of share component. Some access licences in the Cudgegong will be able to “carry over” more than 100% of the share component. These licences are listed in Schedule 3 of the Plan. However, some or all “carry over” water is forfeited when Burrendong or Windamere Dams are spilling.

Extraction conditions for supplementary water access licences

Extraction of water under supplementary water access licences will only be permitted in accordance with announcements made by DIPNR. These announcements specify when water can be taken and the maximum volume that may be taken over the period.

Extractions in the Macquarie Regulated River may only be permitted when flows are in excess of those required:

- under the Plan’s environmental water provisions,
- to supply domestic and stock and native title right requirements,
- to provide for higher priority access licence requirements,
- to provide specified replenishment flows, and
- when there is sufficient flow in the river to produce a flow at Warren which exceeds 5,000 ML/day above that required in the points above.

Extractions in the Cudgegong regulated river may only be permitted when Burrendong Dam is spilling, access to supplementary water has been announced in the Macquarie Regulated River and flows in the Cudgegong Regulated River are in excess of those required:

- under the Plan’s environmental water provisions,
- to supply basic landholder rights upstream of Burrendong Dam water storage, and
- to supply higher priority access licences upstream of Burrendong Dam water storage.

The maximum volume that may be taken over a water year by each supplementary water access licence will be set by an available water determination made at the start of the year.

Access licence dealing rules

Access licence dealings or water dealings can include the following:

- sale or transfer of the ownership of an access licence (called a ‘transfer’),
- change in the location where a water access licence can be used
- sale of the share component of an access licence (called assigning share component)
- subdivision or consolidation of access licences
- sale of allocation water (called an ‘assignment of water allocation’),
- change in the category of an access licence (called a ‘conversion’)

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• rental of a water access licence (called a ‘term transfer’).

For more information on the types of water dealings and their applications forms refer to the information on Water dealings on DIPNR’s website.

In a water source such as the Macquarie and Cudgegong regulated rivers, where applications for new access licences are restricted to specific categories (see Granting access licences), water dealings are essential for business flexibility and development. Rules that regulate dealings are, however, required for practical management reasons and to protect the environment and the interests of other access licence holders.

Rules in the Plan include:

• prohibition on dealings that would result in an increase in share component in Crooked Creek and the Prohibited Area of the Macquarie Mashes, including a ban on any assignment of water allocations into these areas
• restrictions on the amount of share component that can be traded into the Cudgegong River, Gunningbar Creek, Duck Creek and Bulgeraga Creek
• trading of share component and account water is not permitted between supplementary water access licences and other categories of access licence,
• conversion of access licence category is allowed for domestic and stock to domestic and stock (domestic only) and domestic and stock (stock only), domestic and stock (stock only) to high security, high security to general security, and general security to high security, and
• access licence category conversions and trades between water sources are subject to conversion factors and other rules to ensure that environmental water and other water extractors do not lose water as a result of the dealing.

Mandatory conditions
The Plan sets out a number of conditions that must be applied to access licences and water supply works approvals.

System operation rules
The Plan provides rules for a number of operational matters that affect the quantity and supply of water in the Macquarie and Cudgegong Regulated Rivers. These include rules for:

• replenishment flows to the Gum Cowal/Terrigal system, Crooked Creek below “Mumblebone”, parts of the Bogan River, Beleringar Creek and Reddenville Break,
• making bulk transfers of water between Windamere Dam and Burrendong Dam,
• the operation of Windamere Dam and Burrendong Dam during times of flood, and
• making releases from Burrendong Dam Flood Mitigation Zone.

Monitoring and reporting
The Plan includes indicators against which the performance of the Plan is to be monitored to determine if it is meeting its objectives. The Plan is to be audited at least every five years. The Natural Resources Commission is to undertake a review of the Plan prior to any decision to extend its term or to make a new plan.

In addition, an Implementation Program is to be established setting out the means by which the provisions of the Plan will be achieved. The effectiveness of the Implementation Program is to be reviewed each year and the results reported in the Department’s Annual Report.
Plan amendments

Water sharing plans recognise the need for some certainty regarding the water preserved for environmental purposes and the water available to extractors. However, during the term of the Plan, some amendments may be needed. The Plan allow for:

- the addition or deletion of sections of rivers to or from the water source,
- adjustments to the environmental water rules within defined boundaries, and
- variation of the minimum flow requirement for extraction of water under supplementary water access licences.

Additional information

Should you require further information on water sharing in the Macquarie and Cudgegong Regulated Rivers or a copy of the statutory plan please contact:

DIPNR Office: Orange (02) 6393 4300 or Dubbo (02) 6884 2560

Internet site:  www.dipnr.nsw.gov.au

Email: wma.info@dipnr.nsw.gov.au

Freecall ☏ 1800 353 104

Note: This information does not constitute formal legal advice.
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**Glossary of terms**

**access licences** allow the licence holder a share of the available water in the water source. An access licence is separate from the approvals to use the water or to construct and operate the works to extract the water eg pump, dam. Access licences do not have to be renewed.

**access licence dealing** or a water dealing refers to a change that can be made to a licence, in particular, those arising from trading including the sale of all or part of an access licence or account water. Other possible dealings include a change in the location from which water is extracted, the licence category or the consolidation or subdivision of licences.

**available water determinations** (AWDs) are the means by which water is shared between access licences each year. An available water determination adds volumes of water (ie water allocations) to the water accounts of all access licences in the licence category. The volume of water allocated to a water account is calculated by multiplying the number of unit shares on the licence by the volume per share stated in the AWD. The available water determination also ensures that long-term extraction does not exceed sustainable limits.

**basic landholder rights** cover three types of rights that do not require a licence. The first allows rural landholders along the river frontage to extract water for domestic household and stock watering purposes (domestic and stock rights) without an access licence. Domestic and stock rights replace riparian rights under the *Water Act 1912*. The second allows Aboriginal native title holders to take water in the exercise of native title rights for a range of personal, domestic and non-commercial communal purposes. Native title holders are as determined under the Commonwealth’s *Native Titles Act 1993*. The third component is the harvestable right which allows landholders to capture a portion of the runoff from their land in farm dams. The term basic landholder rights covers all these rights, although harvestable rights do not involve extraction from the river and so have not been provided for in the plan.

**extraction component** is part of the access licence, and will specify the sections of the water source from which water may be taken and may, at some time in the future, also specify the rate at which water can be taken when water delivery rates are limited.

**extraction limit** is the average yearly volume of water that can be extracted from the water source by all access licences.

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

**share component** is specified on the access licence, this is similar to the entitlement volume on previous water licences and is expressed as a unit share or in the case of specific purpose licences (such as local water utility, major water utility and domestic and stock) a volume in megalitres. The amount of water a licence holder is allocated as a result of an available water determination and the amount they can take in any year is based on their share component.

**supplementary water** is a new licensed right which replaces access to “off-allocation” water and Special Additional Licences and High Flow Authorities. Holders of supplementary water access licences are able to extract water during announced periods when flows exceed those required to meet other licensed obligations and environmental needs. This is typically during periods when the dam is spilling or as a result of high tributary inflows downstream of a dam.

**water supply works approval** authorises the construction and operation of water supply works at specified locations.

**water year** is the 12 months running from 1 July to 30 June.