



A Guide to the
Water Sharing Plan for the
**Castlereagh River above Binnaway
Water Source**

(as amended on 1 July 2004)

Additional information

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.

Should you require further information on any aspect of water sharing in the Castlereagh River above Binnaway Water Source, or a copy of the statutory plan, please contact:

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Introduction

This guide provides an explanation of the main sections of the Water Sharing Plan for the Castlereagh River above Binnaway 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 to 30 June 2014. It is a legal document made under the *Water Management Act 2000*. The Plan is implemented by the Department of Natural Resources.

The water sharing rules allocate water for the environmental needs of the river and direct how water is to be shared among different water users. For commercial water users, the water sharing rules are quite different to the pre-plan arrangements. The changes are necessary to provide adequate protection for the environment, particularly during periods of low flow when the demand for water by all users is greatest, and to more clearly define the access rights of individual licence holders. However, a number of the Plan's provisions will be phased in over time as the required gauging and metering systems are put into place.

Many technical aspects of the water sharing rules are quite complex, and are not fully addressed in this summary guide. For specific detail of the rules you will need to refer to the statutory plan (see *Additional information* for further details).

In some cases, new terminology has been introduced to ensure that the Plan is consistent with the Act. These new terms are highlighted in the text (**bold text**) and are explained in the glossary provided at the end of this guide.

Background

The Castlereagh River above Binnaway Water Source includes the headwaters of the Castlereagh River and its tributaries upstream of the New Mollyann Road Bridge in the township of Binnaway. The major catchment area is formed by the Warrumbungle Range, near Coonabarabran in the Central West of NSW. The water source has an area of about 1,486 square kilometres and is generally undulating cleared agricultural land, although the western margin of the catchment is steep and remains mostly timbered.

A river flow gauging station has operated at 'Hidden Valley' for 22 years and at 'Warkton' on Belar Creek for more than 50 years. The Castlereagh River has highly variable flow patterns. While downstream sections of the water source may have almost permanent water flow, the tributaries are often dry – up to 25% of the time. The difference in flow patterns between reaches is attributed to the influence of springs. It is for this reason that the Plan divides the water source into a number of management zones.

December tends to be the month of the lowest flows. This is also the time when water demands for irrigation are high.

At the start of the Plan, there were 60 licences in the water source. Of these, 50 were for irrigation, 3 for industrial, 3 for town water supply and 4 for domestic and/or stock purposes. (Domestic and stock licences are required by those landholders whose property does not front a river or creek).

The Castlereagh River above Binnaway is an area of importance for the Kamilaroi people. In the past, the creek has been not only a source of food but also a source of spiritual and cultural significance for Aboriginal communities.

Development of the Plan

A draft plan was prepared by the Central West Unregulated Streams Management Committee (established by the Minister as an advisory committee) and placed on public display in mid-2002. The Committee included representatives of water users for irrigation and grazing purposes, environmental interests, the Central West 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). During the development of the draft plan, the Committee held public meetings, developed case studies with individual landholders to test the Plan provisions and sought committee member consultation with their constituents.

The Plan was made by the Minister for Land and Water Conservation, with the concurrence of the Minister for the Environment. It was based on the recommendations of the Water Management Committee, the submissions arising from the public display of the draft plan and agreed Government policy. Some subsequent amendments were made to the plan and it commenced on 1 July 2004.

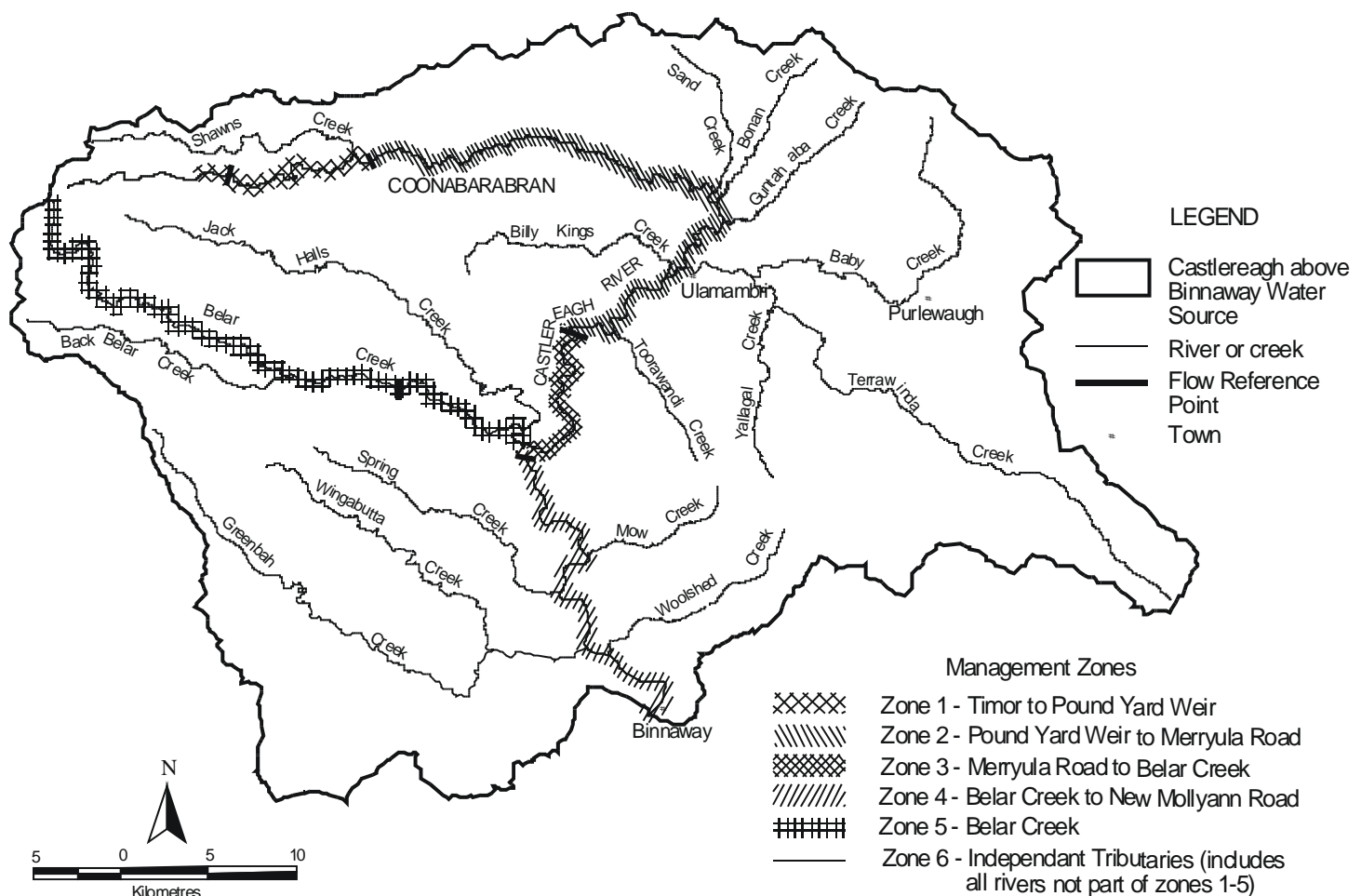
Area of the Plan

The Plan applies to the Castlereagh River above Binnaway Water Source including the tributaries within the water source as shown on the map below.

The water source has been divided into six management zones:

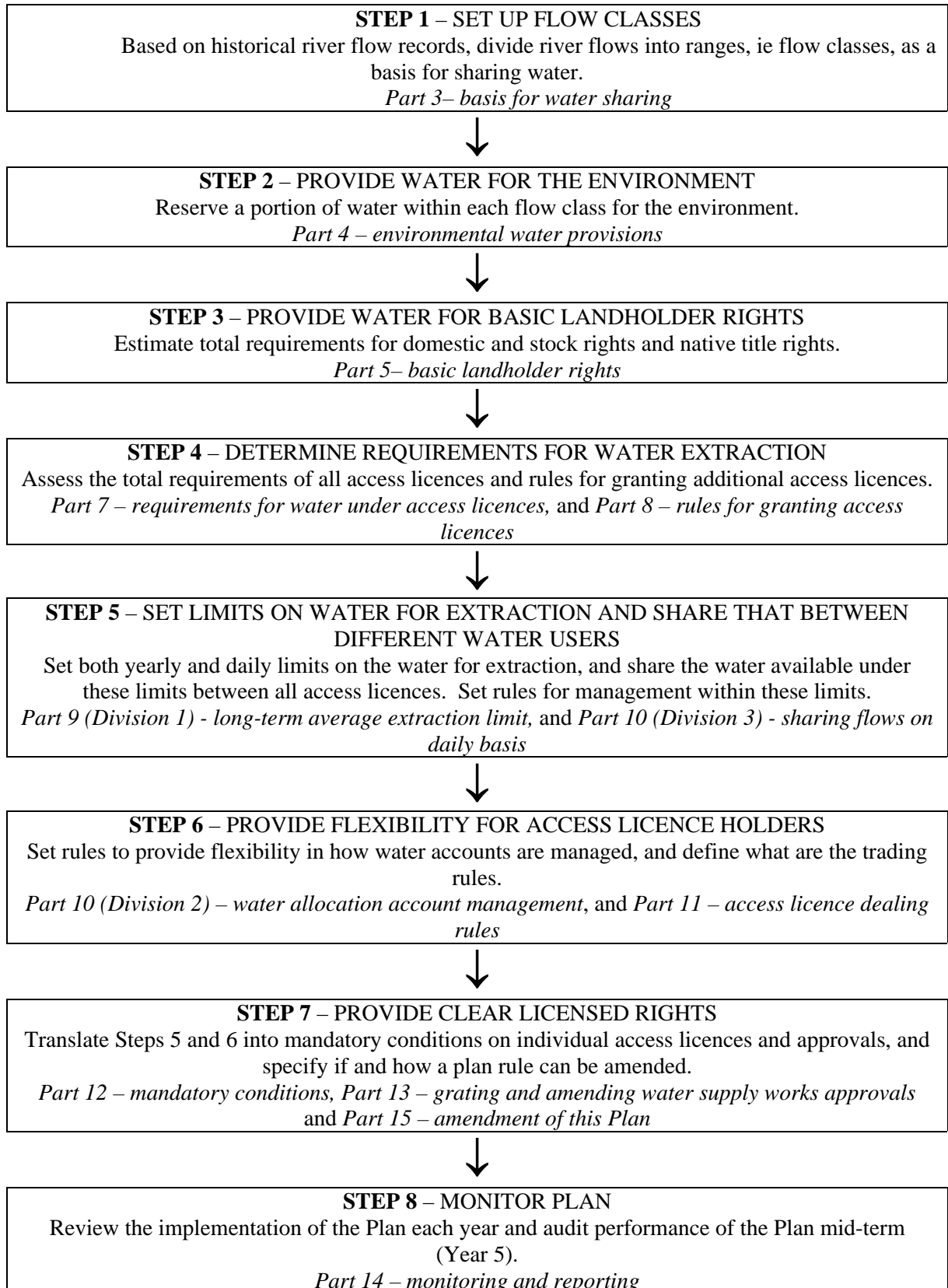
- Zone 1- Timor Dam to Pound Yard Weir,
- Zone 2 - Pound Yard Weir to Merryula Road,
- Zone 3 - Merryula Road to Belar Creek,
- Zone 4 - Belar Creek to New Mollyann Road,
- Zone 5 - Belar Creek, and
- Zone 6 - independent tributaries within the water source (includes all rivers not part of zones 1-5).

MAP: Castlereagh River above Binnaway Water Source



How is water shared in unregulated rivers?

This chart shows how the rules of the Plan are put into effect and relates these 8 key steps to the *relevant section* in the statutory water sharing plan.



Vision

The vision of the Plan is the protection and enhancement of water dependent ecological processes for a sustainable environment for the social and economic benefit of the current and future communities.

Basis for water sharing

The Castlereagh River above Binnaway is regarded as a stressed river. This means that, relative to the natural flows in the creek, the potential demand for extraction by water users is high. If everyone pumped water at the same time, there would not be enough water for all existing water users and the environmental needs of the river.

Climate and river flows, and therefore the water available to meet all competing needs, vary from year-to-year and day-to-day. The Plan sets a limit, or a cap, on overall extractions on an annual basis (the long-term average **extraction limit**) and also limits daily extractions (**total daily extraction limit –TDEL**).

The long-term average extraction limit is determined as one figure for the whole of the unregulated river catchments in the Castlereagh Valley, not just for an individual water source such as Castlereagh River above Binnaway. Extractions across this whole area – the Castlereagh Valley **Extraction Management Unit** – will be monitored and any controls on annual extractions will be implemented across the Unit (see *Long-term average extraction limit*).

Over time, daily extractions will be managed and controlled within the water source. This will be done through a series of **flow classes** covering the full range of flows that can occur in the water source on a daily basis. These flow classes will be introduced as the appropriate gauges and meters are installed. The Department will notify licence holders when the flow classes will commence.

The flow classes, as measured at the **flow reference point**, located within each of the management zones, are outlined in Table 1.

Table 1: Flow classes in the Castlereagh River above Binnaway Water Source (ML/day)

| Flow Class | Zone 1 | Zone 2 | Zone 3 | Zone 4 | Zone 5 | Zone 6* |
|---------------------------|------------|------------|-----------|------------|-----------|--------------|
| Very low flow class | < 3.3 | < 3.1 | < 2.4 | < 3.3 | < 1.6 | Visible flow |
| Low flows or A class | 3.3 – 17.6 | 3.1 – 20.4 | 2.4 – 8.2 | 3.3 – 17.8 | 1.6 – 9.9 | - |
| Moderate flows or B class | > 17.6 | > 20.4 | > 8.2 | > 17.8 | > 9.9 | - |

* No A or B flow class is established by the Plan for Zone 6, however visible flow must be observed and maintained downstream of the pumpsite.

Within each of the flow classes, the Plan defines how much water can be extracted under each category of licence. This is the **total daily extraction limit** (TDEL).

Environmental health

The Act requires that water be allocated for the fundamental health of a river and its dependent ecosystems, such as wetlands and floodplains, as a first priority. The Plan does this by setting aside a proportion of each flow class for environmental needs.

In particular, the maintenance of water in the river during the very low flow periods is essential to provide refuge areas for fish and other aquatic species. The plan cease to pump condition for the different categories of licence are shown in Table 2. Licence holders will be notified when these conditions are to apply.

Table 2: Cease to pump conditions

| Zone | Local water utility and domestic and stock licences | Unregulated river access licences |
|--------|---|-----------------------------------|
| Zone 1 | 3.3 ML/day | 7.1 ML/day |
| Zone 2 | 3.1 ML/day | 3.2 ML/day |
| Zone 3 | 2.4 ML/day | 3.0 ML/day |
| Zone 4 | 3.3 ML/day | 4.3 ML/day |
| Zone 5 | 1.6 ML/day | 1.9 ML/day |
| Zone 6 | visible flow | - |

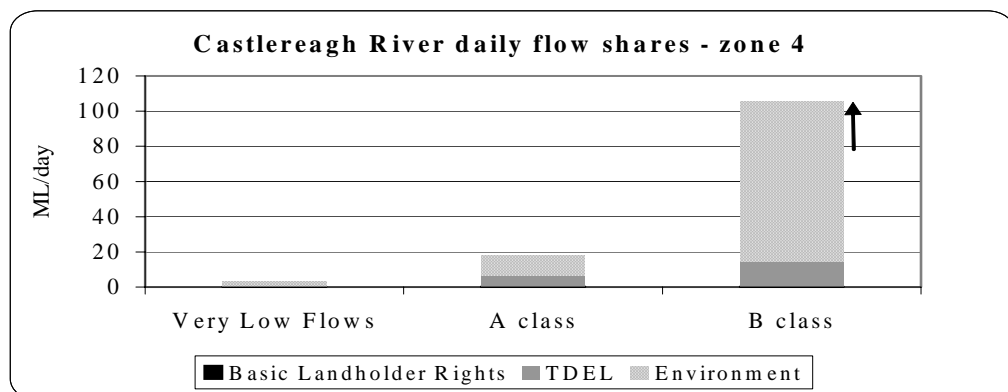
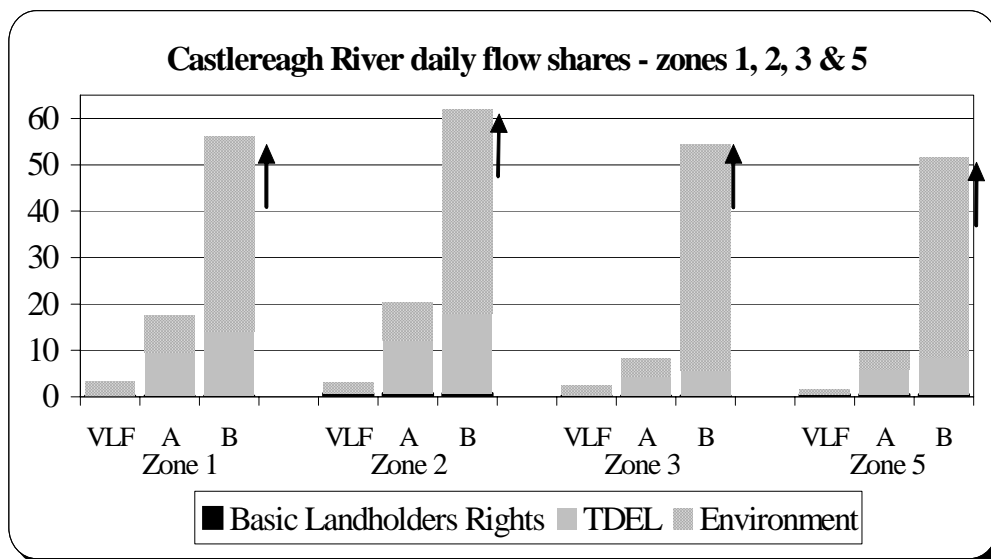
*Note: Unregulated river access licences include irrigation, farming, industrial and recreational uses.

Limited volumes will be available below this cease to pump threshold for **basic landholder rights** (a total of 4 ML/day for all zones), and for licence holders that require continued access to water for hygiene and health purposes (dairy washdown, fruit washing, poultry watering and animal hygiene). At the start of the plan there was 1 such licence holder listed in Schedule 6 of the plan.

In the other flow classes (A and B), the TDEL will determine the volume of water that can be extracted – the rest will remain in the river for the environment.

The following diagrams illustrate the broad relationship between the shares to the environment (at maximum flow) and to extractive water users in each flow class. The upper limit on the 'B class' in each zone is dependent on river height, ie the environmental share will continue to increase as flow increases.

GRAPH: Daily Flow Shares



Managing this water source within the overall long-term average extraction limit, ensures that the environmental provisions are protected from increases in water extraction. The environmental health water provisions will also contribute to the protection of traditional Aboriginal use of the water source and to improved water quality.

Basic landholder rights

The Plan provides for domestic and stock rights and native title rights – both forms of basic landholder rights which extract water from the river and do not need to be licensed.

At the start of the Plan, the water requirements for domestic and stock rights were estimated at 4 ML/day. There are currently no extractions for native title rights from the water source. However, both forms of right may increase during the ten-year term of the Plan. Any such increase will be accommodated by reduced access by unregulated river access licences.

Domestic and stock rights can be restricted during dry times to protect the environment, for reasons of public health or to protect water availability for other basic landholder rights.

Requirements for water under access licences

Other than basic landholder rights, water extraction is authorised under a water access licence. There are different categories of licences. These include:

- local water utility – for town water purposes,
- domestic and stock – for those who cannot access water under basic landholder rights (ie their property does not directly front a river) or they wish to use greater quantities than available under this right,
- unregulated river – this is a general category that covers purposes such as irrigation, industry, mining, recreation and general farming. Irrigation is the major use of water in the water source,
- Aboriginal cultural – a sub-category of unregulated river access for Aboriginal personal, domestic and communal uses.

Each licence specifies a **share component**. The share component of specific purpose licences such as local water utility, domestic and stock, and Aboriginal cultural are expressed as a number of megalitres. The share components of general unregulated river access licences are expressed as a number of shares.

At the start of the Plan, the requirements identified for all categories of licences from the water source totalled approximately 5,000 ML/year (1 share at the start of the plan is considered equivalent to 1 megalitre per year). Whether this volume is available in any given year is dependent on climate and river flows.

The total share component within the water source may change during the term of the Plan as a result of the granting or cancellation of access licences, or because of variations to local water utility access licences. Towns may be granted an increased share component as a result of population growth.

Granting access licences

The only licence applications that can be made in the water source are for additional town water supply, domestic and stock and Aboriginal cultural purposes (up to 10 ML/year).

Long-term average extraction limit

It is important that total annual extractions do not increase as this would threaten the security of supply to water users and the environmental provisions of the plan. Water extractions can increase through:

- existing licence holders using more of their share component,
- the sale of currently unused share components, or
- the granting of additional share components to exempt licences.

All inland rivers in NSW are required to have their extractions capped at the levels of water extraction that would have occurred under 1993/94 levels of development – this is the Murray-Darling Basin Cap. Consequently, the plan sets a long-term average **extraction limit**.

The long-term average extraction limit will be determined and managed across the entire Castlereagh Valley Extraction Management Unit. If extractions exceed the limit, then they will be reduced until they are brought back into line with this figure. This will be done through reductions in how much water can be extracted in the subsequent year by unregulated river access licences.

Available water determinations

Each year, an **available water determination** is made defining how much of the share component is available under each category of licence. Except in years of exceptional drought:

- domestic and stock access licences receive 100% of the share volume, and
- local water utility access licences receive 100% of the share volume.

The available water determination for unregulated river access licences may be less than 1 megalitre per share if the long-term average extraction limit is being exceeded.

For 2004/2005 a special AWD of 2 megalitres per share or volume was made to accord with previous agreed rules. This, combined with the carryover rules (see next section on water allocation accounts), enables licence holders to use up to twice their water allocation in a year provided that over a consecutive three year period they do not exceed the sum of their water allocations for those three years.

Water allocation accounts

A water allocation account has been established for each licence. Water is credited to the account when an available water determination is made, and debited when water is extracted. The maximum unused water allocation that can be carried over from one water year to the next is 100% of the share component.

For example, if a licence holder has a share component of 50 shares and the available water determination is 1 megalitre per share, then 50 ML is credited to the account at the start of the water year. If only 30 ML is extracted, 20 ML can be carried over to the following water year. If the available water determination remains at 1 megalitre per share then 70 ML is available for extraction the following water year. On an annual basis, licence holders cannot extract more water than is held in their account. As explained in the next section, once daily flow shares are introduced in the water source, a daily limit in addition to the annual limit will apply.

Sharing flows on a daily basis

For water to be shared fairly amongst all water users, plus provision made for the environmental needs of the water source, limits need to be set on how much water can be taken from a particular flow class on a daily basis. This is called the **total daily extraction limit** or TDEL. However before these flow classes and daily extraction limits can be fully implemented, the establishment of additional gauging stations and the metering of extractions are required. This will be phased in over the term of the Plan. The ban on pumping (i.e. cease to pump rules) when flows drop to the very low flow class will be the first stage of the implementation of the daily flow sharing arrangements.

The total daily extraction limit (TDEL) in each flow class are shown in Table 3.

Table 3: Total daily extraction limits for licences in each flow class (ML/day)

| Flow Class | Zone 1 | Zone 2 | Zone 3 | Zone 4 | Zone 5 | Zone 6* |
|---------------------|--------|--------|--------|--------|--------|---------|
| Very low flow class | 0 | 0 | 0.2 | 0 | 0 | 0 |
| A Class | 9.4 | 11.3 | 4.2 | 6.4 | 5.5 | - |
| B class | 14 | 17.2 | 5.4 | 14.4 | 8 | - |

* At the start of the Plan no TDELs were established for Zone 6.

The TDEL assigned to various categories of licences at the start of the Plan is shown in Tables 5 to 8.

Table 4: Total Daily Extraction Limits (ML/day) - Zone 1

| Flow Class | Local water utility licences TDEL | Domestic and stock licences TDEL | Unregulated river licences TDEL | All licences TDEL* |
|----------------|-----------------------------------|----------------------------------|---------------------------------|--------------------|
| Very low flows | 0 | 0 | 0 | 0 |
| A Class | 3.5 | 0 | 5.9 | 9.4 |
| B Class | 3.5 | 0 | 10.5 | 14 |

* Water for basic landholder rights has been estimated at 0.12 ML/day. This is in addition to the licensed TDELs.

Table 5: Total Daily Extraction Limits (ML/day) - Zone 2

| Flow Class | Local water utility licences TDEL | Domestic and stock licences TDEL | Unregulated river licences TDEL | All licences TDEL* |
|----------------|-----------------------------------|----------------------------------|---------------------------------|--------------------|
| Very low flows | 0 | 0 | 0 | 0 |
| A Class | 0 | 0 | 11.3 | 11.3 |
| B Class | 0 | 0 | 17.2 | 17.2 |

* Water for basic landholder rights has been estimated at 0.72 ML/day. This is in addition to the licensed TDELs.

Table 6: Total Daily Extraction Limits (ML/day) - Zone 3

| Flow Class | Local water utility licences TDEL | Domestic and stock licences TDEL | Unregulated river licences TDEL | All licences TDEL* |
|----------------|-----------------------------------|----------------------------------|---------------------------------|--------------------|
| Very low flows | 0 | 0 | 0.2# | 0.2 |
| A Class | 0 | 0.1 | 4.1 | 4.2 |
| B Class | 0 | 0.1 | 5.3 | 5.4 |

* Water for basic landholder rights has been estimated at 0.19 ML/day. This is in addition to the licensed TDELs.

Licence listed in Schedule 6.

Table 7: Total Daily Extraction Limits (ML/day) - Zone 4

| Flow Class | Local water utility TDEL | Domestic and stock licence TDEL | Unregulated river access TDEL | All access licence TDEL* |
|----------------|--------------------------|---------------------------------|-------------------------------|--------------------------|
| Very low flows | 0 | 0 | 0 | 0 |
| A Class | 1 | 0 | 5.4 | 6.4 |
| B Class | 1 | 0 | 13.4 | 14.4 |

* Water for basic landholder rights has been estimated at 0.33 ML/day. This is in addition to the licensed TDELs.

Table 8: Total Daily Extraction Limits (ML/day) - Zone 5

| Flow Class | Local water utility TDEL | Domestic and stock access licence TDEL | Unregulated river access licences TDEL | All access licence TDEL* |
|----------------|--------------------------|--|--|--------------------------|
| Very low flows | 0 | 0 | 0 | 0 |
| A Class | 0 | 0 | 5.5 | 5.5 |
| B Class | 0 | 0 | 8 | 8 |

* Water for basic landholder rights has been estimated at 0.5 ML/day. This is in addition to the licensed TDELs.

When the flow classes are to commence, the Department will formally notify each licence holder of their **individual daily extraction limits (IDELS)** in each flow class. This will form part of the **extraction component** on their water access licence.

Group management

As daily flow sharing is introduced, the plan provides for a system of group management to provide licence holders with more flexibility in managing their individual daily extraction limits. This will operate in a similar way to a rostering system. It permits an individual licence holder to exceed their individual daily extraction limit provided the group as a whole does not.

Group management will enable more flexible pumping regimes. In turn, licence holders will be required to maintain accurate records of their pumping times and rates to enable total water use within the Castlereagh River to be monitored.

Access licence dealing rules

Access licence dealings or water dealings can include the following:

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

- change in the category of a licence (called a ‘conversion’),
- rental of a water access licence (called a ‘term transfer’).

For more information on the types of access licence dealings and their applications forms refer to the information on *Water dealings* on the Department’s website.

The main provisions are:

- water allocations may be traded with other water sources within the extraction management unit provided the water sharing plan for the other water source allows this,
- share components may be traded with other water sources within the extraction management unit provided the water sharing plan for the other water source allows this and from the Macquarie Regulated River,
- individual daily extraction limits of unregulated river access licences can only be traded within the management zones of the Castlereagh River above Binnaway Water Source,
- after Year 5, subject to the establishment of C flow class category and conversion factors, licence holders may apply to alter their extraction component to specify additional C class IDELs in exchange for A or B class IDELs. Conversion factors will apply.
- unregulated river access licences may be exchanged for those of runoff harvesting dam access licences in this water source, and vice versa.

Conversion factors for some dealings may apply. These are intended to protect environmental health and water availability to all access licences in the water source.

Mandatory conditions

The Plan sets out a number of conditions that are applied to access licences and **water supply work approvals**. These conditions are designed to protect the rights of all users in the water source and the environmental water rules of the Plan. They cannot be removed or altered unless the Plan itself is amended.

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 every five years. The Natural Resources Commission must 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 are to 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

An important aspect of the Plan is that it provides certainty to water extractors in terms of their access to water. This is because the rules for the next decade are defined and documented in the Plan. However, during the term of the Plan, some amendments may be needed. The Plan allows an amendment to:

- the very low flow provisions based on field verification,
- flow classes whereby a C class may be established allowing additional access to moderate and high flows.
- the TDEL for unregulated river access licences, if necessary, as a result of growth in basic landholder rights and the granting of any new licences for domestic and stock, Aboriginal cultural and local water utility purposes.

Glossary of terms

access licences provide the holder with a share of the available water in a water source. The access licence is separate from the approvals required for water use or for the supply works eg. pump, dam.

access licence dealings refer to a range of changes to a licence or the water held in the account for that licence. These include a change in the ownership of all or part of the licence, a change in the location from which water is extracted, movement (assignment) of water allocations between licences, or a change in the category of the licence.

available water determinations (AWDs) determine how much water a licence holder can extract in a year. An AWD adds water to the accounts of all licences in that category. The AWD will also ensure that long-term extraction does not exceed the extraction limit.

basic landholder rights cover three types of rights to extract water from a river that do not require an access licence. The first allows rural landholders along the riverfront to extract water for domestic household and stock watering purposes (*domestic and stock rights*). Domestic and stock rights replace riparian rights under the *Water Act 1912*. The second right allows landholders to capture a portion of the runoff from their land in farm dams (*harvestable rights*). Harvestable rights do not involve extraction directly from the river and so have not been provided for in the plan. The third right allows Aboriginal native title holders (as determined under the *Commonwealth Native Titles Act 1993*) to extract water for a range of domestic and non-commercial communal purposes (*native title rights*).

extraction component of the licence specifies the sections of the water source from which water may be taken. It may also set the times and rates at which water can be taken, such as IDELs.

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

extraction management unit is the grouping of water sources for the purpose of managing annual average extraction.

flow classes describe the range of daily flow levels in the rivers and provide the framework for sharing water on a daily basis.

flow reference point is the site from which the flows are calculated to determine the flow class.

harvestable rights allow landholders to capture and use 10 per cent of average regional rainfall runoff on their land in farm dams. Harvestable rights are intended to satisfy needs such as stock watering, house and garden requirements, but can be used for any purpose including commercial irrigation.

individual daily extraction limit (IDEL) is the daily volume limit for a particular licence holder for each flow class. The IDEL will be specified as part of the extraction component on the licence. It is a share of the total daily extraction limit.

schedule 6 identifies any licence holders that may continue to access water during periods of very low flows in order to comply with the requirements of the *Food Production (Safety) Act* or the *Prevention of Cruelty to Animals Act*. This covers fruit washing, cleaning of dairy plant and equipment for the purpose of hygiene, poultry watering and misting, and cleaning of enclosures used for intensive animal production for the purposes of hygiene.

share component of the access licence is similar to the entitlement volume on previous water licences. The amount of water a licence holder is allocated in any year as a result of an available water determination is based on their share component. Other rules, such as carryover, are also based on the share component.

total daily extraction limit (TDEL) is the limit on the daily volume of water that licence holders in a category can take from a particular flow class.

water supply works approval permits water supply works (pumps, dams) to be built and operated at specified locations.

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