



Department of
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An overview of water sharing plans for unregulated and alluvial water sources in coastal NSW



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Introduction

Following the gazettal of the *Water Management Act 2000* (WMA 2000), water sharing plans are being progressively developed for rivers and groundwater systems across New South Wales. These plans protect the health of NSW rivers and groundwater while also providing water users with perpetual access licences, equitable conditions, and increased opportunities to trade water.

Once a water sharing plan commences, the licensing provisions of the WMA 2000 come into effect in that plan area. Existing *Water Act 1912* (WA 1912) licences are converted to WMA 2000 **water access licences**, and **water supply works and use approvals**, thereby separating water licences from land tenure, thus facilitating the trade of water licences.

Water sharing plans also set management rules for water access licences, water allocation accounts, dealings in licences and water allocations, water supply works approvals and the extraction of water.

Most coastal streams in NSW (streams that flow to the Pacific Ocean) are unregulated – that is stream flows are not controlled by releases of water from dams but rather are dependent solely on rainfall and natural stream flows. Over the last decade, water sharing plans for unregulated streams in NSW have been prepared using a “macro” or broader scale approach. Each macro plan covers a large river basin rather than a single sub-catchment.

In many catchments, **alluvial** aquifers are “highly connected” with adjacent streams – that is, water readily flows from the aquifers to the streams and vice versa. Extraction of water from a highly connected alluvial aquifer will encourage water to move from the stream to the aquifer, and the hydrologic impact on the stream will be as if water had been extracted directly from the stream. To reflect this connectivity, highly connected alluvial aquifers have been included in unregulated water sharing plans.

This document provides a general overview of water sharing plans covering *coastal unregulated and alluvial water sources*, and should be read in conjunction with other key documents including the water sharing plans, and the individual report cards or rule summary sheets for each water source. These documents and other information on the planning process are located on the NSW Office of Water website (www.water.nsw.gov.au) under Water Management > Water sharing plans.

Water sharing plans and the WMA 2000 introduce some new terminology and different management arrangements. These new terms are highlighted bold in the text and, where they are not defined in the WMA 2000, they are defined in the glossary at the end of this document.

Water sharing planning

Water sharing plans are one of the final components of the NSW Government’s comprehensive overhaul of the water management strategies in the state.

Water sharing plans are developed under the WMA 2000, which requires the plans to:

- share water between all water users and the environment
- improve the health of our rivers
- provide security of access for water users
- meet the social and economic needs of regional communities
- facilitate water trading.

Overview of the planning process

Initial development of the draft plans is undertaken by interagency regional panels across the state, comprising local representatives from the NSW Office of Water, the NSW Office of Environment and Heritage, the NSW Department of Primary Industries and catchment management authorities.

Draft rules for each water source are developed based on:

- the current level of hydrologic stress (i.e. the volume of water extracted relative to stream flows)
- the environmental values
- the level of risk to environmental values if extractions were increased
- the level of economic and social dependence on water extracted.

Consultation on the draft rules is generally undertaken using a two stage process including targeted consultation with key stakeholders and public exhibition of the draft plan. In some areas, targeted consultation is not undertaken as the proposed rules are not considered to be significantly different to current rules of operation or are unlikely to have a significant impact on users. Where targeted consultation is undertaken, comments received are considered by the regional panel and may lead to the amendment of the draft rules. In some instances, rather than amending the draft plan, a Minister's note may be added to draw attention to a particular issue on which further comment is sought during the public exhibition period.

As part of public exhibition, the draft plans are formally exhibited for a minimum period of 40 days, during which public information sessions are held to provide information about the draft rules, how the draft rules were developed, and how to make a submission. Submissions received during the public exhibition period will be considered by the regional panel prior to the plan being finalised and submitted to the Minister of Primary Industries seeking approval for the plan to commence.

Basis for water sharing

Water sharing plans provide for the sharing of water between the environment, town water supplies, **basic landholder rights** (discussed later) and commercial uses of water. The volume of water available to meet all competing environmental and extractive needs varies on a yearly and daily basis, depending on the weather and river flows.

Water sharing plans manage the annual take of water by licence holders by setting **long-term average annual extraction limits** (LTAAELs).

LTAAELs apply differently for unregulated surface water and alluvial groundwater sources. For unregulated surface water and highly connected alluvial aquifers, LTAAELs apply across a number of water sources, whereas the LTAAEL for alluvial groundwater sources is typically set for single water sources. The water source or water sources to which a LTAAEL applies is referred to as an **extraction management unit** (EMU).

In addition to the LTAAEL, the unregulated water sources are also managed on a day-to-day basis in the plan through the definition of daily access rules that govern when licence holders are permitted to extract water. Generally, as a minimum, licence holders pumping from an unregulated water source are not permitted to pump when there is no visible flow at their pump site or below the full capacity of a natural pool. Depending on the water source assessments, some of the water sources are also divided into one or more **flow classes**.

The flow classes describe the range of flows that occur in the water source and relate to the flow at a specific point in the river (referred to as the **flow reference point** in the plan). The delineation of the flow classes varies between water sources, though generally:

- flows in the Very Low Flow Class are those flows that are exceeded 95% of all days
- A Class flow are those flows which are exceeded between 80 and 95% of all days
- B Class flow are those flows which are exceeded between 50 and 80% of all days
- C Class - generally represents the flows that are exceeded on 50% of all days.

Environmental water

The principles of the WMA 2000 require that water sharing plans must protect the water source and its dependent ecosystems, such as wetlands and floodplains. The plans do this in a number of ways.

First, by establishing the LTAAEL all remaining water is set aside for environmental needs, thereby protecting this share of water for environmental purposes.

In addition to the LTAAEL, access rules (known commonly as the cease-to-pump rules) provide protection for fish and other aquatic species during dry times. The cease-to-pump applies to the majority of unregulated river access licences – those that cover irrigation, farming, industrial and recreational uses. Aquifer access licences that extract groundwater from highly connected aquifers may also have a cease-to-pump rule applied. Limited access is available below the cease-to-pump threshold for town water supplies, some domestic and stock water, and water for hygiene and health purposes. These licences are listed in a schedule¹ of the plan.

Rules for granting and amending water supply works approvals are established for groundwater sources to provide protection for environmental assets. This provides protection for base flows and key assets such as **groundwater dependent ecosystems (GDEs)**.

These rules stipulate buffer distances from which new bores can be placed from specific features such as GDEs, neighbouring bores and contaminated sites, as well as rules for existing bores.

Requirements for water

Basic landholder rights

Under the WMA 2000, extraction of water for **basic landholder rights (BLR)** does not require a licence, although in the case of accessing groundwater under BLR the bore must still be approved by the NSW Office of Water. BLR includes water for domestic and stock purposes extracted from a surface water source fronting a landholder's property or from any aquifer underlying the property, and for native title rights.

The principles of the WMA 2000 also require that BLR must be protected. Water sharing plans afford BLR a higher priority than licensed water by exempting BLR from cease-to-pump levels and any decreases in available water determinations (see below).

In many water sharing plans there is currently no extraction for native title rights. However, these rights may be activated during the term of the plan.

Domestic and stock rights can be restricted by the Minister to protect the environment or public health, or to preserve existing rights. These restrictions are outside the framework of the plan.

¹ Holders of licences identified in a schedule to the plan may continue to access water during periods of very low flows for fruit washing, cleaning of dairy plant and equipment for the purposes of hygiene, poultry watering and misting or cleaning of enclosures used for intensive animal production for the purpose of hygiene.

The Office of Water is developing a regulation that will limit extractions under domestic and stock rights to a reasonable volume, and more clearly define what is considered to be a reasonable purposes.

Extraction under access licences

Except for BLR, all other water extraction either requires an authorisation under a water **access licence** or some form of exemption. The WMA 2000 establishes categories and sub-categories of access licences. Examples include:

- local water utility – a category of access licence for town water purposes
- domestic and stock – a category access licence for landholders who cannot access water under BLR (i.e. their property does not directly front a river, lake or estuary, or have an underlying aquifer)
- unregulated river – a category of access licence that covers purposes such as irrigation, industry, mining, recreation and general farming
- aquifer – these apply to licences in the groundwater sources covered by the plans
- Aboriginal cultural – a specific sub-category of access licence that allows water to be taken by Aboriginal persons or communities for personal, domestic and communal purposes (generally up to 10 megalitres per year per licence)
- Aboriginal community development – a specific sub-category of access licence that allows water up to specified limits to be taken by Aboriginal persons or communities for commercial purposes.

The total entitlement or **share component** (see WMA 2000, s 56), for each category of access licence that applies at the start of the plan, has been estimated and included in the plan. The share components of specific purpose licences such as local water utility, domestic and stock and Aboriginal cultural licences are expressed as a number of megalitres per year. The share components of unregulated river and aquifer access licences, which are issued in perpetuity, are expressed as a number of unit shares.

During the term of the plan, the total share components may change because of the granting or cancellation of access licences, or variations to local water utility access licences. Water utilities (town water supply) may be granted an increase in share component to reflect any rapid growth in population within the utility's area.

Long-term average annual extraction limit

Water sharing plans set long-term average annual extraction limits (LTAAEL) to protect a share of water for the environment and existing users.

In coastal catchments the LTAAEL is set at the level of entitlements at plan commencement plus an estimate of BLR.

If the volume of water extracted exceeds the LTAAEL² – either through increased usage under BLR, or through the activation of previously inactive share components of existing licences – the volume of water available to be taken under each unregulated river and aquifer access licences will be reduced so that extractions are contained within the LTAAEL. This will be done by reducing the maximum available water determinations (see next section) for unregulated river and aquifer access licences.

² Compliance with the LTAAEL varies between plans but generally is assessed over a three year rolling average with a 5% tolerance level.

Available water determinations

Available water determinations (AWDs) are the mechanism by which water is credited to water allocation accounts (see below) and therefore determine what proportion of the share component is permitted to be extracted.

AWDs are set for each category of licence. AWDs for specific purpose access licences, such as domestic and stock and local water utility access licences, are generally set at 100 per cent so licence holders are permitted to extract their entire share component. Conversely, where extractions have exceeded the LTAAEL, the AWDs for unregulated river and aquifer access licences will be reduced as a means of containing future extractions within the LTAAEL.

At the commencement of water sharing plans, the AWD for unregulated river and aquifer access licences (from Year 2 of the plan onwards) is generally set at 1 megalitre per unit share but may be reduced in subsequent years if extractions exceed the LTAAEL as explained in the previous section.

In the first year of a water sharing plan, the AWD for unregulated river and alluvial aquifer access licences is set at 200 per cent of share component (where the share component is expressed in megalitres) or 2 megalitres per unit share (where share component is expressed in unit shares). This allows accounting rules to operate from year one of the plan (see water allocation account rules below).

Water allocation accounts

A water allocation account will be established for each water access licence. Water is credited to the account when an AWD is made, and debited when water is extracted. A licence holder's account is not permitted to go into debit.

Accounts for unregulated water sources (including groundwater works located in highly-connected alluvial aquifers) will operate under three year account management rules. AWDs combined with carryover will enable 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. The maximum amount of unused water allocation that can be carried over from one water year to the next in access licence accounts is 100 per cent of the share component (where this is expressed as megalitres) or 1 megalitre per unit share (where share component is expressed in unit shares).

In most alluvial groundwater sources, accounts are managed on an annual basis with the maximum use limited to the allocations (AWDs) accrued each water year. Some carryover from one year to the next may be permitted for larger-capacity aquifers.

Sharing flows on a daily basis

A **total daily extraction limit** (TDEL) can be set which establishes the maximum amount of water that can be taken from the flow class to which the TDEL applies. This limits consumptive extractions to a share of the available water within that flow class and can be utilised where there are particularly important environmental values that depend specifically on the protection of a share of flows within the flow class.

The plan also has the capability of specifying **individual daily extraction limits** (IDELs), which in effect disaggregate the TDEL to individual shares of that TDEL. These may be specified for each licence holder in each flow class and may be utilised where there is also high competition between consumptive water users.

Daily limits that set the maximum amount of water that can be taken from a particular flow class (TDEL) or by each licence holder from a particular flow class (IDEL) may be established within the life of the plan in some of the unregulated water sources.

Granting access licences

Other than through the purchase of a water access licence or share component in the water market, applications for the granting of additional water access licences with additional entitlement will only be considered for specific purpose access licences as provided for under the *Water Management (General) Regulation 2011*. This regulation prescribes a number of different types of specific purpose access licences for which application may be made. These include local water utility or town water supply, domestic, and Aboriginal cultural licences.

Granting water supply work approvals

Rules controlling the granting or the nomination of water supply works, particularly in respect to groundwater bores, are included in the plans. These are designed to minimise impacts on existing authorised extraction and on sensitive areas.

Access licence dealing rules

Access licence dealings or water trading can include the following:

- sale or transfer of the ownership of an access licence (called a 'transfer')
- change in the location that a water access licence can extract water
- sale (called an 'assignment') of the share component or extraction component (see WMA 2000, s 56) of an access licence
- sub-division or consolidation of an access licence
- sale of **account water** (called an 'assignment of water allocation')
- change in the category of an access licence (called a 'conversion')
- rental of a water access licence (called a 'term transfer').

For more information on the types of access licence dealings visit the NSW Office of Water's website www.water.nsw.gov.au and go to Water licensing > Dealings and trade.

To protect the environmental health of the water source and to prevent over-extraction of any one water source, the plans specify various dealing rules. For water sources that have high environmental value or hydrologic stress, the default rule is to not allow any additional trades into that water source.

Mandatory conditions

Water sharing plans set out a number of standard conditions that will be applied to water access licences and water supply work approvals. These mandatory conditions are designed to protect the rights of all users in the water source and the environmental water established by the plan. They are imposed on the licences at the commencement of the plan, are required to be complied with, and cannot be removed or altered unless the plan is amended.

Some licences under the WA 1912 include specific cease-to-pump conditions. Where existing cease-to-pump conditions are more stringent than the access rules in the plan, the existing conditions will be carried across from the WA 1912 licence to the works nominated by the water access licence issued under the WMA 2000. Licences with existing conditions which carry across are detailed within an appendix of the plan.

Monitoring and reporting

The plans include performance indicators against which their performance will be monitored to determine if it is meeting its objectives. The implementation of the plan will be audited every five years. The Natural Resources Commission of NSW, an independent authority established by the

NSW Government, will review the plan prior to any decision to extend its term or to make a new plan. This review will be done between years five and 10 of the plan.

In addition, an implementation program may be established which sets out the means by which the objectives of the plan will be achieved. This implementation program is to be reviewed each year and the results reported in the NSW Office of Water's Annual Report.

Plan amendments

An important aspect of a water sharing plan is that it provides security and certainty to licence holders in terms of perpetual and compensable water access licences, and clearly defines their access to water over the next 10 years. However, during the term of the plan, some amendments may be needed as a result of further studies undertaken or an improved understanding as a result of plan implementation.

A plan may also be amended if it is deemed to be in the public interest to do so or as a result of a decision by the NSW Land and Environment Court.

Glossary of terms

Many of the terms in this document are defined in the WMA 2000 and are therefore not redefined here.

Account water: The balance in an access licence water allocation account at a particular time. An access licence water allocation account records water allocations accrued under the licence as well as water allocations taken, assigned (traded) or recredited. The operation of the account is also governed by carryover and account management rules as established in a water sharing plan.

Alluvial: of, or relating to alluvium, see *Alluvium* below.

Alluvium: Sediment deposited by streams along river beds or flood plains.

Extraction of water: Removal of water from a river for off-stream storage or consumptive use.

Extraction management unit (EMU): A group of water sources; defined for the purpose of managing long-term average annual extractions.

Flow classes: The range of daily flow rates in a river which provides the framework for sharing water on a daily basis.

Flow reference point (FRP): The site from which the flow data is calculated to determine the rates associated with a flow class and then to implement the daily access rules during the life of the plan.

Groundwater: The water beneath the earth's surface that has filtered down to the zone where the earth or rocks are fully saturated.

Groundwater dependent ecosystems (GDEs): Ecosystems that rely on groundwater for their species composition and their natural ecological processes.

Individual daily extraction limit (IDEL): The daily volume limit that may apply for a particular licence holder for each flow class. The IDEL will be specified as part of the extraction component on the access licence. It establishes a share of the TDEL for that flow class.

Long-term average annual extraction limit (LTAAEL): The target for total extractions (under all water access licences plus an estimate of BLR within an EMU or water source) which is used to assess whether growth in extractions has occurred.

Total daily extraction limit (TDEL): The total limit on the daily volume of water that access licence holders in a particular category can take from a flow class. It is the sum of all the IDELs in that flow class.

Water sharing plan: A plan made under the WMA 2000, which sets out the rules for sharing water between the environment and water users within whole or part of a water management area or water source.

Water year: The 12 months running from 1 July to 30 June.