



Allocating water in the NSW (regulated) Murray Valley

Allocating water for high security and general security licensed entitlements in the NSW Murray Valley is a two-stage process. It involves sharing water between NSW, Victoria and South Australia under the Murray-Darling Basin Agreement, and then sharing water that is available to NSW between licensed entitlement holders in the NSW Murray Valley.

Sharing water between the states under the Murray-Darling Basin Agreement is complex, and considers:

- what water is in storage and which state owns it
- what water is committed to be supplied during the year
- what minimum natural inflows may be expected
- what water will be transferred from Snowy Hydro, tributary inflows
- what water has been used and what water is in transit.

This document provides an overview of how water is shared and how allocation announcements are determined and provided to licensed entitlement holders in NSW.

Overview

The amount of water available at any given time for different water entitlements in the NSW Murray Valley depends on a number of factors:

- The interstate water sharing arrangements of the Murray-Darling Basin Agreement, including the need to maintain statutory reserves.
- The amount of water available to NSW that is stored in Lake Hume, Dartmouth Dam, Lake Victoria and the Menindee Lakes.
- The estimated minimum inflows into storages for the rest of the season.
- The volume of water diverted into the Murray River from the Snowy Hydro Scheme.
- The amount of unused water held in individual accounts that has been carried-over from the previous year.
- How much water has been used during the year.

Under 'normal' circumstances, water is allocated under the provisions of a water sharing plan. However, during severe water shortages, usually when town water supply under water restrictions cannot be guaranteed for a period of two years, the Minister may suspend a water sharing plan. The priority for delivering water is prescribed under the *Water Management Act 2000*.

Allocating water in severe water shortages

In times of severe water shortage, the priority of water distribution is:

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|------------------------|------|--|
| First priority | (i) | the needs of major utilities and local water utilities (in relation to domestic water supplies), and |
| | (ii) | the needs of persons exercising basic landholder rights. |
| Second priority | (i) | the needs of the environment. |
| Third priority | (i) | the needs of major utilities and local water utilities (in relation to commercial water supplies), and |
| | (ii) | in the case of regulated rivers, the needs of persons holding regulated river (high security) access licences. |
| Fourth priority | (i) | the needs of persons holding other categories of access licences, and |
| | (ii) | the needs of major utilities and local water utilities (otherwise than in relation to domestic and commercial water supplies). |

The Water Management Act does not specify the volumes that must be set aside for each category. During the recent drought, the Water Sharing Plan for the NSW Murray and Lower Darling Regulated Rivers was suspended from November 2006 to July 2011.

During this time, a regional critical water shortage advisory committee was established that provided the NSW Office of Water with advice about allocating water to ensure that environmental, social and economic impacts of the extended drought were minimised wherever possible.

Some initiatives that were agreed by the committee included:

- allocating minimal volumes to licensed users within the Murray and Lower Darling River valleys to ensure survival of permanent crops (horticulture and viticulture), the water needs of feedlots, the minimum needs of high security water use industries such as nurseries and wineries and volumes needed to keep the tees and greens of regional golf courses alive
- developing a policy for implementing water restrictions throughout the river valleys, based on levels of high security water availability, while enabling urban water utilities to maintain important assets such as cemetery lawns, school playing grounds and some sporting ovals
- allowing all water users, both high security and general security entitlement holders, to carry over up to 100 per cent of their entitlement.

Collectively, these initiatives enabled water to be made available to minimise the effects of the extended drought throughout the Murray and Lower Darling Rivers valleys.

Allocating water under the water sharing plan

Allocating water in the Murray Valley is a two-part process:

1. Determining how much water is available to NSW under the Murray-Darling Basin Agreement, and
2. Allocating water between users in the NSW Murray Valley.

The Murray-Darling Basin water sharing process

Each month the Water Liaison Committee, which includes representatives from NSW, Victoria, South Australia and the Murray-Darling Basin Authority, determines the total volume of water available within the Murray River system. This is effectively:

- the available water in Lake Hume, Dartmouth Dam and Lake Victoria
- +
- the volume of water in the Menindee Lakes storage scheme, above the NSW reserve of 480 gigalitres (GL)
- +
- the minimum inflows into each of the storages for the remainder of the water year (this is based on the lowest recorded inflows)
- +
- the projected inflows from the Snowy Mountains Scheme under the Snowy Water Licence
- +
- the volume of water in the river that is in excess of that required to meet minimum flows.

The Water Liaison Committee then determines how much water is available to NSW and Victoria by subtracting from the total available water:

- South Australia's entitlement flow under the Murray-Darling Basin Agreement
- +
- additional dilution flow under the Agreement
(that is, 3,000 megalitres per day across the South Australian border whenever the collective volume in Lake Hume and Dartmouth Dam exceeds 2,000 GL and the volume in the Menindee Lakes is greater than 1,300 GL in September through to May, 1,650 GL in June and July and 1,500 GL in August)
- +
- minimum reserves required to be held in storage by NSW and Victoria.

NSW and Victoria are then advised how much water is available to them for allocating between the environment and consumptive users within their respective states.

The assessment process is complex and includes that:

- each state will have different volumes available to it at any time
- although inflows into Lake Hume, Dartmouth Dam and the Menindee Lakes are generally shared equally between NSW and Victoria, inflows from tributaries downstream of Albury that can be captured in Lake Victoria belong to the state of origin
- no state can hold more than 50 per cent of the total capacity of any storage and when inflows exceed this capacity, they will (internally) spill to the other state.

Each state is then advised how much water it has available for its use to the end of the year by the 10th day of each month.

Allocating water within the NSW Murray Valley

The volume of water available to NSW users in the Murray Valley, which includes the Lower Darling River from the junction to Ashvale Station, is allocated in the following priority:

1. Carry-over of unused water from the previous year. Under the water sharing plan this is up to 50 per cent of entitlement for general security users only. (50 per cent was the limit recommended by stakeholder groups in the development of the NSW Murray and Lower Darling Regulated Rivers Water Sharing Plan)

then
2. Up to 97 per cent of high security entitlement

then
3. 50,000 ML Barmah-Millewa Forest environmental water allocation (an extra 25,000 ML is allocated when the Victorian allocation reaches 100 per cent of entitlement and 30 per cent of Victorian low security)

then
4. transmission needs of the Wakool River system (usually up to around 45,000 ML per year although this is reduced if unregulated flows pass into the Wakool system)

together with
5. 150,000 ML for Murray Irrigation Limited (MIL) conveyance entitlement (additional water is progressively set aside for MIL conveyance losses as general security allocation increases from 0 per cent to 100 per cent of entitlement)

then
6. Up to 110 per cent of general security entitlement. The water available to a general security licence holder is announced as an allocation which is a percentage of entitlement based on current water availability and minimum inflows for the rest of the year.

(an allocation announcement of greater than 100 per cent will only be made when the additional water is not considered to be required for the environment, will not impact on water availability in the next year and will not risk total diversions in the valley exceeding the Murray-Darling Basin cap on diversions)

Allocation announcements

High security and general security allocations are made on 1 July each year, and then the 15th of each month up until 97 per cent high security and/or 100 per cent of general security is reached.

Additional general security allocation announcements may be made on the 1st of each month leading up to summer annual planting time, or following a significant rain event.

Typically, after January any additional water becoming available to NSW under the Murray-Darling Basin water sharing process will be reserved to ensure high security entitlements and to provide an opening general security allocation announcement in the following year.

Prior to the record low inflows recorded throughout 2006-2007, the previously recorded minimum natural inflows together with the minimum requirements for diversions from the Snowy Hydro Scheme would have guaranteed 97 per cent high security allocation in each year. Since 2006-2007, the new minimum inflows require water to be reserved to ensure the availability of high security water at the commencement for the season.

Supplementary flows

Periods of supplementary flows are announced for specific reaches of the Murray and Lower Darling River systems when flows exceed the following:

- those required to meet South Australia's entitlement flow and additional dilution flow, and
- cannot be re-regulated in Lake Victoria to supply South Australia later, and
- are not required to meet any environmental needs of the floodplain and wetlands (that is determined by the NSW Office of Water).

Who can access supplementary flows?

Some NSW users in the Murray River Valley have specific purpose supplementary flow water access licences. These licence holders may divert supplementary water entitlement available to them during periods of announced supplementary flow for their stretch of the river that is debited against this licence, in addition to water available as announced allocation.

All other licensed general security entitlement holders may divert water during periods of announced supplementary flows for their stretch of river whenever the announced general security allocation is less than or equal to 60 per cent. However, unless a supplementary water access licence is held then the total use of water in any year, including carry-over, announced allocation and diversions from supplementary flows cannot exceed 110 per cent of entitlement.

How much water can a licensed entitlement holder use in any year?

High security users

High security entitlement holders may use up to 97 per cent of their entitlement in any one year plus any additional water purchased on the temporary (annual) water market.

As part of the development of the water sharing plan, 3 per cent of high security entitlements were returned for the environment.

There is provision within the *Water Management Act 2000* for high security allocations to be increased to 100 per cent. However, this will not be done while the water sharing plan is in place, and if it was to be increased above 97 per cent, it would only be after general security allocation had also reached 97 per cent.

General security users

The total water available in any year, including carry-over, announced allocation and diversions from supplementary flows for licensed general security users cannot exceed 110 per cent of entitlement, except where:

- those users have an additional special purpose supplementary water access licence, or
- the licensed user purchases additional water on the temporary (annual) water market.

Frequently asked questions

When Hume Dam is full, why aren't general security allocations 100 per cent?

The capacity of Lake Hume at full supply is not sufficient to meet all of the needs of base flows, South Australia's entitlement flow, additional dilution flow when required and all Victorian and NSW entitlements.

The amount of water available to NSW at any time depends on the volumes of water in Lake Hume, Dartmouth Dam, Lake Victoria and the Menindee Lakes, the amount of water to be diverted into the Murray River system by Snowy Hydro Limited and minimum inflows for the rest of the year.

Why don't inflows into Lake Hume add to allocation when the dam is full?

Inflows will only add to allocation when they can be stored for later use. If water is being passed through because Lake Hume is full, this flow will be made available as supplementary flow, consistent with the rules outlined earlier in this document.

As water is released to meet irrigation demand, any additional water that enters the dam will increase the general security allocation, up until January in any year.

Why isn't carry-over first to spill?

Carry-over for NSW general security users was introduced to allow water users to better manage their water for dry years. NSW does not have a policy to establish a reserve to ensure water for general security licence holders in dry sequences. Instead, carry-over allows individuals to manage their own risk in a way that best suits their businesses.

Effectively carry-over provides insurance for low allocations in dry years and allows users to use, trade or carry-over their available water, as they wish.

The 50 per cent limit on carry-over was agreed by stakeholder groups in the development of the NSW Murray and Lower Darling Regulated Rivers Water Sharing Plan.

Reasons for protecting carry-over is that it reduces the 'use it or lose it' mentality and does not redistribute (socialise) water from conservative water users to those who have used or sold all or most of the water allocated to them in the previous year.

Why does each state have different carry-over rules?

Carry-over was first developed in NSW and the rules developed to meet NSW objectives to provide insurance against dry years, and to allow users maximum flexibility with minimal third party impacts.

In 2010-2011, Victoria introduced a carry-over policy that allows a licensed entitlement holder to retain access to the volume carried over without limit, and is only reduced if Dartmouth Dam spills.

The new Victorian carry-over rules led some NSW users to trade water into South Australia late in the season to reduce the potential for carry-over spilling under NSW policy. This water was then transferred into Victoria and carried over into 2011-2012, so that it could be traded back in NSW in the following year to maximise the water available against their NSW entitlement.

Under the interstate water sharing arrangements this can, and has, reduced the volume that is available to allocate for general security users. In 2011-2012 this practice reduced the potential general security allocation by 9 per cent, early in the season as, under the Murray-Darling Basin Agreement, NSW has to provide the water traded into South Australia in the following year from regulated supply.

The ability for South Australia to carry over water has recently been introduced into the Murray-Darling Basin Agreement. The rules applying to South Australia mean that any water carried over by South Australia is the first to spill so that South Australia carry-over does not reduce the volume of water that would otherwise be available to NSW and Victoria.

More information

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The NSW Office of Water is a part of the [Department of Primary Industries](#)

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