

## Macintyre Brook Water Supply Scheme

### Fact Sheet: Sale of nominal volumes, cap, share size, and water balance

#### Background

Continuous sharing (CS) is a system for sharing water and managing water accounts used in the Macintyre Brook Water Supply Scheme (MBWSS).

Under CS, customers are able to manage their own water account balance to add their share of scheme inflows, deduct their share of evaporation and seepage losses, and keep an account of their daily water usage. Unlike the announced allocation system used in other Sunwater-managed schemes, CS customers do not rely on announcements of available water communicated by Sunwater. For example, at the end of the water year (30 June), the remaining water in a customer's account is simply carried across into the new water year (1 July). More information regarding the operation of infrastructure, water sharing and seasonal water assignment (temporary transfer) rules are included in the [MBWSS Resource Operations Licence Operations Manual](#).

#### How does continuous sharing work?

CS can be thought of as a water allocation holder having their share in the dam, represented as a vertical slice or a 'bucket' in the figure below. The size of the share or 'bucket' is based on the nominal volume of the water allocation. In effect, it acts as a virtual private storage where a water allocation owner, such as an irrigator, receives a share of any inflows (addition) and daily evaporation losses (deduction). The basic idea behind CS is that the decisions made by other scheme customers have minimal impact on the individual's water account. The customer can order water when required and the system makes the necessary deductions from their water account.

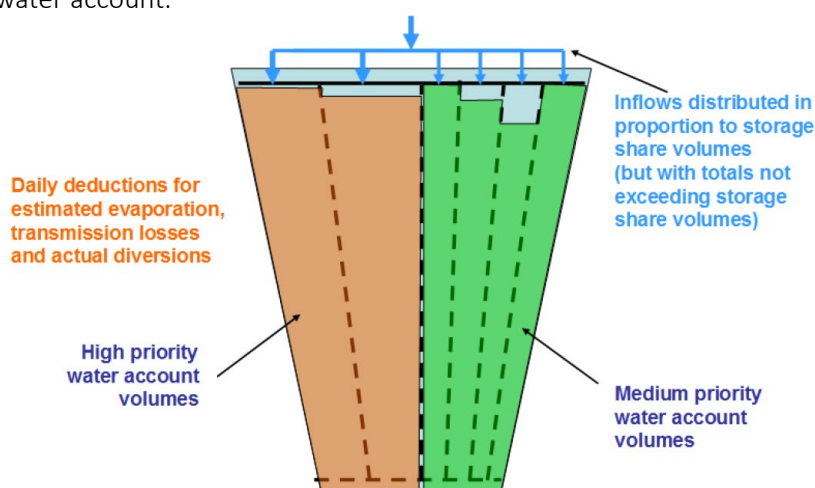


Figure 1: A simple representation of continuous sharing water account shares in a dam storage

The annual resource cap, often referred to as ‘cap’, is an important part of a CS customer’s water account. The cap represents the actual volume of water that can be used in a water year, i.e. taken through the customer’s meter. The customer’s cap amount reduces throughout the year as water is taken and is reset based on the relevant storage and adjustment factors on the first day of the new water year (1 July). For example, if an irrigator has a dam offtake and uses seven megalitres (ML) of water, then seven ML will be deducted from their water account balance and their cap account.

## Definitions

Term	Definition
<b>Nominal volume (ML)</b>	The nominal volume always stays the same across the zones and is attributed to the nominal location of the volume listed in the Resource Operation License (ROL).
<b>Annual resource cap (cap)</b>	The annual resource cap (cap) represents the actual volume of water that can be used in a water year at the customer’s meter, taking into account delivery losses based on the customer’s zone. The customer’s cap amount reduces throughout the year as water is taken and is reset at the start of the water year based on the relevant storage and adjustment factors.
<b>Water balance (ML)</b>	The water balance continues from what was available at the end of the previous water year. The actual volume at the time of the requested transfer is subject to scheme inflows and evaporation. Water balance calculations are subject to storage and adjustments factors.
<b>Share size at dam (ML)</b>	The share size at the dam is the customer’s ‘bucket capacity’ or share of the storage in a CS scheme. When Coolmunda Dam is full or spilling water, every customer’s share is at 100 per cent.

## Zones and delivery losses

The self-management of the water account also extends to the management of delivery losses (losses incurred as the water is sent from the dam to the farm offtake). Three zones exist within the MBWSS with different associated storage factors as outlined in the table below. These zones specify what proportion of water stored in the main dam would be available further downstream in the water distribution system.

Zone	Location	Storage factor
<b>Zone A</b>	Dam ponded area and nearby downstream	1.00
<b>Zone B</b>	Mid-section downstream	0.85
<b>Zone C</b>	Lower section downstream	0.65

For example, if an irrigator orders 10 ML from the dam and the offtake is in Zone B, the water taken through the meter would be 8.5 ML, or 85 per cent with 1.5 ML having been deducted to cover delivery losses to that point. In this instance, the irrigator’s water account volume taken at the dam would be reduced by 10 ML and the cap balance would be reduced by 8.5 ML as this corresponds to the water taken at the offtake.

## Permanent trading

Sunwater will be auctioning medium priority (MP) water allocations in October 2021. As MBWSS is a CS scheme, the sale of Sunwater’s nominal volumes will include the corresponding cap, the share size at dam, and the available water balance at farm at the time of transfer.

In accordance with the total nominal volumes purchased during the auctions, the corresponding proportion of cap, share size and water balance will also be transferred to the winning bidders’ accounts. The below table shows the available cap and water balance available by zone.

Zone	Nominal Volume (ML)	Annual resource cap (cap)	Share size (at dam) (ML)	Water balance available at farm (ML) <sup>1</sup>
A	790	1,215.38	2,221.59	2,210 <sup>2</sup>
B	790	1,033.08	2,221.59	1,880
C	790	790	2,221.59	1,430

1. The above water balance figures are an estimate only, actual volume at time of transfer is subject to scheme inflows and evaporation
2. The water balance at farm in Zone A is nearly equal to the share size at dam due to the dam being at 100% capacity (as of September 2021)

Based on the current location of nominal MP allocations in the scheme, no trading restrictions are expected. The current location of MP water allocations by zone can be found [here](#).

Due to storage losses incurred in the MBWSS during distribution of water, the cap and water balance available at farm differs based on the customer's offtake zone. Relevant cap adjustment factors and storage factors are applied to volumes at the dam to specify what proportion of each would be available downstream in the water distribution system.

Trading Zone	Cap Adjustment Factor ( $\eta_c^1$ )	Storage Factor ( $\eta_s^2$ )
Zone A	1.00	1.00
Zone B	0.85	0.85
Zone C	0.65	0.65

1. From Table 8 of the [MBWSS Resource Operations Licence Operations Manual](#)
2. From Table 3 of the [MBWSS Resource Operations Licence Operations Manual](#)

The expected water balance available to the buyer on farm at each zone is calculated as follows:

$$\text{Volume available to the buyer (at offtake)} = \text{Volume offered by seller (at offtake)} \times \frac{\eta_{s \text{ buyer}}}{\eta_{s \text{ seller}}}$$

Where:

$\eta_{s \text{ buyer}}$  = Storage factor that applies to the location of the buyer

$\eta_{s \text{ seller}}$  = Storage factor that applies to the location of the seller

The maximum volume of water that may be taken through the buyer's offtake in any water year is the lesser of the annual resource cap and the water balance available at farm.

### Temporary transfer of cap and water balance

For winning bidders with offtakes in Zone A or B, a temporary transfer (TT) of both must occur, in order to access the cap and water balance at farm for the 2021-22 water year. The adjusted cap will be calculated at the start of the 2022-23 water year and be applied to the customer account.

For example, an irrigator located in Zone B wins an auction for nominal volume totalling 100 ML. The 100 ML is 13 per cent of 790 ML, therefore the irrigator will have purchased 100 ML of nominal volume, 1,033 ML x 13 per cent = 134 ML of cap and 1,880 ML x 13 per cent = 234 ML of water balance for this water year as part of the transaction. The irrigator will need to TT both the cap and water balance from their nominal location in Zone C to access them at farm in Zone B for the 2021-22 water year. For more information about the terms and conditions that apply to temporary transfers, please review the following documents:

- [Local transfer conditions](#)
- [Scheme temporary transfer application](#).

### More information

For more information, or general Sunwater enquiries, please contact customer support by phone on 13 15 89 or live chat at [sunwater.com.au](http://sunwater.com.au), Monday-Friday 8.30am-4.30pm.