

# A proposal for future carryover arrangements

## Introduction

Carryover was introduced in northern Victoria in 2006/07 as an emergency drought measure. It allows individuals to carry over part of their unused water allocation for use in the following season (provided their entitlement allows for water to be held in storage). Carryover is a tool to redistribute water between years. Using carryover, individuals can manage their own reserves – and their own risk. It encourages the efficient use of water, because entitlement-holders have the flexibility to use their water when it is of greatest value to them.

Carryover is a particularly important tool in low allocation years because it provides water at the beginning of the season when seasonal allocations may be low. It can also provide certainty on the minimum volume of water available in that season. Together with trade (which is a useful tool for redistributing water between users), carryover gives individuals greater control over their own water supplies.

## Reviewing carryover rules

In late 2007, a working group was established to review the operation of carryover as a drought contingency in 2006/07. The working group included representatives from irrigation and environment interest groups, rural and urban water corporations and catchment management authorities. Recommendations from this working group led to the Minister for Water's announcement that carryover arrangements would be ongoing from 2007/08 as a permanent option for entitlement-holders. At that stage, it was intended that the rules would be reviewed when allocations hit 80 per cent on either the Goulburn or the Murray systems.

Given the uncertainty of when allocations would reach 80 per cent, the *Draft Northern Region Sustainable Water Strategy* proposed that the review should be finalised in time for the 2010/11 season (with interim changes to be made for 2009/10). This proposal was developed in consultation with the carryover working group, whose scope and membership was extended to allow consideration of a broader range of allocation issues associated with the Draft Strategy. It was also endorsed by the Strategy's Consultative Committee.

A two-month consultation period then followed, including 38 regional briefings and 175 public submissions. While there was significant support for improving carryover rules, opinions were varied on the most appropriate changes. Based on this feedback, the Minister announced that for 2009/10, entitlement-holders would be able to carry over up to 50 per cent of their entitlement volume (up from 30 per cent limit in previous years), but no other interim changes would be made.

Increasing the limit to 50 per cent improves entitlement-holders' ability to manage the risk of low allocations next year. Many horticulturists require more than 30 per cent allocation to protect permanent plantings. And urban water corporations need to guarantee greater than 30 per cent of their entitlement to supply critical human needs.

The restrictiveness of the 30 per cent limit was evidenced by the high number of entitlement-holders who carried over the maximum amount into 2008/09; around 2,500 high-reliability water share-holders on the Murray and Goulburn systems.

This paper seeks feedback on the final carryover arrangements to be introduced in 2010/11. It is intended that the outcome of the carryover review will be announced when the Northern Region Sustainable Water Strategy is released in mid-2009. This allows implementation well in advance of the 2010/11 irrigation season.

The proposal has been developed in consultation with the Strategy's working group and Consultative Committee. Initial consultation with industry groups has been positive. For information on how you can provide feedback on this proposal, see "Having a say" on page 7.

### **Objective of the carryover review**

*Carryover rules should aim to provide maximum flexibility and certainty, while preventing third party impacts.* Entitlement-holders should be provided with the tools to manage the risks associated with variable water availability. This should be done at minimal cost to the individual. An individual's decision should not be allowed to adversely impact on third parties (including other entitlement-holders and the environment). The costs and risks of carryover should be clear and explicit, allowing individuals to make informed decisions. Rules should be simple, and consistent across systems where practicable.

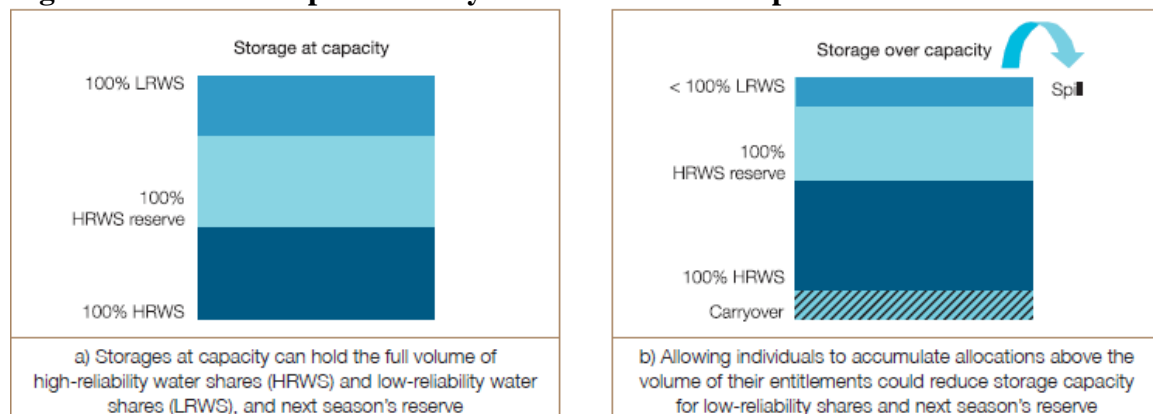
## Principles underpinning the carryover review

- Water allocated to an entitlement-holder belongs to them.* Provided it does not impact on third parties, entitlement-holders should not be limited in carrying water over.
- All entitlements that allow water to be kept in storage have the right to carry water over.* This includes both high- and low-reliability water shares, since they are both legally recognised entitlements with a right to a share of inflows and a share of storage capacity. It also includes similar environmental entitlements such as the Murray Flora and Fauna Bulk Entitlement.
- The storages at capacity are fully utilised to support existing entitlements (assuming average usage levels).* This means that when the storages are full, individuals cannot store more than the volume of their entitlement as this would impact on reliability of supply for other users.
- Water carried over, like seasonal allocation, should be tradeable.* Carryover should not impose unnecessary barriers to water being traded to its most efficient use, be that environmental, economic or social.

## What are the limitations of the current carryover rules?

Current carryover rules state that the volume of water available to an entitlement-holder in any year is limited to 100 per cent of their entitlement (ie. an individual's carryover plus allocations cannot exceed 100 per cent). This rule is in place to prevent individuals from using more storage capacity than they are entitled to. Without this rule, carryover could impact on the reliability of other entitlements (see Figure 1).

**Figure 1. Potential impact of carryover without the 100 per cent rule**



While there is good reason for the 100 per cent rule, it also has limitations. It results in entitlement-holders missing out on allocations in average and wet years, if they have carried over water from the previous year. In addition, an individual that wishes to accumulate allocations over several years to meet 'lumpy' demand is unable to do so, even when storages are at low levels and storage capacity is not constrained.

## **The proposal – introducing the spillable water account (SWA)**

The ‘spillable water account’ (SWA) allows entitlement-holders to store water above the volume of their entitlement, while there is available capacity in the storage. In effect, it allows individuals to borrow storage space. Water held in SWAs is lost to the entitlement-holder when storages physically spill. It cannot be used by entitlement-holders unless there is no risk of storages spilling.

Entitlement-holders allocations are recorded in allocation bank accounts (ABAs). In theory, ABAs could be used to allow entitlement-holders to store greater than the volume of their entitlement. However, this is not desirable because it could result in water being taken out of ABAs when the storage spills. In some cases, this water may have already been used or traded, leaving the entitlement-holder ‘in debt’ to the communal pool. A separate account allows the storage manager to keep track of water that should spill when the storages physically spill by ‘quarantining’ this water while there is a risk of spill.

So how does the SWA work? Essentially, it is similar to the way carryover currently works, *except* once allocations plus carryover reach 100 per cent of entitlement volume, water is credited to the SWA rather than being lost to the individual.

To work through it step by step:

### ***SEASON 1***

→ At the end of the season, any water left in an entitlement-holder’s ABA is carried over to the next season. Note that unlike current carryover rules, there would be no limit to how much water can be carried over.

### ***SEASON 2***

→ As allocations increase throughout the season, these are added to the ABA until carryover plus allocation equals 100 per cent of the entitlement volume.

→ After this, any additional allocations are stored in the SWA.

→ Throughout the season, the storage manager assesses the risk of the storage spilling during the remainder of the season.

- If the storage spills, water in the SWA is lost.
- If there is no risk of spill, water in the SWA is moved into the ABA so it can be used or traded.
- If there is a risk of spill, the water in the SWA is ‘quarantined’ and cannot be used. This avoids the need to take water out of individuals’ ABAs should the storage spill during the season.

→ Depending on storage levels and inflow forecasts, the storage manager may make announcements about the SWA at any stage of the irrigation season.

→ At the end of the season, any leftover water is carried over in the ABA. Water above 100 per cent of entitlement volume is kept in the SWA (as per Season 1).

Figure 2 shows conceptually how the SWA might work for an irrigator with a 100 ML water share that carries over 20 ML at the start of the season. Attachment 1 contains more detailed examples of how an irrigator may choose to use the SWA.

**Figure 2. A new concept – the spillable water account (SWA)**

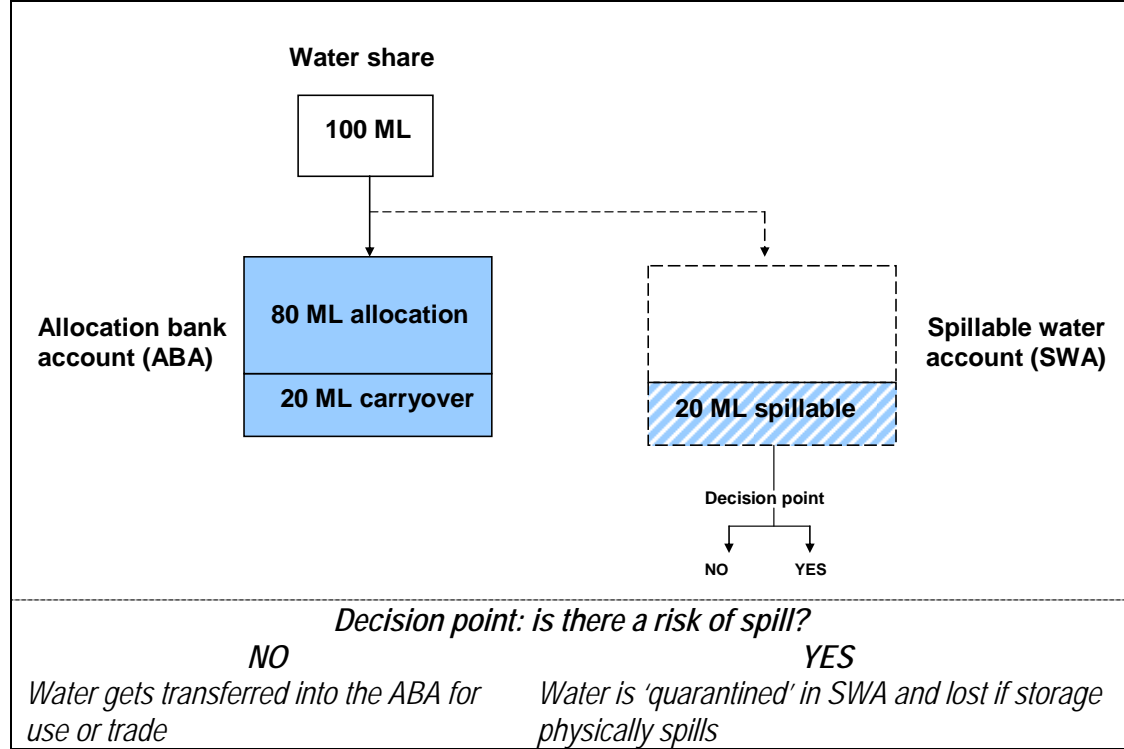


Table 1 provides a simple comparison of the different characteristics of an ABA and an SWA.

**Table 1. Comparison of an allocation bank account (ABA) and the spillable water account (SWA)**

Water held in an ABA:	Water held in an SWA:
• <i>Secure</i> storage of seasonal allocations and carryover.	• <i>Opportunistic</i> storage of additional water (if carryover + allocation in the ABA is greater than 100%).
• Cannot spill.	• Can be lost when storage physically spills.
• Available for use or trade at any time.	• Cannot be used until it is declared there is no risk of spill. At this point it is transferred to ABA for use/trade.
• Limited by the 100% rule.	• Unlimited in volume.

The SWA is a relatively simple concept that improves the usefulness and appeal of carryover by minimising the risk of missing out on allocations in average and wet years. This risk is minimised for *all* entitlement-holders – including those with high-and/or low-reliability water shares. All carryover has the same risk of being lost, whether against high-reliability or low-reliability water shares. This is because the storage would only spill (resulting in water in the SWA being lost) when low-reliability water shares are already fully allocated.

However, the benefits of the SWA are still maximised by allowing water to be carried over against low-reliability before high-reliability water shares. The major advantage is it would reduce the need for many individuals to use the SWAs at all; this means less water is ‘quarantined’ unnecessarily. This would increase the amount of water available for trade, helping to lower the market price of water. Having more water fully available for productive use maximises the regional benefits from carryover and our water resources more generally.

### Implementation issues to be resolved

There are a range of issues to be worked through before this proposal could be implemented (see Table 2). An implementation group will be established to resolve these issues before the 2010/11 season. The group will likely include the members of the original carryover working group and its successor, the allocation working group for the Northern Region Sustainable Water Strategy. It may require additional representatives with particular expertise (eg. tariffing).

**Table 2. Key considerations in implementing the spillable water account (SWA)**

Topic	Issues to resolve
Development of spill rules and declaration of “no risk of spill”	Further work will be undertaken to identify the most appropriate storage(s) to link the spill rules to. Protocols will need to be developed to govern announcements by the resource manager that the risk of spill has passed. This decision will depend on storage levels, inflow forecasts and length of the season remaining.
Development of appropriate tariff arrangements	A range of tariff options will need to be assessed. These will ensure that G-MW’s total revenue will not be increased.
Ensuring no impact on reliability of supply	Implementing the SWA will not have an unacceptable impact on seasonal allocations.
Other issues	Further work will be undertaken to: <ul style="list-style-type: none"> <li>– investigate opportunities for trade between SWAs</li> <li>– ensure that the SWA provides maximum benefit and flexibility for all entitlement-holders, including the environment.</li> </ul>

## The proposal in summary

The following box summarises the proposed carryover arrangements that would be ongoing as from the 2010/11 season. **Community feedback is sought on this proposal.**

### **Proposal: Future carryover arrangements**

The ongoing carryover rules to be in place from the 2010/11 season are as follows:

1. Entitlement-holders can carry over in their allocation bank account (ABA). Carryover, up to entitlement volume, will be available in the ABA at the start of the following season.
2. Where an entitlement-holder has both high- and low-reliability water shares linked to the same ABA, water carried over will be deemed to be recorded first against low-reliability water shares, then against high-reliability water shares.
3. Once allocation plus carryover reach 100 per cent of entitlement volume, all further allocations will be credited to a spillable water account (SWA), rather than being lost to the individual.
  - a) Water held in an SWA will be quarantined\* until the storage manager declares there is very low risk of the storage physically spilling. At this time, the water will be transferred into the entitlement-holder's ABA for use or trade.
  - b) If the storage physically spills, water in all SWAs will spill proportionally. The entitlement-holder fully bears this risk.
  - c) If there is a risk of the storage physically spilling, water in the SWA continues to be quarantined until a) or b) occurs.
4. Five per cent of water carried over in the ABA and SWA will be deducted to account for evaporation losses.

\*Quarantined = set aside for the entitlement-holder but unavailable to them for use or trade.

## Having a say

This paper seeks your feedback on the proposed carryover arrangements to be ongoing from 2010/11. Briefing sessions will be held across the region and **you are encouraged to direct your feedback through the customer committees of rural water corporations and catchment management authorities until the end of March 2009** (see following table).

These committees will be providing formal advice to the Department of Sustainability and Environment before the carryover review is finalised in the Northern Region Sustainable Water Strategy in mid-2009. An implementation committee will be established to resolve any remaining implementation issues before the new arrangements are implemented for the 2010/11 irrigation season.

Organisation & Contact details	Customer Committee
Goulburn-Murray Water Water Services Committees 1800 013 357	Murray Valley
	Shepparton
	Central Goulburn
	Rochester-Campaspe
	Pyramid-Boort
	Torrumbarry
Lower Murray Water Customer Service Advisory Committees 5051 0723	Red Cliffs
	Merbein
	Robinvale
	Private diverters
North East CMA 02 6043 7600	CMA Board
Goulburn-Broken CMA Implementation Committee 58201 100	Shepparton Irrigation Region
North Central CMA Implementation Committee 5448 7124	Natural Resource Management
Mallee CMA Implementation Committee 5051 4377	Irrigation and Environment

Alternatively, queries and written feedback can be directed to the Department of Sustainability and Environment by:

Phone: 136 186

Email: [regional.sws@dse.vic.gov.au](mailto:regional.sws@dse.vic.gov.au)

Post: Department of Sustainability & Environment

Sustainable Water Strategies, Office of Water

PO Box 500, East Melbourne VIC 3002

## Attachment 1: Using the spillable water account (SWA) – some examples

### Example 1:

Jim is an irrigator with a 100 ML high-reliability water share (HRWS) who carries over 30 ML of unused allocation.

#### Scenario A)

			Individual accounts	
Date	Announcement	Allocation	ABA*	SWA
1 July	Allocation increase	60% HRWS	90 ML	0 ML
1 August	Allocation increase	90% HRWS	100 ML	20 ML
1 September	Allocation increase	100% HRWS	100 ML	30 ML
15 January	Risk of spill passed	100% HRWS	130 ML	0 ML

*\* This is the total volume of water allocated to the ABA. It does not account for water use or trade from the ABA.*

In this first scenario, allocations reach 100 per cent in the following year, but the storage does not physically spill. Jim is 30 ML better off than under the current rules, which would have forced him to spill his carryover once allocations approached 100 per cent.

As the season progresses, Jim can decide whether to use, trade or carryover any of the water in his ABA.

#### Scenario B)

			Individual accounts	
Date	Announcement	Allocation	ABA	SWA
1 July	Allocation increase	60% HRWS	90 ML	0 ML
15 July	Allocation increase	100% HRWS	100 ML	30 ML
15 September	Storage spill <sup>#</sup>	100% HRWS	100 ML	15 ML
1 February	Risk of spill passed	100% HRWS	115 ML	0 ML

*# The storage spill is equal to half the total amount of water held in all SWAs; therefore, half of everyone's spillable water is lost.*

In this scenario, inflows are greater than in Scenario A and the storage physically spills in September. The spill is equal to half the amount of spillable water held by all entitlement holders. Jim spills half the water in his SWA.

In this scenario, Jim is only 15 ML better off than under the current rules, but as the storage is full he knows he will be going into next season with a full allocation (guaranteed by the system reserve policy).

**Example 2:**

Heather has a 100 ML high-reliability water share (HRWS) and 50 ML low-reliability water share (LRWS), and carries over 30 ML of unused allocation.

In this scenario, carryover is recorded firstly against low-reliability water shares. This means that Heather can receive her full high-reliability allocation into her ABA (alongside her carryover). Water is not diverted into her SWA before allocations begin for low-reliability water shares.

**Scenario 1**

			<b>Individual accounts</b>	
<b>Date</b>	<b>Announcement</b>	<b>Allocation</b>	<b>ABA</b>	<b>SWA</b>
1 July	Allocation increase	60% HRWS	<b>90 ML</b>	<b>0 ML</b>
15 July	Allocation increase	100% HRWS	<b>130 ML</b>	<b>0 ML</b>
15 September	Allocation increase	100% LRWS	<b>150 ML</b>	<b>30 ML</b>
15 November	Storage spill <sup>#</sup>	100% LRWS	<b>150 ML</b>	<b>0 ML</b>

*# The storage spill is greater than the total amount of water held in all SWAs; therefore, everyone loses all of their spillable water.*

By 15 August, full allocations have been made for high-reliability water shares. Heather has 30 ML of carryover available in her ABA because her carryover is recorded first against her low-reliability water share.

As allocations increase, the volume credited to her ABA (allocation + carryover) is limited to 100 per cent of her total entitlement volume (150 ML). Hence as low-reliability allocations increase, water begins to be credited to her SWA.

By 15 September, full allocations have been made for low-reliability water shares, but the storage has not spilled. At this point, Heather is 30 ML better off than under the current rules.

However, the storage is very close to capacity. As inflows continue, the storage spills. The total spill exceeds the total amount in everyone’s SWA, meaning that all water in an individual’s SWA spills from the storage.