Australian Government

MURRAY–DARLING BASIN AUTHORITY

Basin Plan

FACT SHEET 3: SUSTAINABLE DIVERSION LIMITS (SDLs) AND THE IMPACTS OF ENVIRONMENTAL WATER PURCHASES

SDLs ARE BEING DEVELOPED AS PART OF THE BASIN PLAN TO LIMIT THE AMOUNT OF WATER THAT CAN BE TAKEN FROM THE BASIN'S WATER RESOURCES

ABOUT THE MURRAY–DARLING BASIN AUTHORITY

The Murray–Darling Basin Authority (MDBA) is the Commonwealth agency that manages the Murray–Darling Basin's water resources in the national interest.

MDBA is responsible for preparing and overseeing a legally enforceable management plan — the Basin Plan.

The Basin Plan will:

- set and enforce environmentally sustainable limits on the quantities of water that may be taken from Basin water resources
- set Basin-wide environmental, water quality and salinity objectives
- develop efficient water trading regimes across the Basin
- set requirements for state water resource plans
- improve water security for all Basin water uses.

Sustainable diversion limits (SDLs) will be at the heart of the Basin Plan, a management plan covering water resources across the whole Murray–Darling Basin. SDLs will be limits on the quantities of surface water and groundwater that can be taken from the Basin water resources.

The need for SDLs has arisen because many of the Basin's rivers and groundwater systems are stressed and over-allocated. Lack of water and the absence of natural flooding are having a grave impact on many important environmental assets.

SDLs will limit the quantity of surface water and groundwater that can be taken from:

- the water resources of the Basin as a whole
- individual water resource plan areas
- particular parts of water resource plan areas within the Basin.

SDLs will be developed by the Murray–Darling Basin Authority (MDBA), taking into account:

- environmental water requirements
- an environmental watering plan (included in the Basin Plan)
- social and economic analysis
- a water quality and salinity management plan (included in the Basin Plan).

SDLs will be based on the best available science (environmental, economic and social) and on the principles of ecologically sustainable development. For example, if there are threats of serious or irreversible environmental damage, the lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

REPLACING THE CAP

Currently there is a limit, called the Cap, on the amount of surface water that can be taken for consumptive use in the Basin. The Cap was set at a level based on historic use, not on what is sustainable, and does not limit the use of groundwater.

Since the introduction of the Cap on surface water, the consumption of groundwater has grown significantly. While groundwater is already managed in many areas, the Basin Plan provides an opportunity to manage all groundwater proactively, using consistent criteria and in conjunction with surface water, especially in areas where groundwater and surface water are highly connected.

The SDLs will be implemented through state water resource plans developed in accordance with the requirements of the Basin Plan. The commencement date for SDLs as a replacement for the Cap varies from the end of 2012 to 2019, with the majority occuring during 2014.

ENVIRONMENTAL SUSTAINABILITY

SDLs must be set at a level that MDBA determines to be environmentally sustainable. This is defined as the level at which water in the Basin can be taken from a water resource without compromising key environmental assets, key ecosystem functions, key environmental outcomes or the productive base of the water resource.

Consequently, the SDLs will be based on a series of assessments. For example, decisions must be made about what parts of the environment and ecosystem functions are 'key' and what level of water can be taken before they are compromised.

The Basin Plan will provide for SDLs to vary, in terms of water volume, in different years. In a given year, this will enable SDLs to be influenced by storage levels, expected inflows, groundwater levels and estimates of recharge, interception activities and other factors. In determining SDLs, the variability in water resources across the Basin and the effects of climate change and variability will also be taken into account.

Given the stresses on the Basin environment, the Basin-wide SDL for both groundwater and surface water will be set at a level below the current level of use.

WATER PURCHASES

The Australian Government is purchasing existing surface water entitlements for environmental use. This will have the effect of reducing the gap between current diversions and the SDL, and will help water users with the transition to sustainable water use. A hypothetical example is provided that shows the potential impact of environmental water purchases on SDLs, and two examples of how this impact can be managed.

Purchase of entitlements for the environment is being undertaken by the Department of the Environment, Water, Heritage and the Arts.

IMPROVING IRRIGATION INFRASTRUCTURE

The Australian Government, working with the Basin states and industry, is also investing significant funding to improve the water-use efficiency of irrigation infrastructure in the Basin. A portion of the water savings generated by this work will also be used to reduce any gap between current diversions and the SDLs.

COMMONWEALTH ENVIRONMENTAL WATER HOLDER

The Commonwealth Environmental Water Holder[1] will manage entitlements obtained by the Australian Government through the direct purchase of water entitlements and investment in irrigation infrastructure efficiency. These entitlements will retain their original characteristics. This means, amongst other things, that the Australian Government will continue to pay charges related to both holding and using the entitlements. If and when the Basin Plan specifies a reduction in water availability or a change in the reliability of water allocations, the Commonwealth Environmental Water Holder will be treated the same as all other entitlement holders. In addition, a number of other government and individual water purchases may be utilised for environmental purposes.

SHARING REDUCTIONS IN WATER

Governments have agreed that the risk of any future reductions in the availability of water will be shared according to a framework set out in the National Water Initiative (2004), as amended by the Intergovernmental Agreement on Murray–Darling Basin Reform (2008).

Broadly, these agreements mean that the risk of any reduction in size or reliability of a water allocation will be borne as follows:

- by water entitlement holders, if the reduction is the result of seasonal or long-term changes in climate, or of periodic natural events such as bushfires and drought
- by a government, if the reduction is the result of changes in that government's policy
- by water entitlement holders and governments (according to a specific formula), if the reduction results from improvements in knowledge about the environmentally sustainable level of take of water.

FURTHER INFORMATION

The Basin Plan: a concept statement and copies of this fact sheet are available on the Murray–Darling Basin Authority website at **www.mdba.gov.au**. For copies of this fact sheet, or if you have any enquiries, phone 1800 230 067 or email **engagement@mdba.gov.au.**

Further details on the Commonwealth Environmental Water holder can be found at www.environment.gov.au/water

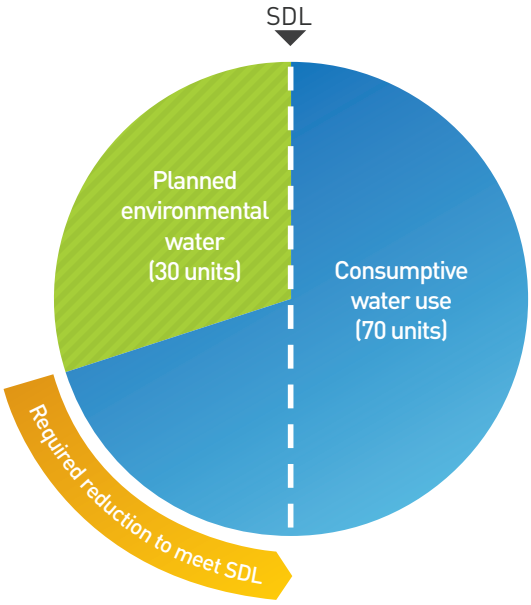
[1] The Commonwealth Environmental Water Holder is a person who, under the *Water Act 2007* (Cwlth), is given the function of using the Australian Government's environmental water entitlements to protect and restore the environmental assets of the Murray–Darling Basin, or assets outside the Basin where water is held for that area.

HYPOTHETICAL EXAMPLE

The numbers and relative quantities used in this scenario are hypothetical and for illustration purposes only. A number of factors, including climate change, are not considered. Such factors will, however, be part of the detailed work of developing the Basin Plan and will reduce the total available resource.

In this scenario, the total water available is 100 units and the amount of water currently permitted to be taken from this water resource for consumptive purposes is 70 units. The remaining water, 30 units, is 'planned environmental water' under existing conditions, i.e. water that is committed and/or preserved under the Basin Plan or state legislation for environmental use only. This is shown in Figure 1 on the right.

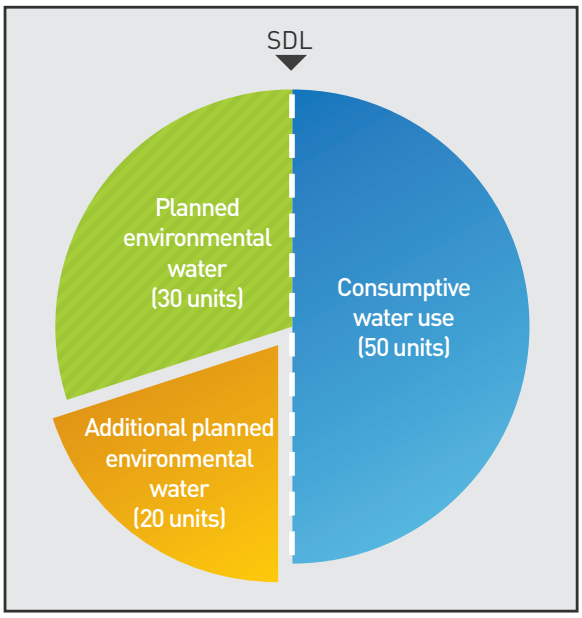
Fig. 1 Current water sharing



If the SDL for consumptive use is set at 50 units, then there are two pathways possible to reduce the amount of water being taken for consumptive use from 70 units to 50 units. The first pathway (Fig. 2) assumes there is no purchase of entitlements for the environment and that all of the additional environmental water comes from reducing allocations to consumptive users.

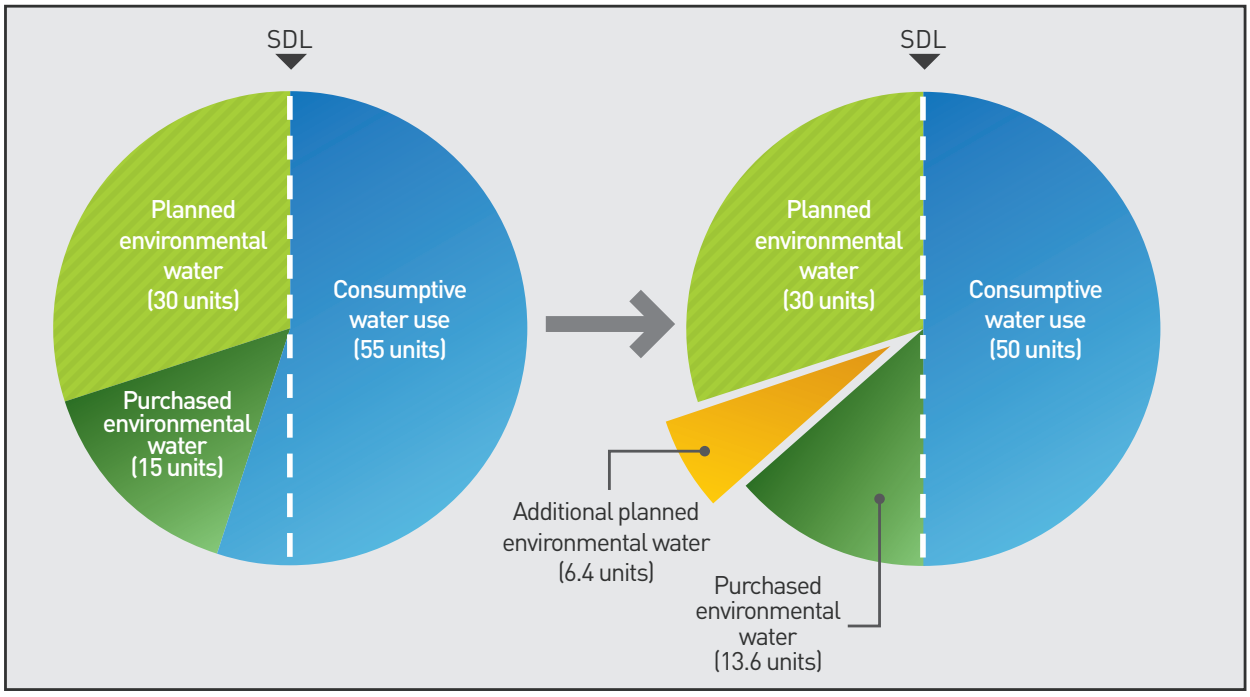
This pathway achieves SDL compliance by applying a factor of 50/70 (or 71%) to all the allocations against entitlements that divert water from this water resource. That is, an entitlement previously receiving an allocation of 10 units would receive an allocation of 7.1 units. The additional 20 units of water made available to the environment as a result would be for additional planned environmental water.

Fig. 2 Pathway to meet SDL: reduce supply of water to entitlements generally



HYPOTHETICAL EXAMPLE (CONTINUED)

Fig. 3 Pathway to meet SDL: reduce supply of water to entitlements generally, impact offset by purchased environmental water entitlements



The second pathway (Fig. 3) assumes that part of the additional water for the environment comes from purchased entitlements. By purchasing 15 units of water for environmental purposes, the amount of water being used for consumptive purposes is reduced to 55 units.

To meet the new SDL requirements the consumptive use must be further reduced from 55 to 50 units. This is addressed by applying a factor of 50/55 (or 91%) to all the allocations against entitlements that divert water from this water resource, including those purchased for environmental purposes.

Following this reduction, 50 units of water would be available for consumptive use and 50 units would be available to the environment. The 50 units available to the environment would comprise:

- 30 units of planned environmental water originally available
- 13.6 units of held environmental water* (being the 15 units of purchased environmental water reduced in volume by applying a factor of 91%)
- 6.4 units of additional planned environmental water that is made available by applying a factor of 91% to all water use associated with entitlements.

* water available under a water access right, a water delivery right or an irrigation right for the purpose of achieving environmental outcomes (Section 4, *Water Act 2007*)

This is #3 in a series of fact sheets on the development of the Basin Plan

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