

# What is environmental water?

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Water used to improve or maintain the health of rivers and wetlands



Water held in entitlements for the environment



Water specifically planned for and delivered to benefit the environment

The concept of **environmental water** has been a key part of water policy in Victoria since the 1990s. Environmental water is water managed to improve or maintain the health of rivers and wetlands – including the plants and animals that depend on them. Though environmental water can mean any water in a river or wetland that provides environmental benefits, for the purposes of this fact sheet, it means water available under environmental entitlements that is **actively managed** to benefit the environment.

## What is an environmental water entitlement?

An environmental water entitlement is a legal right to access a share of water available at a particular location or locations (for example, Upper Yarra Reservoir), subject to certain rules and conditions. In this way, it is the same as other water entitlements, including consumptive water entitlements used for towns, industry and irrigation.

Environmental water entitlements provide a right to water that can be actively managed to benefit the environment. The rules and conditions of each environmental entitlement determine how much water is available for use and when.

Figure 1 provides an indication of the proportion of water entitlements in Victoria used for environmental, urban, industry and irrigation purposes.

Figure 1. Proportion of water entitlements in Victoria used for environmental, urban, industry and irrigation purposes

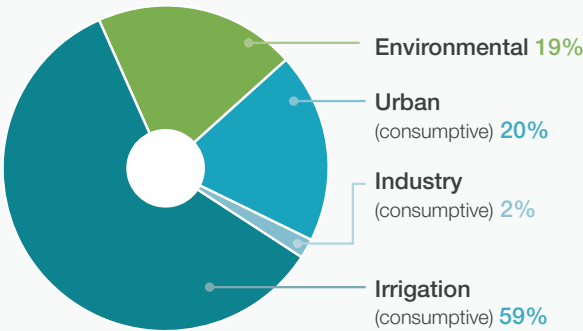
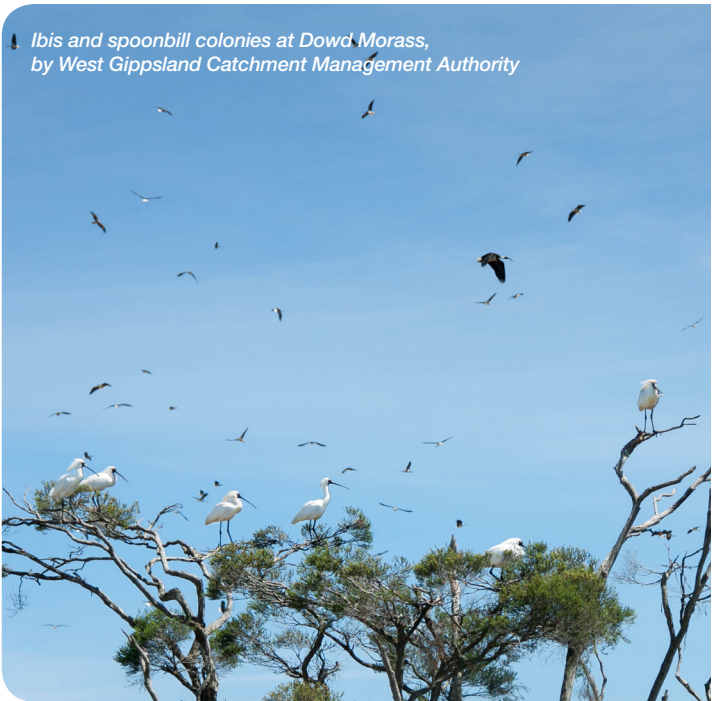


Figure 1 is based on the total volume of surface water entitlements recorded in the Victorian Water Register at 30 June 2014. The figure does not include entitlements that are not accounted for in the Victorian Water Register (such as minimum or unregulated river flows and other rules-based environmental water like the Barmah-Millewa Environmental Water Account).

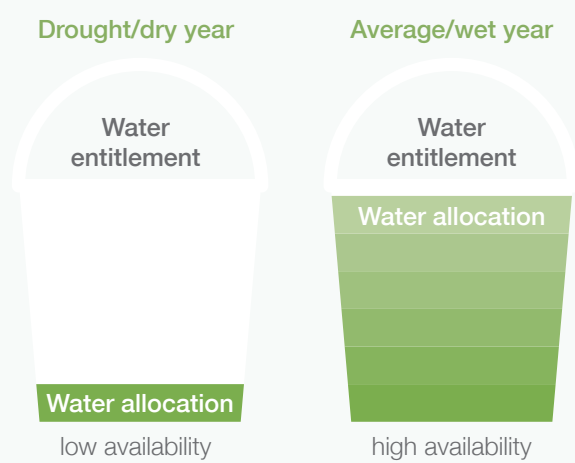


## What are the different types of entitlements?

A bucket is a good metaphor for environmental water entitlements that provide a right to access water held in water storages. The size of the bucket is determined by the entitlement volume, or the maximum amount of water that can be accessed annually. How the bucket is filled with water is determined by the rules and conditions of the entitlement.

In most cases, water available in the entitlement (bucket) varies from year to year depending on how much water is in storage and how much it has rained. The ‘water available’ is often referred to as ‘water allocation’.

Figure 2. Water available under water entitlements



Generally, each entitlement (bucket) gets filled with water (allocation) as more water becomes available in storage. In many systems, a water corporation (also known as a storage manager or a resource manager) progressively allocates water to entitlements throughout the year based on how much water is in storage. In a dry year, water allocated may be less than the total entitlement volume (the bucket does not fill). In a wet year, the full volume is likely to be allocated early (the bucket fills quickly) (see Figure 2).

Water allocation to an entitlement could be determined by a specified **share of inflows** or by other defined rules. An entitlement may have a specified ‘reliability’, which indicates how consistently the entitlement (bucket) is filled and the priority order in which it is filled in any year. For example, in systems like the Murray, **high-reliability entitlements** are filled before and more frequently than **low-reliability entitlements**.

Some environmental water entitlements are not linked to a water storage and access to water is only permitted on an opportunistic basis (that is, when water is actually flowing in a river, rather than being captured in a storage). These entitlements—called **unregulated entitlements**—permit diversion of in-river flows above a certain height or rate, or flows that are in excess of what is needed to supply consumptive uses.

Figure 3 shows where these different types of environmental water entitlements are in Victoria.

## How have environmental water entitlements been created?

In response to declining river and wetland health due to water extraction and the construction of dams, weirs and channels, governments have invested significantly over the past two decades to recover water for the environment. In Victoria, this has occurred largely through water-savings projects, such as improving the efficiency of water delivery for towns and farms. Some of the water savings from these projects are then converted into environmental water entitlements.

## Where do environmental water entitlements exist in Victoria?

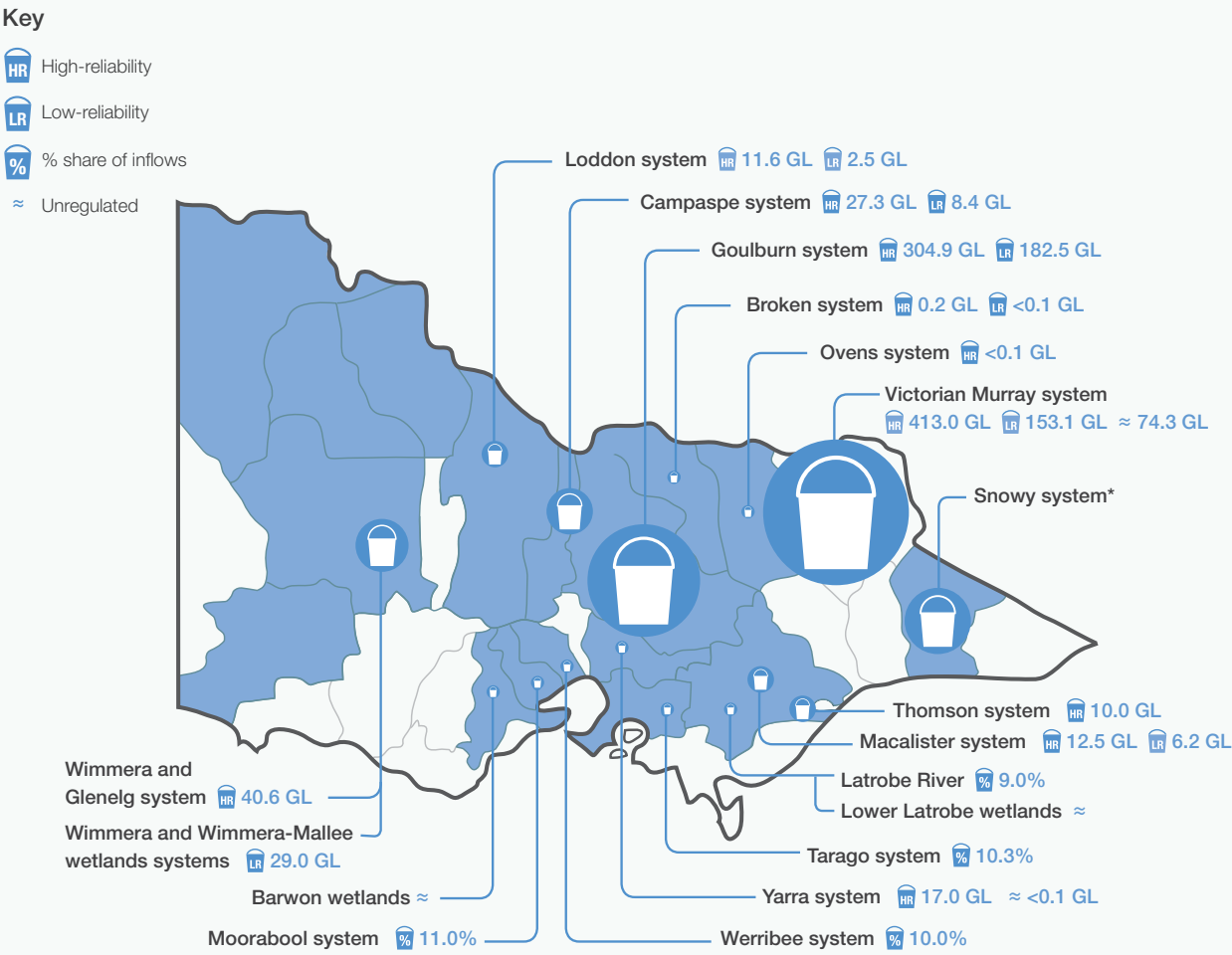
Environmental water entitlements do not exist everywhere. They are held in 15 systems across Victoria by the environmental water holders shown in Figure 3. Environmental water entitlements have typically been created in river systems where water storages (created by dams and weirs) and water extraction have had a significant impact on river flows and the plants and animals that rely on those flows.



Swan with cygnets at Black Swamp, by Goulburn Broken Catchment Management Authority



Figure 3. The sum of environmental water entitlements held in Victoria (including by the Victorian Environmental Water Holder, the Commonwealth Environmental Water Holder and the Murray-Darling Basin Authority under the Living Murray program) as at 30 June 2015



\*See the seasonal watering plan for further information about water available for environmental flows in the Snowy system.





Who holds the environmental water entitlements?

Environmental water entitlements are largely held by State and Commonwealth government agencies often referred to as ‘environmental water holders’. In Victoria, this includes the Victorian Environmental Water Holder (VEWH), the Commonwealth Environmental Water Holder (CEWH) and the Murray-Darling Basin Authority (MDBA) as part of the Living Murray program.



Lower Bunyip River, by Sarah Gaskill



Upper Yarra River, by Melbourne Water

Where can environmental water be delivered?

Environmental water is generally delivered to rivers and wetlands that are connected to the systems where environmental water entitlements are held (for example water held in Thomson Reservoir can be released into the Thomson River). In some instances, water in one system can be delivered and used in another system. For example, water available under an entitlement held in the Goulburn system may be delivered down the Goulburn River to the River Murray, then diverted into the River Murray wetlands.

The VEWH’s annual seasonal watering plan, available at [www.vevh.vic.gov.au](http://www.vevh.vic.gov.au) provides more information about where environmental water can be delivered in Victoria.



Environmental flow release from Thomson Reservoir, by West Gippsland Catchment Management Authority