

Advisory Statement: The Basin Plan's final 450 GL

Why recovering and delivering this water is important for all of us



The Murray-Darling Basin is Australia's largest and most iconic river system. Its health underpins the economic, social, cultural and environmental wellbeing of communities within, as well as many outside, the Basin. This is why the South Australian government continues to support the full implementation of the Murray-Darling Basin Plan as the best option for protecting this important area and resource, now and for the future.

In 2012 all states signed up to the Basin Plan – a package deal to deliver environmental outcomes equivalent to a reduction in consumptive use of 3,200 gigalitres (GL) of water through a combination of water recovery and the Sustainable Diversion Limit Adjustment Mechanism (SDLAM). Given the decision to reduce the volume recovered from the northern Basin, the Basin Plan package now comprises:

Recovery of 2075 GL of water for the environment through water entitlement purchases and investment in infrastructure to make water use more efficient.

605 GL of water that will remain in rivers for consumptive use. This will be achieved by implementing projects such as building or improving river or water management structures, and making changes to river operating rules to enable environmental outcomes at selected sites to be achieved with less water recovery. The Basin Plan refers to these projects as "supply measures". This 605 GL is also contingent on the delivery of "constraints relaxation projects" that allow the more effective delivery of water for the environment.

Recovery of 450 GL of water for the environment through projects that reduce water losses through irrigation, commercial use and public water supply infrastructure while maintaining or increasing productivity and delivering neutral or positive socio-economic impacts. The Basin Plan refers to these projects as "efficiency measures".

The SDLAM is an integral component of the agreed Basin Plan and through the implementation of the supply, constraints relaxation and efficiency projects, is designed to holistically improve the health of the Basin's river systems; to balance consumptive water use with the requirements of the wetlands, floodplains and estuarine environments of national and international significance that span the southern Basin. All parts of the SDLAM need to be delivered to achieve the anticipated outcomes – picking and choosing the best parts for a region or state will not do this.

Recovery of the final 450 GL and relaxing of constraints is expected to achieve 94 percent of the environmental flow indicators that were assessed by the Murray-Darling Basin Authority (MDBA) in order to determine an environmentally sustainable level of take (ESLT). This is a significantly better outcome when compared to the return of only 2,750 GL, which is expected to only achieve 61 percent. Even without the relaxation of constraints, the final 450 GL will still provide real benefits for the environment and is expected to achieve 72 percent of the environmental flow indicators. With or without constraints, the 450 GL is particularly important for maintaining key wetland refuges and avoiding critical species loss in dry and very dry years when water availability is lower, such as during the Millennium Drought where it took many years for some species to recover, whilst others have still not recovered to pre-drought levels.

The primary purpose of the 450 GL is to achieve enhanced in-stream outcomes and increase connectivity between the main river channel and the floodplains in New South Wales, Victoria and South Australia; boosting the amount of time flow rates for the Basin's critical environmental assets can be delivered, improving the health of forests and fish and bird habitats and avoiding critical environmental decline by using the infrastructure that is being constructed through supply measures projects.

The 450 GL will contribute to increasing the frequency of mid- to high-flow events at multiple locations along the River Murray. For example, it will enable large areas of the flood-dependent river red gums to be inundated at the Barmah-Millewa Forest and improve outcomes for the large river red gum and black box communities at the Gunbower and Koondrook-Pericoota Forests. These higher flow events will support the wetland habitats and improve the breeding outcomes for the thousands of colonial waterbirds that nest when these areas are inundated.

Extended dry periods at sites along the River Murray floodplain downstream of the Murrumbidgee junction, have caused significant ecological damage and degradation in the past to critical environmental sites such as the Hattah Lakes and Chowilla Floodplain. These are important breeding locations for waterbirds, regent parrots, frogs, turtles and native fish. Without the 450 GL there will be very limited ability to reduce the length of dry periods to prevent future ecological decline and to protect sites across the Basin that have high spiritual and cultural significance for Traditional Owners and immense social and recreational value.

It is common misconception that the 450 GL is all about the Coorong, Lower Lakes and Murray Mouth (CLLMM). The 450 GL will deliver environmental outcomes in river channels and floodplains in New South Wales, Victoria and South Australia – it is the return flows from these sites that will deliver the majority of improved outcomes for the CLLMM. This is how river systems work – water must reach the end of the system. Like upstream sites such as Hattah Lakes, the CLLMM will also benefit in dry to very dry years through the provision of small, but critical, maintenance flows to maintain fish passage through the barrages and avoiding critical species loss.

The science on the water requirements for the CLLMM has not changed and relate as much to volume as flow rate. The 450 GL will enable salinity to remain below critical thresholds more often, reducing the risk that levels will exceed those that are lethal for fish, insects, and plants that form important parts of the food chain. It will increase flow through the barrages and maximise critical fish migrations. This includes diadromous fish species, such as the ancient, eel-like lamprey and the congollis that don't just breed in South Australia but travel up the river into Victoria and New South Wales.

Importantly, recovery of the 450 GL through well designed and implemented efficiency measures projects is also delivering socio-economic benefits through creating an economic stimulus to regional areas and recovering water that is effectively "lost" through conveyance/delivery, evaporation and leaky infrastructure both on and off farm. This is also increasing the productivity and profitability of irrigated agriculture and generating additional water savings for irrigators that can be traded on the water market, used to increase irrigated areas or manage water availability issues in dry years.