

Protecting the environment

At a glance:

- > With climate change, environmental flows could be reduced by up to 84 per cent in some catchments.
- > Existing commitments in the region could recover about 900 GL (billion litres) a year for the environment.
- > The Draft Strategy proposes clear priorities— for recovering and using water and the expected benefits.

Current condition and future risks

Climate change will reduce water availability for the environment much more than water for users, because the majority of environmental water is from reservoir spills. With less water, reservoirs will spill far less often.

Table 1 summarises how much environmental flows would be reduced in each of the systems under the most severe scenario. The ecological impacts of this could include:

- > the disappearance of most areas of river red gum forest, including the River Murray icon sites (such as Barmah Forest, Hattah Lakes and Gunbower Forest)
- > a likely end to large colonial bird breeding events (such as egrets), many of which are protected under international agreements
- > a significant decline in native fish population, including some listed as threatened or endangered (such as Murray cod)
- > the degradation and potential loss of internationally recognised Ramsar-listed wetlands, including the Kerang Lakes.

Many of the region’s river reaches and wetlands are already in **poor ecological condition**. This is due to past land management practices, over-allocation, and the climate of the past 11 years. See Chapter 3 of the Draft Strategy for more information.

Having clear priorities

Existing projects could recover about 900 GL (billion litres) of water for the region’s rivers and wetlands, depending on the Commonwealth Government’s water purchase program (see Table 2). That’s enough water to fill the Melbourne Cricket Ground (MCG) 530 times. The Draft Strategy proposes clear priorities for where water recovery should occur and how the water should be used.

The Draft Strategy uses emerging science to identify six categories of environmental condition, ranging from ‘survival mode’ to ‘healthy’ (see Table 3). Each of these categories has a different level of water recovery, and economic and community cost, attached to it.

Using this approach, a total water recovery target of about 300 GL is identified for the region’s rivers to:

- > improve their health to at least a Category 4 if the climate of the past 100 or so years is repeated
- > protect critical drought refuges at a Category 2 under the most severe climate change scenario.

If the most severe scenario eventuates, decisions will then need to be made on the next best step (see the section on the 15-year review).

Table 1. Change in environmental flows under the most severe climate change scenario (compared to long-term average)

River system	Murray	Broken	Goulburn	Campaspe	Loddon
Change	-51%	-70%	-69%	-86%	-84%

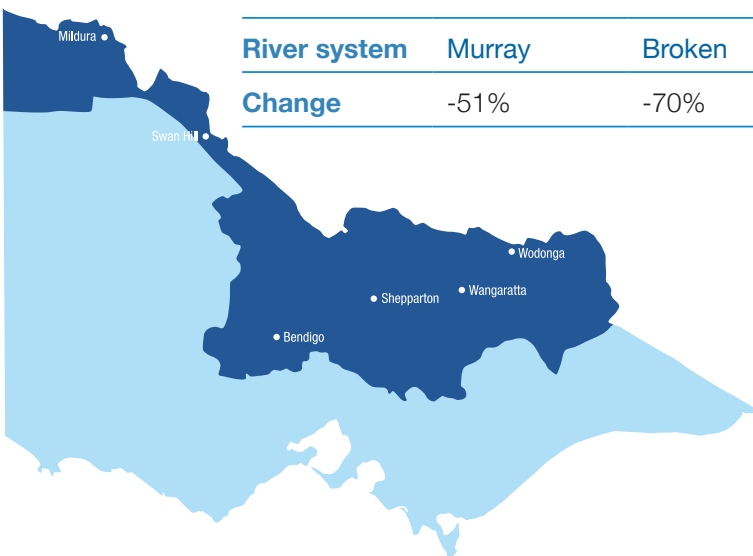


Table 2. Water recovery for the environment in the Northern Region of Victoria*

Project name	Water recovery for environment (long-term average GL/year)^	Comments
Living Murray Initiative	214 [#]	Victorian commitment only (\$115m). Total MDBC commitment is \$500m for 500 GL by 2009.
Snowy Water Recovery Project	35 [#]	Victorian component of project for the River Murray. New South Wales has equal commitment. Total commitment is \$375m for 212 GL for the Snowy River by 2013.
Northern Victoria Irrigation Renewal Project (Stage 1)	75 [#]	Component of project going to the environment. Total commitment is \$1b for 225 GL by 2013 (with cost share between Victorian Government, Goulburn-Murray Water and Melbourne Water).
Northern Victoria Irrigation Renewal Project (Stage 2)	100	Component of project going to the environment. Total commitment is \$1b for 200 GL (with in-principle commitment by Commonwealth Government).
Commonwealth water purchase program	~500 - 700	Total commitment is \$3.1b throughout the Murray-Darling Basin. This estimate assumes one-third to half of this is spent in Victoria. At an average price of \$2,000/ML, this could purchase 500-700 GL of high-reliability water share in Victoria. The rate of purchase will be restricted by trading rules that limit trade out of irrigation districts.
TOTAL	~924 - 1,124	

*Note that not all water recovery comes from water savings projects in the Goulburn-Murray Irrigation District.

^ Estimate of the average amount of water provided each year assuming long-term average water availability. The actual entitlements are a mix of high-reliability and low-reliability.

The water recovery targets proposed in the Draft Strategy assume that these projects have been implemented. However, smarter (more efficient) use of the environmental water from these projects could help to address the targets.

Table 3. Categories of environmental condition for rivers

	Category	Objective/outcome	Flow components required
Survival mode	1	Protection of drought refuge	Base flows
	2	Protection of drought refuge plus dry spell breaking	Summer minimums year round; winter minimums and freshes every third year
Working rivers	3	Sustainable population of priority in-stream species	Recommended summer and winter minimums and freshes
	4	Healthy in-stream environment	Category 3, plus bankfull flows
	5	Healthy in-stream environment and protection of priority wetlands	Category 4, plus some overbank flows every three years
Healthy	6	Healthy in-stream environment and all wetlands and floodplains	All recommended environmental flow components

Getting the most out of environmental water

Establish an independent Environmental Water Holder to identify priority watering sites, make decisions on best use and liaise with the Commonwealth to coordinate watering programs. Other proposals to improve the efficiency of environmental water include carryover, structural works and infrastructure upgrades, the use of consumptive water en route and the reuse of return flows.

Preparing for the 15 year review

The '15-year review' in 2019 will allow the Government and the community to assess the effects of climate change, whether the environment has been more severely impacted and the appropriate response. This could be a complete review of entitlements or a change to environmental objectives.

See Chapter 5 of the Draft Strategy for more information.

Further information

Individuals, organisations and the community are invited to provide formal feedback on the proposals in the Draft Northern Region Sustainable Water Strategy. These will inform the directions in the Final Strategy, due for release in early 2009.

To obtain a copy of the Draft Strategy, or to find out how to make a submission, please call 136 186 or go to www.ourwater.vic.gov.au/programs/sws/northern.

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