



**Inside this edition:**

- Glenelg River flow and water quality update
- Fish Monitoring in the Glenelg River
- Testing of 12-mile outlet infrastructure upgrades
- Waterway action plan completed
- Fish barrier removal works

Autumn 2009 Edition 23

## Glenelg River flow and water quality update

Summer baseflow releases into the Glenelg River of 15 megalitres/day were provided intermittently from the 5-mile outlet on the Rocklands-Toolondo channel between mid December 2008 and early April 2009. In total, 900 megalitres were released into the Glenelg River.

The aim of the releases was to maintain water quality within the upper reaches of the Glenelg River and provide refuge habitat for aquatic life such as native fish and platypus. Given the relatively small volumes being released and the dry summer experienced in the upper Glenelg area, the releases have benefited a small but important stretch of river.

Although only preliminary flow and water quality data are available at this stage some observations include:

- Releases initially reached Fulham Bridge which was undoubtedly helped by approximately 40mm of rain recorded just prior to the commencement of releases in mid December.
- Extremely dry and hot weather conditions experienced, particularly during January and February, limited the downstream extent of releases compared to previous years. It is estimated that 20-25km of the Glenelg River downstream of the 5-mile outlet benefited from the environmental water releases during 2008-09. By comparison, approximately 30km of river benefited during a similar release strategy in 2002-03.

- No flows were recorded at Harrow and Dergholm since approximately early January. Salinity data at Dergholm has shown a consistent decline over the summer/autumn period with the maximum recorded value of > 12000  $\mu\text{S}/\text{cm}$ , the highest ever recorded at this site. This data continues the trend observed over the past few years of increasing salinity levels both in terms of average and maximum values at a number of sites along the Glenelg River.



Release of 15 ML/day from the 5-mile outlet as part of intermittent releases during December to April into the upper Glenelg River.



Above: Glenelg River at two locations downstream of the 5-mile outlet before and during the release of environmental water – note the increase in habitat available and connectivity allowing fish and other aquatic fauna to move to more favourable areas.

## Fish monitoring in the Glenelg River

Fish monitoring is a key part of the environmental flows monitoring program in the Glenelg River and is used as an indicator of river health. During January, 20 sites were monitored for fish populations between Rocklands Reservoir and Dartmoor.

Preliminary results support findings from previous surveys that have shown a diverse native fish community exists in the Glenelg River, with a number of species present having conservation status. Flathead gudgeon, river blackfish, common galaxias and threatened yarra and variegated pygmy perch are widely distributed along the Glenelg River.

Unfortunately carp were also caught in the upper Glenelg River at two sites where they have been detected in previous years, although they remain in relatively low abundances.

Results from the recent fish surveys indicate that the native fish communities of the Glenelg River show resilience to drought conditions that have been experienced over the past few years and are adapted to these conditions, which are a natural feature of the landscape. However continued survival of vulnerable species cannot be guaranteed if the extreme conditions of the past few years persist and the minimum flow requirements are not met on an ongoing basis.

## Testing of 12-mile outlet infrastructure upgrades

The 12-mile outlet is one of three potential release points for delivering environmental water to the Glenelg River.

In June 2008 the Glenelg Hopkins CMA completed works to upgrade the 12-mile outlet on the Rocklands-Toolondo channel. Upgrade works included relining and reinforcing the concrete chute, constructing a rock based energy dissipater pit, constructing a culvert crossing, increasing the channel capacity within small sections of Mt Byron Ck and waterway protection works along Mt Byron Ck and the Glenelg River through fencing and revegetation.

As part of the releases into the Glenelg River over summer 2008/09, the opportunity was taken in March to test the infrastructure upgrades.

Testing involved releasing a range of flow rates up to 200 megalitres/day for a short period of time, simulating a range of release conditions. Inspection of the infrastructure at the completion of testing showed the works were a success which means into the future potentially greater volumes can be safely released in the Glenelg River via the 12-mile outlet.



12-mile outlet during testing in March 2009. Releases were gradually increased up to a maximum rate of approximately 200 megalitres per day which is shown above.

## Waterway Action Plan completed for the Glenelg River, Rocklands to Fulham Bridge sub-catchment

Many Balmoral landholders have recently had field assessments of waterways carried out on their properties. These assessments, carried out by environmental scientists from Alluvium Consulting and Glenelg Hopkins CMA Project Officer Rob Addinsall, were part of a CMA investigation into the health of the Glenelg River catchment between Rocklands and Fulham Bridge.

The purpose of the field assessments was to determine the overall condition of waterways, including identifying how much of the original ecological function of the waterways remains and to identify key threats to these functions. A particular emphasis was placed on determining at what stage the waterways are at in terms of their erosion cycle, to consider the likely movement of sand in the Glenelg River and the likelihood of additional sand entering waterways.

The information collected was used to prepare a Waterway Action Plan. The Waterway Action Plan lists actions required to protect those areas in good condition as well as address those environmental threats that are likely to further degrade the waterways.

The results of the investigation will be presented to the community at a public meeting, to be held at the Balmoral Golf Course the evening of 10 June 2009.

This Waterway Action Plan follows on from two other plans; one for the Glenelg River between Fulham Bridge and Harrow in 2007, and the other for the Glenelg River between Harrow and Moree prepared in 2008.

Glenelg Hopkins CMA is hoping to implement the Waterway Action Plan in the next few years. This will include the opportunity for landholders to access increased financial incentives for fencing waterways where fencing is identified as a priority action in the plan.

It is expected that, with appropriate management, the ecological health of the waterways through this region can be restored and that the Glenelg River can become a healthy river that both restricts sand movement further downstream while providing stock watering requirements for the community.

## Fish barrier removal works

During Autumn Glenelg Hopkins CMA will be undertaking works to modify two major barriers to allow fish movement in the Glenelg River.

These barriers are located in the upper Glenelg River downstream of Balmoral. Works will involve modifications to existing crossings that currently impede movement of a range of native fish species.

### STORAGE WATCH as at 22/04/2009

#### WIMMERA MALLEE SYSTEM STORAGE WATCH

RESERVOIR	CURRENT CONTENTS (ML)	PERCENT FULL	CHANGE IN PERCENT FULL SINCE LAST RAVE
Rocklands	3830	1.1%	-0.7%
Moora Moora	0	0%	-7%
Bellfield	11330	14%	-2%
Wartook	7840	23%	-12%
Taylors	6800	8%	-3%
Others	2710	1.1%	-0.5%
<b>TOTAL</b>	<b>2720</b>	<b>3.7%</b>	<b>-1.3%</b>

A megalitre (ML) is one million litres, about half the volume of water held in an Olympic size swimming pool