

# Information Bulletin

## Water supply reliability measures lead project direction

A 'package' of water savings and recovery measures for the Broken Valley is to be put together to recover water for the environment and maintain existing reliability of supply. The aim is an irrigated agricultural industry that is both economically and environmentally sustainable.

The comprehensive 18-month study and extensive community consultation into the best way forward for Lake Mokoan highlighted the importance of continued reliability of water supply for irrigators. As a result, the Lake Mokoan decommissioning project commenced with a State Government commitment to irrigators that their existing reliability of supply will be unaffected.

The first stage of the project is therefore focused on designing a 'package' of water savings and recovery measures for the Broken Valley. This recognises that the most effective method is a combination of works to recover water for the environment and maintain existing reliability of supply with continued water reform. This will result in an irrigated agricultural industry that is both economically and environmentally sustainable.

Water savings and recovery measures will address a fundamental question for the decommissioning of Lake Mokoan – how can we continue with a reliable source of water from the Broken system while recovering at least 44,000 ML per year to return as environmental flows for the River Murray and Snowy River?

This question can only be answered by bringing together all the right people – a Project Team with strong understanding of water supply system operations and a Reliability Reference Committee that represents local farmers and industry. This interaction coupled with



Members of the Reliability Reference Committee and Project Team: (L-R) Peter Ryan, Peter Tanner, Graeme Hannan (G-MW), Ross Davies (DS&E), Geoff Earl (G-MW), David Rush, Clay Manners (VFF), Ray Henderson, Wayne Spinks, Bernie O'Kane (DS&E), Tony Pacquola, David Jeffery (G-MW)

strong communication aims to bring expert local knowledge of stakeholder needs as the decommissioning moves forward.

This bulletin is designed to introduce you to the Reference Committee and Project Team and to outline the implementation program. Importantly, it is designed so you can understand the options for ensuring water reliability and provide input into the process.

So far a number of studies, computer modelling and discussions with irrigators have commenced with encouraging results. We outline this progress in this bulletin and look forward to bringing you updates.

- [Implementation timeframe - pg 2](#)
- [Details of the proposed recovery measures - pg 3](#)
- [Roles and communication - pg 4](#)

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# Decommissioning Lake Mokoan

The \$60 million decommissioning program will first implement offset measures to maintain reliable water supply to irrigators and then rehabilitate the reclaimed site, returning the natural hydrology.

It addresses an important problem for irrigation in Victoria's north, in that some 25% of water diverted out of the Murray and Goulburn systems is lost, especially through evaporation or seepage. This defies the steps that farmers are taking to sustain water through efficiencies on farm and in homes.

A proposed timeline has been developed, which aims to provide enough time for investigations to take place and for extensive input from customers and the community, while allowing the Government to meet its White Paper commitments.

The decision to decommission Lake Mokoan has followed extensive research and community consultation, resulting in:

- The Lake Mokoan Study, which evaluated a number of options to both achieve savings in bulk water systems and to address problems of evaporation, poor water quality and equitable sharing of the costs of operating Lake Mokoan
- The Minister for Water's formation of the Lake Mokoan Future Land Use Steering Committee to create a vision for the present site.

The national importance of the project has been recognised in its accreditation under the Murray Darling Basin Intergovernmental Agreement for implementation, to address water over-allocation in the Murray Darling and Snowy Basins.

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Full details about the [Lake Mokoan Study](#) and [Lake Mokoan Future Land Use Steering Committee](#) are available at [www.lakemokoan.com](http://www.lakemokoan.com)

Information about the [National Water Initiative](#) and [Murray Darling Basin Intergovernmental Agreement](#) is available at [www.coag.gov.au](http://www.coag.gov.au)

## IMPLEMENTATION

The water supply works will be a phased program, with decommissioning starting only once effective offsets are in place. This is expected to take around 3 years, then rehabilitation works will commence.

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### March - May '05

Initial concept reports and computer modelling of reliability completed, committee consideration of reliability, costs, impacts of each offset.

### June '05

Committee reviews info and agrees on status of package, additional investigations required, possible works for early implementation.

### June - July '05

Presentation to stakeholder meetings.

### June '05 - February '06

Review of current information and refining offset package.

### January - February '06

Presentation to stakeholder meetings.

### February - March '06

Committee reviews final package of offset proposals.

### March - April '06

Presentation to G-MW Board.

### June '06

Presentation to Government.

### July '06 - December '08

Detailed Design and Implementation.

## ACTIVITIES TO DATE

Work has commenced to determine the level of reliability required after Lake Mokoan is decommissioned and to identify a range of options to be developed into a final package of offset measures for Government consideration.

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### Understanding the existing level of reliability

In mid-2004 discussions commenced with the VFF and irrigators to reach an understanding of acceptable supply conditions. Once a comprehensive understanding has been agreed, a final package of offset measures will be developed,

costed and submitted for Government consideration to proceed to detailed design and implementation.

The process for reaching this understanding must be robust, and has included:

- Computer modelling showed that existing reliability of water supply was at 91%
- The input of irrigators who believe that actual reliability of supply would be at least 95%, based on the view that only major droughts would result in any level of restriction and that the threat of blue-green algae affecting lake operations has been overstated.

The Reliability Reference Committee is working with Goulburn-Murray Water and DSE to clarify supply system operating rules and assumptions in the computer modelling to date.

# Key reliability offsets

## **Pipeline Casey's Weir (Tungamah) Stock and Domestic system to supply 260 stock and domestic supply entitlement holders in a 63,000 ha district.**

These works will provide a reduction in usage in the Broken system by 4.8 GL/year through reduction in the very high losses in the existing system (3.8 GL/year) and use of Goulburn system water to supply the "at farm" demand of 1.0 GL/year. The project consists of channel and weir decommissioning, and construction of a pressurised piped supply system from East Goulburn Main (EGM) to replace existing supply from the Broken Creek at Flynn's Weir. The pressurised supply system comprises diverting water from the East Goulburn Main into a storage basin and pumping into a 340 kilometre pipeline distribution system (240 km of 100mm diameter or less and 100 km larger supply mains up to 300mm diameter) to provide pressurised raw water to the 'farm gate'.

## **Channel Automation on Broken Creek and Broken River, replacing the existing manual weir and metering infrastructure with new remotely controlled gates and metering equipment system.**

By providing an 'on demand' delivery and more accurate measurement of deliveries it is expected that losses will be reduced by 4 GL/year from reduced system losses (leakage, evaporation and outfalls) within the Broken Creek System and reduced operational losses in the Broken River.

## **Pipeline East Shepparton Waterworks District channel decommissioning and pipeline construction to provide pressurised raw water to the 'farm gate'.**

These works could provide a water savings in the Broken system of 0.4 ML/year.

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The Lake Mokoan Study and the preparation of the White Paper, *Securing Our Water Future Together*, respectively outlined and reviewed a number of reliability offset measures. Other possibilities have been identified by the Reliability Reference Committee.

## **Alternative supply of Broken River private diverters from East Goulburn Main**

The works would replace supply from the Broken River with a supply from the Goulburn system for a limited number of diverters close to the crossing of the East Goulburn Main and the Broken River.

Delivery would be by gravity release from East Goulburn Main downstream of the crossing point and possibly by pumped supply upstream of the crossing point. By this exchange, at least 0.6 GL/year will be removed as a demand from the Broken system. It would require purchase of Goulburn entitlement to replace the Broken system entitlements.

## **Raise Lake Nillahcootie**

A one metre raising of the dam wall could increase storage capacity by 5,300 ML to provide 0.3 GL in average shortfall but up to 5 GL in the first year of a drought.

## **Other possible offset measures, identified by the Reliability Reference Committee:**

- Extension of East Goulburn Main supply, via a pipeline, upstream to Gowangardie Weir
- Provision of a reserve storage within the Lake Mokoan basin
- Raising Gowangardie Weir
- Operate Gowangardie Weir at lower levels, to capture surplus flows
- Supply to Mokoan diverters from Ovens River at Killawarra
- Groundwater supply to supplement stream flows
- Treated wastewater reuse from Wangaratta and/or Benalla (subject to acceptable water quality)
- On farm efficiency improvement.

## **Water supply maintenance works**

In addition, water supply maintenance works will provide alternative means of supply to existing Irrigation Stock and Domestic diverters around Lake Mokoan.

## ACTIVITIES TO DATE

- *continued from page 2*

### **Investigating options for reliability offsets**

A number of concept studies and investigations have been commissioned to assist in making informed decisions in relation to cost, time frames, supply reliability, environmental impact and overall viability:

- An alternative supply to Broken River private diverters from the East Goulburn Main Channel
- An alternative supply to Lake Mokoan Diverters
- Raising Lake Nillahcootie, in conjunction with a design review of this structure
- Installation of continuous flow measurement equipment and identification of loss reduction

options on the Upper Broken Creek and Broken River.

In addition:

- Community consultation on the final proposal for the Tungamah Pipelining Project is about to commence
- A feasibility report on the options for Pipelining the East Shepparton Stock and Domestic system is under review
- A report on *Options for Water Savings Little Murray Weir – Lake Boga* has been submitted.

## Reliability Reference Committee the key for community input

The Broken System Reliability Reference Committee has been appointed by Goulburn-Murray Water as an advisory committee under s108 of the Water Act 1989.

The Reference Committee is the main vehicle for sharing information and consultation with irrigators, other affected stakeholder groups and the broader community. The Committee has the following functions:

- To advise the G-MW Board on a list of reliability off-sets and water supply maintenance measures to be investigated, and on the effectiveness of each offset and measure
- To recommend to the Board a preferred package of off-sets and water supply measures
- to advise on the implementation and commissioning of off-sets and water supply measures
- To advise the Board on and participate in customer consultation for the off-sets and water supply measures
- To assist the Board with customer negotiations and resolution of farm infrastructure issues relating to proposed off-sets and water supply measures
- To advise the Board on the general management of the reliability off-sets and water supply measures component of the Lake Mokoan project
- To liaise with and advise the Board on any other issues relating to the reliability off-sets and water supply measures component of the Lake Mokoan project
- To liaise with the Broken Catchment Committee and relevant Water Services Committees as appropriate.

## A strategy to involve all that rely on Lake Mokoan

A communication and participation strategy has been developed with the following objectives:

- To ensure all stakeholders who are affected by changes in the provision of water supply, arising from the decision to decommission Lake Mokoan, have the opportunity to be informed of and where appropriate, participate in, the investigation, and development of a draft Final Package of offset measures necessary to ensure sustainable and reliable water supplies.
- To ensure stakeholders and the broader community are clear on the roles and responsibilities of the Broken System Reliability Reference Committee and who to contact.
- To ensure interested individuals, community and government organisations are given sufficient time to participate in all aspects of the investigation and options development process.
- To ensure participation techniques for the variety of individuals, community and government organisations are suitable to meet their requirements and expectations.
- To ensure the views, opinions and aspirations of interested individuals, community and government organisations are given due consideration in the preparation of the Final Package of offset measures.

A copy of the communications strategy can be found on [www.lakemokoan.com](http://www.lakemokoan.com)

## Who's involved in the process?

The government has appointed Goulburn-Murray Water to manage the development and implementation of water supply recovery, maintenance and reliability offset measures and to decommission the Mokoan assets.

Representatives from the Water Savings Sector Group of the Department of Sustainability and Environment (DSE) will work along side Goulburn-Murray Water representatives to jointly manage the water supply maintenance and reliability issues, via the project team.

Customers from the Lower Broken, Upper Broken, Lake Mokoan and Upper Broken districts will take an active role in shaping future offset measures through the formation of the Reliability Reference Committee. These representatives either nominated to take place, or were elected by their peers.

Stakeholders directly affected by changed water supply arrangements will be consulted through forums and workshops, personal contact and via the Reliability Reference Committee. The project team will seek comment on the draft final package of water savings offset measures from these stakeholders.

Interested groups will be consulted through forums and workshops, personal contact and via the Reliability Reference Committee. The project team will provide opportunities for these groups to comment on the draft final package of water supply offset measures.

The general public will be notified of key milestones and will be invited to participate in community workshops.