

Gellibrand River Summer Flows Improvement Project

Great South Coast Region, Victoria

Key Messages

- A multi-agency integrated water management (IWM) approach provided a wide range of demand management and supply diversification options.
- Close involvement of the stakeholder reference group in the investigation of groundwater resources helped gain community trust and support for the project.
- Community was primarily concerned with water allocation and the environmental consequences of extracting groundwater.
- The project integrated water supply and environmental protection objectives and worked closely with community stakeholders to study the feasibility of alternative water supplies to minimise water extraction from the Gellibrand during low flow periods.

Project Overview

Wannon Water is working in partnership with the Department of Environment, Land, Water and Planning (DELWP), the Corangamite Catchment Management Authority (CMA) and Southern Rural Water to investigate improving the ecological health of the Gellibrand River by using groundwater as an alternative source of urban water supplies and thereby increasing flows in the river over summer.

Scope of the project:

Stage 1	Nov 2016 – Aug 2017	Establishment of a stakeholder reference group for the project Groundwater extraction trials to investigate the viability of using groundwater from a site near Wannon Water's South Otway Pump Station as a substitute for river water extraction during summer.
Stage 2	Commence summer 2017/18	Either: If groundwater substitution IS shown to be a viable option to result in a benefit to the environment, commence construction of new infrastructure to allow for groundwater extraction. This could potentially include the construction of new bores. Or: If groundwater substitution is shown NOT to be a viable option, then revise the options analysis.

Organisations

- Wannon Water
- Southern Rural Water
- Corangamite CMA
- DELWP
- GHD
- Stakeholder Reference Group

Timeframe

2016 - present

Cost

Approximately \$450,000 (including a DELWP grant of \$100,000). The cost was considerably more than anticipated due to the test bore needing to be twice as deep as expected to reach the target aquifer.



Objectives and Drivers

The driver of this project was the low summer flows in the Gellibrand River that threaten the ecological values of the river. The largest extractions from the river are for urban use, supplying Wannon Water customers in Warrnambool and other towns. In 2011 the Victorian Government identified improving the environmental flows to the Gellibrand River as a priority action and in 2012 ecological modeling indicated that improving the summer flows with groundwater substitution could have substantial benefits for the environment, especially for fish populations.

An options analysis undertaken by Wannon Water in 2016 identified a number of options for alternative water sources over the summer period including groundwater from a site near the Wannon Water's South Otway Pumpstation. Little was known about the characteristics of the aquifers in that location. The investigation was designed to answer the following:

- Would the water quality and potential yield of the aquifer be sufficient to provide an adequate alternative supply
- Is there enough separation between the aquifer and the river water to result in improved flows in the river if water was pumped from the aquifer instead of the river
- Would pumping from the aquifer instead of the river result in a net environmental improvement, including any impact from potential acid sulphate soils
- What would be the optimum bore location for any extractions?

Outcomes

A test bore and five associated observation bores were constructed and a seven-day pump test was carried out. The results showed that there was indeed adequate separation between the aquifer and the surface water. However, the yield and water quality was not adequate to provide a viable substitution option.

The shared journey of the project team and the stakeholder reference group over the course of the project formed trusting relationships and the project team will continue to work with the community stakeholders in the Gellibrand Valley to investigate alternative options for improving the summer flows in the Gellibrand River.

This project has highlighted the strong interest from some part of the community in investigating the viability of other options including the construction of an off-stream winter storage dam, water restrictions over summer and an awareness and/or incentive campaign to reduce customer demand over the summer period.

The collaboration between Wannon Water and the Corangamite Catchment Management Authority fostered by this project has led to the implementation of an operational intervention to improve river health. The two organisations now coordinate reductions in pumping for up to two days to increase flows to assist with artificial river mouth openings.

This groundwater investigation significantly added to the state hydrogeological knowledge for the area.

“At Wannon Water, we care about the environment and strive to reduce the demand on all our water resources.”

Lessons Learnt

Participation in the stakeholder reference group gave the community an opportunity to raise concerns before the trial commenced and have input into the environmental risk monitoring protocol. Giving the community an opportunity to participate in this way improved the robustness of the trial and the trust between all parties, allowed the project to proceed without community opposition.

Working in partnership with other agencies and sharing knowledge for a common objective resulted in value not only for this project, but for other aspects of water and catchment resource management that we can work together on.

More information

For more information visit the project webpage at www.wannonwater.com.au

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Gellibrand River, image courtesy of Wannon Water

Acknowledgements