

FACT SHEET

GELLIBRAND SUMMER FLOWS IMPROVEMENT PROJECT

What has prompted this project?

Low summer flows in the Gellibrand River have been identified as a risk to the ecological values of the river such as fish populations. The Western Region Sustainable Water Strategy (Victorian Government, 2011) identified improving the environmental flows to the Gellibrand River as a priority action.

The largest extractions from the Gellibrand are for urban use. Wannon Water pumps water from the Gellibrand to Warrnambool and other towns on the supply system via two pipelines (see map, page 2). This is done in accordance with the Bulk Entitlement issued to Wannon Water by the State Government.

Work being done to reduce the demand on the Gellibrand

At Wannon Water, we strive to reduce the demand on all our water resources through various strategies. Heytesbury District Landcare Network has also carried out awareness work with the end users of water from the Gellibrand through the Going Upstream project. Wannon Water's extractions from the Gellibrand and its tributaries have reduced by 8% from 2009/10 to 2015/16. This is despite an estimated 6% growth in the population served. This has been achieved through a combination of:

- Reductions in per capita consumption through promotion and awareness;
- Our innovative roof water harvesting scheme in new housing developments; and
- Reduction of leaks in the system.

Project aim

This project aims to improve the ecological health of the Gellibrand River by increasing flows in the river over summer.

Project partners and stakeholders

Wannon Water is working in partnership with the Department of Environment, Land, Water and Planning, the Corangamite Catchment Management Authority and Southern Rural Water and is seeking to establish a stakeholder reference group to investigate and implement a solution to improving summer flows.



References and further reading:

Links to the references below can all be found at www.wannonwater.com.au.

Alluvium, 2012, *Environmental flows analysis: Assessment of the environmental benefits and risks of flows below the summer low flow recommendation in the lower Gellibrand River*

Heytesbury District Landcare Network, 2015, *Going Upstream Project Report*

Victorian Government, 2011, *Western Region Sustainable Water Strategy*

Wannon Water, May 2016, *Improving Environmental Flows in the Gellibrand River: Assessment of Water Supply Augmentation Options*



For more information:

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What difference in flow rates are we expecting from groundwater substitution?

The lower reaches of the Gellibrand River require flows in the order of 100 ML/day to improve ecological health of the river, maintain mouth openings and limit the upstream extent of the salt wedge. During February 2016, historically low flows occurred in the Gellibrand River, with flows of around 15 ML/day at the South Otway offtake. We expect that groundwater substitution could improve flows during these periods by up to 30 ML/day. An assessment undertaken in 2012 indicates that this improvement in flows would provide significant benefits for the environment, particularly in protecting fish populations.

What measures will be taken to monitor the impact into the future if routine groundwater extraction does go ahead?

Any groundwater extractions will be subject to licence conditions designed to protect the environment. Observation bores established in the investigation stage will be continuously monitored. Regular reporting of groundwater levels and monitoring of licence conditions will occur.

What impact will this project have on the visual amenity of the area?

It is expected that the project will have very minor impact to visual amenity. The bores will be constructed below ground in existing cleared road reserves. Pumps would be submersible, requiring only a power supply to come to surface. Any area disturbed by bore construction will be reinstated to its prior condition.

Will this project lead to increased flooding of the estuary area?

This project will not change the policies and practices relating to interventions for river mouth openings to alleviate flooding.

Will this project lead to greater net extractions by Wannon Water from the Gellibrand River, its tributaries and its surrounding groundwater?

No. The project is not about extracting greater volumes of water for urban use. Rather, it is about relieving pressure on the river during summer and delivering environmental benefits.

Will this project change the current or future entitlements?

The trial and any future substitution of river extractions with groundwater resulting from this project will not reduce the reliability of supply for existing entitlements for irrigation or stock and domestic use. When the bulk entitlements are reviewed, Wannon Water expects the review to account for the additional groundwater volume extracted as part of this project by an equal reduction in the entitlement to water from the Gellibrand River and less access to river water in summer.



Scope of the project

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| Stage 1
Nov 2016 –
Aug 2017 | – Establishment of a stakeholder reference group for the project. |
| | – Groundwater extraction trials to investigate the impact of using groundwater as a substitute for river water extraction during summer. |
| Stage 2
Commence
summer
2017/18 | – If groundwater substitution is shown to result in a benefit to the environment, and pending funding, commence construction of new infrastructure to allow for groundwater extraction. This could potentially include the construction of new bores. |

Investigations already undertaken to reduce summer extractions from the Gellibrand

A report has been prepared that identifies several possible options to improve Gellibrand Summer Flows (Wannon Water, May 2016, “Improving Environmental Flows in the Gellibrand River: Assessment of Water Supply Augmentation Options”).

This report recommends the substitution of river water extractions with groundwater from existing bores near the North Otway offtake and potentially with new bores near the South Otway offtake and/or near the North Otway offtake.

Wannon Water has also investigated changing its storage operations to reduce summer extractions.



The planned trial – Stage 1 of this project:

This is an investigation of complex issues. The trial will help us better understand the potential of groundwater extraction and any environmental issues.

The groundwater extraction sites proposed are located close to the current river water off-take sites to provide high water quality and less energy-intensive extraction and transportation.

The trial will involve drilling a bore near the Southern Otway offtake, performing trial extractions from the bore and modelling the groundwater system. The aim is to answer the following questions:

- Given groundwater/surface water interactions, will the groundwater extraction actually result in improved flows in the river?
- Will the substitution of groundwater result in a net improvement to the environment, including any impact from potential acid sulphate soils?
- What is the optimum bore location for any extractions?