

Farmers want water 'banked' for future droughts

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Australian farmers want excess water from large floods to be 'banked' in aquifers, for use in dry times.

A survey by researchers at the National Centre for Groundwater Research and Training (NCGRT) shows that farmers in the [Namoi catchment area](#) in the [Murray Darling Basin](#) (MDB) are mainly supportive of water banking – storing [surplus water](#) underground – from large floods.

Their positive response is a big step towards providing rural and agricultural communities with additional water without drawing more from the over-extracted rivers of the Basin, says Professor Allan Curtis of the NCGRT and Charles Sturt University.

"Australia's farmers manage around 65 per cent of the continent and have access to large volumes of surface and groundwater," says Prof. Curtis. "With scientists predicting less [rainfall](#) and [runoff](#) in the southern MDB over the next 60 years, we urgently need to help them address the growing threat of [water scarcity](#)."

Water banking, also known as managed aquifer recharge (MAR), should be the next step in [water management](#) in the MDB, Prof. Curtis says.

"Storing water underground is more efficient than saving it in the surface dams, on which Australia currently relies," Prof. Curtis says.

"This is because large volumes of water are lost from surface storage by

[evaporation](#). Every year, the evaporative loss from farm dams in the Basin alone amounts to more than 1000 gigalitres (GL) – which is enough to supply Melbourne, Sydney and Adelaide for a year."

As more places around Australia turn to water banking for later industrial or recreational use, researchers at NCGRT are exploring the possibility of re-charging depleted aquifers in farming landscapes using excess water from large floods. The survey of 210 farmers in the Namoi region reveals that two-thirds support the concept.

"The Namoi is one of Australia's prime [agricultural regions](#) and extracts the largest volume of groundwater for irrigation in the MDB," says Prof. Curtis. "It's an ideal location for implementing water banking using excess [flood](#) water, as large floods occur regularly in the lower Namoi, and researchers predict that this will continue to happen in the future."

"We found that the supporters of water banking are more business-like and more interested in fostering equal opportunities for all community members," says Prof. Curtis. "They generally have larger areas for irrigation, buy water more frequently, own larger entitlements and spend more time on their land.

"One of the respondents wrote 'it is about time someone promoted artificial recharge, farmers in our area have been trying to convince government departments to develop the process for years'."

On the other hand, those who expressed concern or opposed the idea said they needed more information about the concept, or were worried about possible negative environmental impacts, the survey reveals.

"It seems that they are less interested in production and profit if these outcomes negatively impact the health of the environment," Prof. Curtis says. "They are also more likely to have had the property in the family

for longer."

"There is clearly strong support for water banking, but we need to address the other views as well, because their concerns are valid and deeply felt," he says. "We also need to explore issues such as how water banking fits with existing water sharing plans and allocations both locally and along the MDB, who pays for the infrastructure where there are private benefits, and how to secure rights to water which has been stored in aquifers."

Providing that it is carefully managed, water banking using water from large floods offers a largely ignored opportunity to achieve significant environmental, economic and social benefits, Prof. Curtis says.

"It can help sustain the region's agriculture, which is highly profitable. It can also replenish depleted [aquifers](#) and reduce evaporative losses from surface storages. This is potentially a win-win situation for all."

The study "Managed aquifer recharge in farming landscapes using large floods: an opportunity to improve outcomes for the Murray-Darling Basin?" by A. Rawluk, A. Curtis, E. Sharp, B.F.J. Kelly, A.J. Jakeman, A. Ross, M. Arshad, R. Brodie, C.A. Pollino, D. Sinclair, B. Croke and M.E. Qureshi has been published in the *Australasian Journal of Environmental Management*. See: bit.ly/14JB1hU

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