

Smart water tank to improve platypus breeding odds

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Platypus numbers have been declining but a new 'smart water tank' project is set to improve the odds for platypus in Monbulk Creek. Credit: Doug Gimesy

Water authorities will be turning to Melburnians to help with a novel system of 'smart' rainwater tanks and urban lakes that can provide

crucial water to support platypus habitat when it's most needed—just before the breeding season.

Platypus in Victoria have disappeared from many [urban areas](#) due to [habitat loss](#) and modification, but some populations still exist across outer Melbourne, including Monbulk Creek in the Yarra Ranges.

A new water system from the University of Melbourne's Waterways Ecosystem Research Group, Melbourne Water, South East Water and the Yarra Ranges Council is set to improve the odds for platypuses in Monbulk Creek.

"There's often not enough water in streams for platypus," Professor Tim Fletcher, from the University of Melbourne, said. "The loss of summer and autumn base flow has major consequences for the platypus distribution and reproductive success, decreasing their habitat and their primary food source right at the time when female platypus need abundant nourishment to prepare them for breeding.

"On the other hand, when it rains in urban areas, runoff from hard surfaces like roofs and roads causes erosion, pollution and loss of habitat. Between these two extremes, the platypus is caught between a rock and a hard place!"

The platypus—famous for being one of a few egg-laying mammals in the world and whose babies hatch blind, hairless and helpless—breeds between August and September and lays two to three eggs around September-October.

Starting next year, households in catchment areas managed by Yarra Ranges Council and Melbourne Water will be offered a smart rainwater tank. Using 'Tank Talk' flow control technology developed by South East Water, the smart tank can be remotely controlled to release water to the

stormwater network, to manage flows for the local platypus population, and help improve broader stream health, while ensuring enough water remains for household use.

"These tanks can be programmed to release water to the stormwater network before rain events—giving the [tank](#) capacity to absorb peak flow rates during rain, reducing the risk of flooding—but also release a steady trickle of water to the creek during dry periods, to sustain flows for the platypus," said Dr. David Bergmann from South East Water.

The smart network will also include two large water storages: Belgrave Lake and Monbulk Creek Retarding Basin at Birdsland Reserve.

Dr. Rhys Coleman, Melbourne Water's Manager of Waterways and Wetlands Research, said: "These storages will give us greater ability to regulate the flows provided to the creek.

"This is an exciting collaboration where research, technology and the community all have a significant part to play. It has the potential to demonstrate a new way of managing urban waterways that could have far reaching benefits for not only streams and aquatic life here, but globally."

Yarra Ranges Council, already known as a pioneer in using rainwater tanks to reduce urban runoff into streams, will be constructing demonstration sites featuring the new technology.

Dr. Beth Wallis, Water Management Officer at Yarra Ranges Council, described the project as "as an opportunity for Council to demonstrate more sustainable ways of managing our water, and of protecting the beautiful waterways for which the Yarra Ranges are so well-known."

The waterways study is funded by the Australian Research Council's

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Provided by University of Melbourne

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