Platypus Pals

COUNCIL NAME
Campbelltown City Council

WEB ADDRESS
campbelltown.nsw.gov.au

SIZE
312 square kilometres

POPULATION
170,943

REFERENCE
Platypus Pals

Overview

Through the use of a new scientific technique called environmental DNA (eDNA), Campbeltown City Council confirmed that the Upper Georges River is home to a small, isolated population of platypus and a population of endangered Macquarie perch. Community members collected water samples across the extent of the Upper Georges River to detect Platypus DNA. Once platypus were detected, Council's education campaign encouraged residents to avoid behaviours that are detrimental to the survival of the Platypus.

Background

Platypus are a unique Australian animal that is under threat from a range of different human impacts including poor water quality, irresponsible fishing practices and the use of illegal opera house yabby traps. Anecdotally, there were records of Platypus living in the Georges River and its tributaries however data relating to locations, potential numbers and distribution was not available.

Campbelltown City Council wanted to get a better understanding of Platypus and Macquarie Perch (listed as a Threatened Species) distribution and population numbers as well as involve the community in monitoring and education to better enhance their habitat and help conserve these iconic species.

Implementation

Being nocturnal animals, platypus can be very difficult to survey and their habitat can occur anywhere along a river system, not just near easily accessible points. To assist in determining if Platypus were present in accessible sections of the river, a new process called environmental DNA (eDNA) was used.

Sampling was undertaken by community groups to assist in the citizen science work and empower them to contribute towards real world science. In September 2021, water samples were collected from 19 sites by Campbelltown City Council staff and community members following sampling protocols developed by EnviroDNA. Sampling was undertaken at a further 11 sites in February 2022. Samples were anyalised by a specialist lab to test the presence of Platypus and Macquarie perch DNA.

Council partnered with James Meehan and Macquarie Fields High Schools to engage biology students in the threats to Platypus and Macquarie Perch, learning about river health and designing signage to engage the community in responsible fishing practices. Council also developed the Platypus Pals free curriculum-linked education program for schools.

This project was made possible through collaborations with Platypus expert, Tom Grant from the University of New South Wales, the National Parks Association Macarthur Branch, Georges Riverkeeper, environmental consultant EnviroDNA, Macquarie Fields High School for co-design of signage and tangler bins, OZfish partnership to engage the fishing community and provide advice on tangler bins, in addition to all the community volunteers who helped collect samples.

Outcomes

Trace amounts of platypus eDNA were detected at four sites clustered in the lower Georges River. Macquarie perch eDNA was detected at four sites clustered in the lower Georges River with a further two sites returning equivocal results. Interestingly, one equivocal site was in a tributary of the upper reaches, quite distant from the other results. Further sampling in February 2022 returned another two positive and two equivocal sites in the same area.

The installation of eight educational signs to alert river users and tangler bins to promote responsible fishing practices (designed by local high schools) have been installed. Council has also been promoting the ban and illegal use of opera house yabby traps as well as a yabby trap return program by BCF.

Ongoing citizen science workshops with the Australian Platypus Conservatory will teach the community how to spot Platypus and record their sighting, and also built in to Council's annual program at the start of Platypus breeding season (September) each year. Expert advice recomends sampling every two years to detect any upward or downward trends.

Key Learnings

The Georges River experienced multiple flooding events during the project roll out. This emphasised the importance of locating signage and tangler bins in areas that the community will use them the most, but also protect them from flooding events.

Next steps include ongoing citizen science during Platypus breeding season; encorporating the Platypus Pals schools program Council's annual Schools Environmental Education Plan; and targeted regeneration to improve river health and enhance habitat will be prioritised as part of Council's Operational Plan.

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This project was the 2022 winner of the Communication, Education and Empowerment Award at the LGNSW Excellence in the Environment Awards