

# The impacts of 'next generation' digitally-mediated citizen science programs

Project E5:  
Citizen  
Science

This project will assist in improving the recruitment, participation, training and retention of volunteers in environmental monitoring programs, and identifying outcomes from volunteer environmental monitoring programs and their impact on waterways management.

Volunteers are increasingly important to biodiversity and environmental monitoring in Australia, given the urgent need for extensive data sets to inform the management of sites and species. In the last couple of years, a key trend has been the development and use of smartphones and internet technologies as the interface for data collection and capture, data storage, data analysis and review, and communication with organizers and other participants.

Melbourne Water is currently increasing its commitment to such 'next generation' digitally-mediated citizen science programs.

Currently, there is relatively little research into the impacts of digitalisation on the experiences of volunteer participants in these programs. An understanding of the technologically mediated experiences of citizen scientists can inform the design of citizen science programs and their technological interfaces, as well as strategies for recruiting, supporting and retaining participants.

## Aim

This project will investigate the impacts of 'next generation' or digitally-mediated approaches on the experiences of citizen scientists, in particular on the ways in which they experience:

- knowledge production and learning;
- social connections with other participants, organisers and scientists; and
- connection with nature.

The project will also investigate the ways in which citizen science programs employ digital technologies and how these

technologies support (and perhaps constrain) participants' experiences.

## Methodology

The research project employs a case study approach, with detailed and intensive focus on two citizen science programs in Australia, the first of which is Frog Census.

The project will employ multiple techniques to investigate each case study, including: interviews with CS program participants and program staff; participant observations; and content analysis of documents and communications.

Data capture, analysis and theory development about participant experiences and practices will be an iterative process. Data will be uploaded into coded iteratively using NVivo, a software that assists in qualitative data analysis.

## Expected Outcomes

- An improved understanding of how volunteers respond to the use of digital technologies for citizen science programs and how digital technology can be used to maximise volunteer experiences.
- Identification of the potential risks and opportunities of digital citizen science.
- Recommendations for future citizen science programs on the inclusion and protocols for use of digital technologies, with specific feedback on Frog Census.

This project's impact will be improved volunteer programs, that i) better cater for the desired experiences of volunteers, and ii) ensure MW receives high value data.

## Project Team:

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