

W1 Citizen Science: The impacts of 'next generation' citizen science programs

Objective(s)

This project will improve Melbourne Water's understanding of how the transition to digital platforms for volunteer environmental monitoring influences the participation and retention of volunteers.

Why this research is important

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 few 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. Whilst there has been some research to date that considers how to do this, there has been 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.

Contribution to Key Research Areas

- Liveability, community engagement, and social research
 - i) Understanding, involving and supporting volunteers in waterway management to facilitate shared waterway objectives and ii) Increasing community awareness and connection to waterways so we have informed and engaged partners.*

Approach

This research project is in its final stages.

The project employs a case study approach, with detailed and intensive focus on two citizen science programs in Australia: Frog Census (a citizen science initiative of Melbourne Water) and Beach Nesting Birds (a citizen science initiative of Birdlife Australia focused on monitoring Hooded Plovers).

Data has been collected through three primary methods: i) semi-structured in-depth interviews with

citizen science program participants and program staff (covering a diversity in roles, years of experience and degrees of engagement in citizen science, age and gender); ii) participant observation (accompanying different participants in citizen science programs, participating in and observing citizen science activities alongside them); and iii) content analysis (of documents, communications and other materials generated by the two citizen science programs).

Key Outputs

- Journal Paper on the knowledge practices of biodiversity citizen scientists.
- Journal paper on the ways digital technologies reshape the participation of volunteers.
- Journal paper on how volunteers care about, with and for the data they produce.
- MWRPP Technical Report 24.8, translating research findings on the experiences of citizen scientists into recommendations to the business.
- Short, animated videos with voice-over that summarize key research findings, designed to communicate the research to study participants, other participants in citizen science programs, citizen science practitioners, and researchers
- Presentations at European and Australian Citizen Science Association conferences.

Expected benefits

- 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 the Frog Census.
- Insights on community engagement performance objectives in HWS and mid-term review.
- Improved volunteer programs that support the desired experiences of volunteers as well as their contributions to protecting the health of waterways.

For more information

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