

Applying citizen science approaches in preventive health

AES Conference

31 August 2022

Dr Yvonne Laird
Katherine Pontifex



We acknowledge Aboriginal and Torres Strait Islander peoples
as the First Australians and Traditional Custodians of the lands
where we live, learn and work.



Session aims

This session aims to equip attendees with:

1. Knowledge of citizen science approaches and how they have been applied.
2. Understanding of the potential benefits and challenges of undertaking citizen science projects, and practical considerations for their use.
3. Ability to identify the types of research questions and projects that citizen science approaches may be amenable to.

Introduction to citizen science

Dr Yvonne Laird

What is citizen science?

Research conducted, in whole or in part, by members of the public



drawn by kylie dunn
dinkylune.com



Evaluation questions



Evaluation design



Collecting data



Interpreting data



Communicating findings

Spectrum of involvement

Define a question/issue

Gather information

Develop explanations

Design data collection methods

Collect samples

Analyse samples

Analyse data

Interpret data/conclude

Disseminate findings

Discuss results/inquire further

Contributory

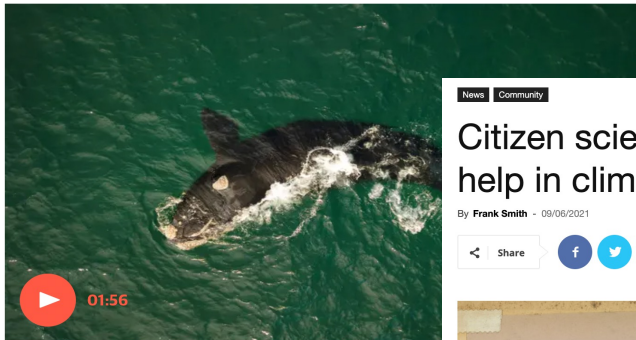
Collaborative

Co-created

Whales

Citizen scientists capture spectacular footage of endangered southern right whales off NSW coast

Volunteers use drones to capture headshots of the endangered mammal, of which there are under 300 in Australia's south-east



Citizen scientist volunteers needed to help in climate study

By Frank Smith - 09/06/2021



South Perth 1890s Source: Noel Butlin Archives Centre at The Australian National University

Birds, insects, animal poo: citizen science search for data to make sense of bushfire devastation

Scientists call on the public as they scramble to understand the impact of unprecedented fires across Australia



What is citizen science?

**Community
engagement**

**Collaborative
research**

CBPR

Photovoice

**Participatory
action research**

**Public
engagement**

**Patient & Public
Involvement**

Crowdsourcing

**Citizen
ethnography**

Co-design

**Community
science**

Civic science

Why do citizen science?

Resources

- Access to 'hard to reach' data
- New perspectives on problems and solutions
- Time, effort, and labour

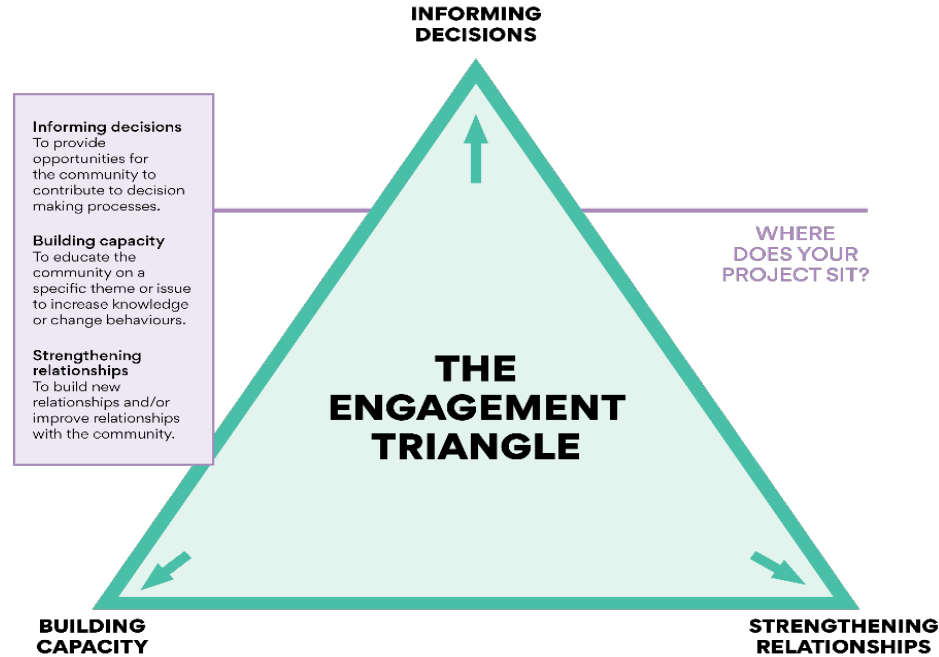
Engagement, education, outreach

- Better public understanding of science
- Increased public support for research and policy
- Empowered citizens, increased self-efficacy and social capital

Democratisation of research

- Gives citizens a stake in issues that concern them
- Gives citizens input/control over research process
- Ensures research addresses community needs and local contextual factors (e.g. culture, language)

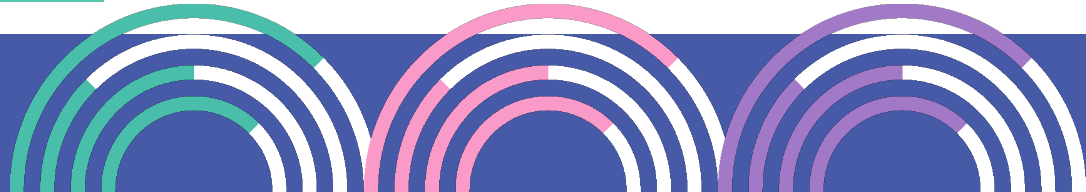
Why did we do Citizen Science at Wellbeing SA? (Utility)



Capire Consulting Group (2015) accessed 22 April 2022 at [Publications | Capire](#)

Supporting your
state of wellbeing

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The Citizen Science in Prevention Project

Evaluating
community
gardens



Wellbeing SA

Implementation
partners:
Playford Council,
Salisbury Council

Evaluating an
urban
regeneration



SWSLHD

Implementation
partners:
Campbelltown
Council

Monitoring
unhealthy
marketing



VicHealth

Implementation
partners:
Monash University,
University of
Queensland

Auditing
rural
walkability



**Tasmanian
PHS**

Implementation
partners:
University of
Tasmania



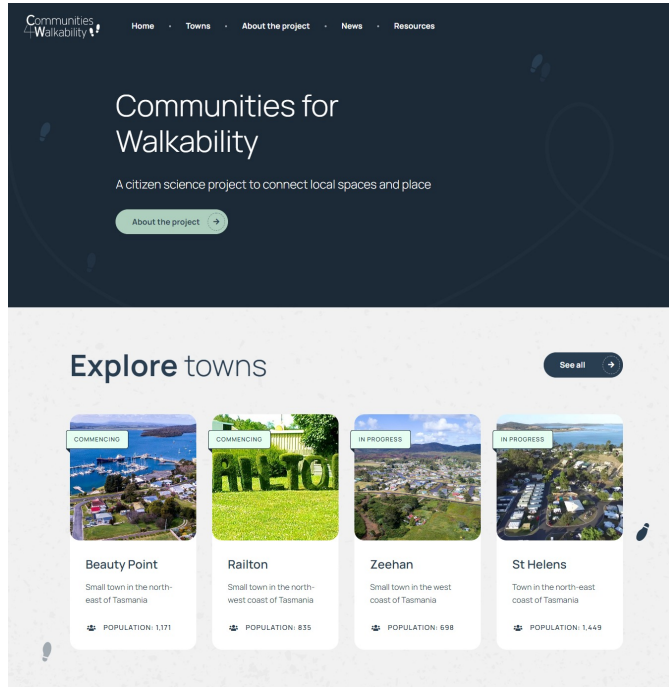
UPROAR

Piloting a citizen science approach for auditing rural walkability in Tasmania

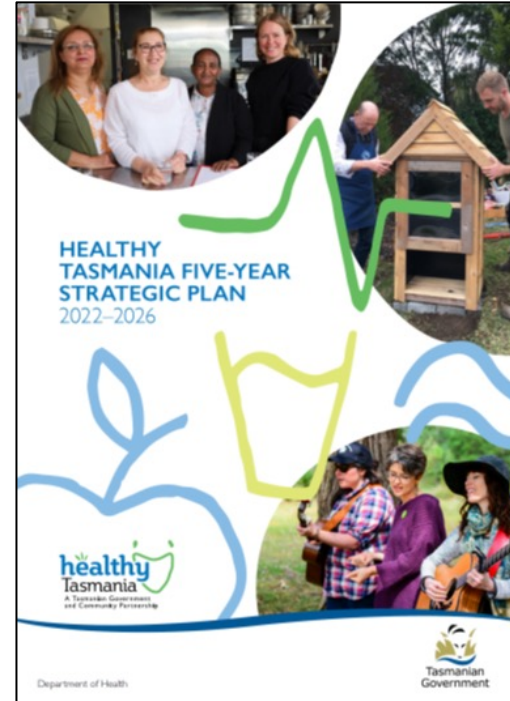
Dr Kim Jose Kate Garvey



Project extension with funding Medical Research Future Fund



Citizen science in Healthy Tasmania Strategy 2022-2026

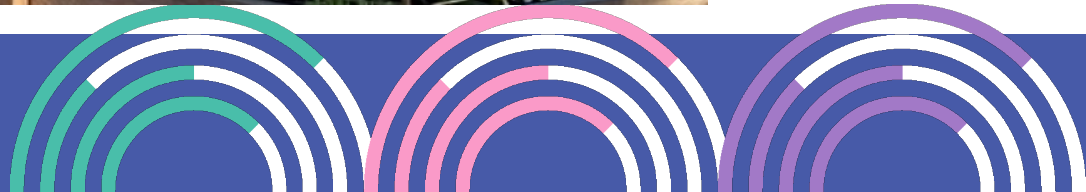


Perceptions of accessibility of the northern Adelaide community gardens – Wellbeing SA



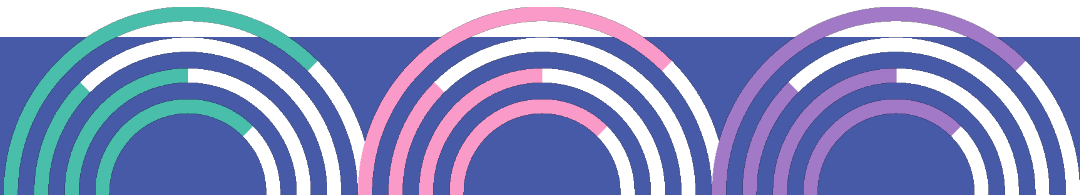
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What did we learn? (Feasibility)

- Topic/content
- Capacity/resourcing
- Diverse skills sets needed
- Recruitment – implications
- Diversity of citizens



**Group Discussion:
Opportunities for citizen
science as an evaluation
approach**

Discussion

1. Consider how you might use a citizen science approach as part of your work
 - What topics/projects might lend themselves to a citizen science approach?
2. What are the potential benefits and challenges of using a citizen science approach?

Building capacity for citizen science in prevention



Community
of practice



Resources



Workshops



Introduction to citizen science in prevention

What is citizen science?

Citizen science is a research approach that actively involves members of the public in the research process, with the aim of generating new knowledge to address real-world problems.^{1,3}

While originating in the natural sciences, citizen science approaches have grown rapidly in recent years across a range of disciplines, including health.^{4,6}

Citizen science approaches can bring together community members, academic researchers, and policy and practice stakeholders to address complex health problems at local, state and national levels. It builds on long standing traditions of public engagement in health promotion and shares commonalities with other public engagement approaches.

What does citizen science involve?

Citizen science approaches involve working with the public (citizen scientists) to produce research. In practice, citizen science can encompass a broad range of initiatives and activities. Depending on the aims of the project, citizen scientists may participate in some or all phases of the research process, including:

- Research project design: identifying issues or research priorities, formulating research questions, contributing to design of research methods and instruments.
- Data collection: documenting the world around them, for example by using photos or surveys to capture data on local environments.
- Data interpretation: reviewing and coding data, interpreting findings, generating solutions or recommendations for action.
- Research findings dissemination and advocacy: presenting findings to

FACT SHEET

Highlights

Citizen science approaches, when used in chronic disease prevention, can:

- Connect stakeholders from the community, academia, and policy and practice to tackle complex health problems
- Provide opportunities for members of the public to participate in research and decision making that supports their health and wellbeing
- Offer methods to capture hard to reach data, gain new perspectives on problems and solutions and mobilise support for prevention research and policy.



Reflections on using citizen science to improve active living in rural Tasmania

Overview

- To better understand and promote active living in rural Tasmania, the UPROAR research project utilised a novel citizen science approach.
- The citizen science approach required the same level of resourcing as traditional data collection methods however, resources were used differently, particularly to support engagement.
- Having a project officer dedicated to engaging and supporting the citizen scientists was critical to project success.
- Involving citizen scientists in data collection and interpretation provided information not usually gathered through more traditional data collection approaches.
- This pilot project engaged citizen scientists to collect data on features of rural towns that make it easier or harder for residents to be physically active with the aim of improving walkability of rural and regional Tasmanian towns.



HOW DID WE USE
CITIZEN SCIENCE?



WHAT DID WE LEARN



WHAT'S NEXT

Systems and citizen science for people with disability



Join this community of practice session and learn about how two citizen science projects have engaged adults living with disability to support action and advocacy for inclusive physical environments and service provision.

EVENT DETAILS

DATE

14 September 2022

TIME

4:00 PM to 5:00 PM AEST

EVENT SERIES

Community Of Practice

LOCATION

Online

[REGISTER](#) [↗](#)

Presenter



Kelsey Champman [↗](#)

The Dignity Project



Angel Dixon OAM [↗](#)

The Dignity Project



Dr Tamara Bozovic [↗](#)

Research Fellow, UWE Bristol

Get in touch

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Citizen science in Prevention project team:

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Project page:

<https://preventioncentre.org.au/our-work/research-projects/harnessing-the-power-of-citizen-science-for-prevention/>



Project page



Newsletter

Project team

University of Sydney

- Dr Samantha Rowbotham
- Dr Yvonne Laird
- Prof Ben Smith
- Pippy Walker
- Leah Marks

VicHealth

- Emma Saleeba
- Sean O'Rourke

Wellbeing SA

- Katherine Pontifex
- Prof Katina D'Onise

Tasmanian DOH / UTAS

- Kate Garvey
- Dr Kim Jose

SWSLHD

- Karen Wardle
- Sheree Whittaker

FUNDING PARTNERS

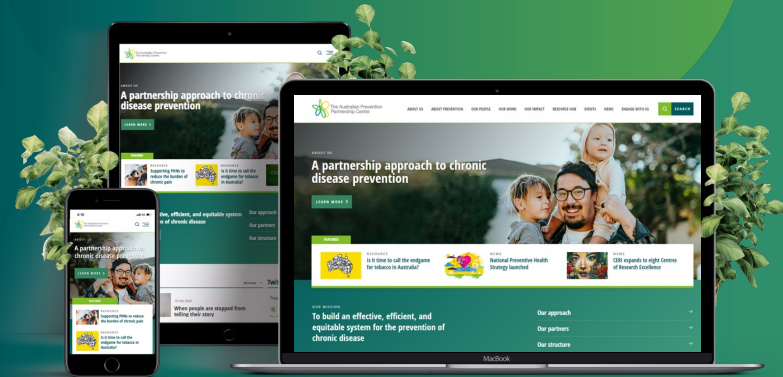


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Partnership Centre
Systems and solutions for better health