Landcare Checks In - Monday 26 October 2020 at 2.00 – 3.00 pm

Discussion Topic: Citizen Science

- What role can citizen science play in landcare?
- Who is doing citizen science? Let's share project stories from groups
- How is citizen science being funded and what support is available?

View recording here http://www.landcarewa.org.au/wp-content/uploads/2020/10/GMT20201026-060814_Landcare-C_640x360.mp4

Discussion Notes

Key points

- Citizen science is valuable for the long-term collation of data with people significantly contributing to a body of data.
- Continuity of data collection is important to get enough reliable data and be sure of outcomes.
- We need to sure of what questions we need answering and design programs fit for purpose. Scientific design and replication is important.
- Central data bases – either never get developed or never work particularly well because fields get standardised to a point where the information is not so useful.

- Sharing of data between community and departments can be problematic. Need to be careful that management organisations accept data uploaded to central repositories such as the Atlas of Living Australia and I Naturiste.
- Changes to legislation may have an impact of community-based citizen science programs – New Biodiversity Conservation Act and reinterpretation of Animal Welfare Act – see Nic Dunlop's comments below.
- The driver for the modern increase in citizen science is often smart phones and apps. This crowd source approach doesn't always provide the answers we are looking for.
- The broad scale collection of data through apps can be useful for community awareness raising but may not be compatible with the collection of more accurate research data.
- We need to be clear about the purpose of citizen science programs and who are we trying to influence.
- It's important to tell stories about how citizen science has achieved good outcomes. Tap into passions and hold on to people as long-term data collectors
- From an operational perspective it is often difficult getting data back from citizen science programs. Incentives can be useful and sponsorship to provide prizes.
- Good quality training is needed to provide the best information. Pairing of well-trained citizen scientists with beginners is useful.
- To retain volunteers, you need a strong social aspect and the experience needs to be fun. Create an experience where people are genuinely contributing.
- To be successful you need paid coordinators.
- There is value in building an online community for your citizen science program making people feel a part of something.
- We need to ensure there is a feedback loop – give data back to people involved.

Useful Resources

Heidi Taylor, Tangaroa Blue - Tackling Marine Debris Presentation from 2019 State NRM and Coastal Conference https://youtu.be/Y9MqT7KRwYI

CCWA Citizen Science Handbook
https://d3n8a8pro7vhmx.cloudfront.net/ccwa/pages/188/attachments/original/1434300612/Citizen_Science_Handbook.pdf?1434300612

Gondwana Link: Monitoring & Evaluating the Outcomes of NRM Interventions
https://d3n8a8pro7vhmx.cloudfront.net/ccwa/pages/188/attachments/original/1522117428/_Building_capability_in_monitoring___evaluating_the_outcomes_of_NRM_interventions_by_engaging_Citizen_Science.pdf?1522117428

Nic Dunlop, Conservation Council WA Citizen Science Program

- Many of us have short term funding for citizen science programs including inputs and outputs but it is very important to measure outcomes. Many people have a gut feeling of the outcomes, but we need to document outcomes in a defensible way to convince the rest of the community including politicians and funders that it is a useful thing that we are doing.
- Long term nature of environmental monitoring models doesn't work well for paid staff, so we look towards volunteers to fill the gap.
- Types of citizen science include survey, surveillance, monitoring. There needs to be scientific design to have useful outcomes.

- CCWA Program includes a number in the NRM sphere. Main project is using bird community structure to measure NRM interventions. CCWA's upcoming event will discuss how citizen science has been used to measure natural regeneration and can we meet both biodiversity and carbon outcomes.
- CCWA also supporting individual landowners that want to measure outcomes of their conservation work. e.g. Eddie Wajon at Chingarup.
- Many others doing citizen science e.g. Birdlife with Bird data, Greenskills on south coast on interventions, programs for Mallee fowl, WRP, black cockatoos.
- Challenges – continuity to ensure effort is not wasted, need some paid coordination.
- Changes to legislation may have an impact of community-based programs
    - New Biodiversity Conservation Act. There are changes to the definition of what constitutes disturbance and triggers the need for permits. There are also new Ministerial approvals required for monitoring for threatened species.
    - New interpretation of the Animal Welfare Act by DPIRD. Requirements that previously only applied to institutional organization now will be extended to independent projects including all consultants and community organisations.
- CCWA's capacity to expand is very limited at the moment. Current have a consultant looking at possible funding sources for expansion. consultancy exploring funding sources

Other examples of citizen science from participants

Tangaroa Blue Foundation - Annual WA Beach Clean Up event – This year 80 groups undertaking beach clean ups and recording data ups. 50 % of data returned. 700 volunteers collected 46000 items, 1.5 tons of rubbish. Part of wider Australian marine debris initiative. Tangaroa Blue's aim is to track debris back to its source.

Northern Agricultural Catchment Council – wanting to grow the organisation's involvement in citizen science

WA Marine and Coastal Network– the new marine and coastal network is looking at coordination of resources and effort in the coastal space. Data sharing and the types of citizen science activities that could be undertaken to collect information on coastal change is of interest

Peel Harvey Catchment Council – early days with citizen science. Involved in numbat neighbourhood with the aim of stabilising or improving numbats trajectory. Numbat Dig ID - to see if numbats are moving out of reserve onto private property. Reporting of sightings of feral animals in numbat areas.

Peel Harvey Biosecurity Group - collection of information from landowners – want to get people active and providing data e.g. before and after calici virus. Also interested in data on behavioural change and what motivates people to provide data in the long term.

South West Catchments Council - Using a bit of citizen science especially in threatened species projects.

Frenchman's Bay Assoc - involved in some citizen science eg counting Albany Sundews and a 10 mth project measuring marine debris on Goode Beach

Bridgetown Environment Society – use of citizen science in Herbarium project. Also involved in cockatoo nest site monitoring including monitoring of the use of cockatubes.

Melvin Xu – Working to see how INaturalist and the Atlas of Living Australia can be used to raise awareness and develop reports for local councils. Looking at how we can convert more people to do more citizen science.

Nature Conservation Margaret River Region – promoting involvement of local community in citizen science undertaken by other larger organisations eg Great Cocky Count, Birds in Back Yard. Also running a 5-year Western ringtail possum project with survey teams monitoring 12 transects across the region.

Gondwana Link - involved in citizen science monitoring of restoration sites

Denmark Environment Centre - using citizen science to collect weed data for their area.