



Snapshot

Biodiversity Monitoring in Melbourne's East: a framework for monitoring biodiversity health in a changing climate

Summary

The Eastern Alliance for Greenhouse Action (EAGA) is a network of seven councils across Melbourne's East that worked with the University of Melbourne, the Australian Research Centre for Urban Ecology (ARCUE), BirdLife Australia and ClimateWatch to develop and trial a framework for monitoring biodiversity and habitat health in the context of a changing climate.

Completed in August 2015, the framework includes tools and incorporates citizen science projects to collect data on vegetation extent, vegetation change, bird communities and phenology (seasonal and cyclical changes in plant and animal behaviour). The framework is being implemented by EAGA councils but is available for use by other councils and community groups. In 2016, the project won the United Nations Association of Australia World Environment Day Award (Government Category) and the Victorian Premier's Sustainability Award.

Local governments play a critical role in protecting Victoria's natural assets. EAGA councils manage large areas of public land for biodiversity protection and enhancement. They also support interest groups and deliver biodiversity-related community engagement programs. While councils use various strategies to protect and manage local biodiversity, there is uncertainty about the success of these strategies in the context of a changing climate.

The objectives of this project included:

- developing and trialling a framework to gather evidence about changes and trends in local biodiversity and habitat health
- assisting councils to reflect on and adapt their natural resource management activities
- fostering partnerships and networks between relevant NGOs, researchers and council land managers
- providing scientific and evidence-based building blocks for councils to assess the success (or otherwise) of various interventions, and track progress towards strategic objectives and targets
- increasing awareness of and contributions to citizen science initiatives.

Keywords

Climate change, monitoring, biodiversity, local government, Victoria



Figure 1: A group of residents attend a workshop on bird identification and survey training as part of the BirdLife Australia citizen science project. Source: © EAGA 2012.

The framework resulted in a number of tangible outputs for the community:

- A discussion paper that outlined research and workshop outcomes and an implementation guide setting out methodology and templates for data capture.
- Four ClimateWatch trails in the City of Knox, Stonnington, Monash and Yarra Ranges.
- A regional BirdLife Australia community engagement project and baseline report on bird communities.

The learning outcomes of the framework include:

- The concept of monitoring for biodiversity health and climate change risks/impacts is extremely complex, challenging and an evolving area of academic research. The project scope has had to be progressively managed to be of most use to councils and to avoid setting unrealistic expectations.
- Accommodating different council contexts was challenging! Challenges included factors such as staffing levels, funding, and the use of different assessment tools and practices.
- Less is more: placing greater emphasis on monitoring fewer indicators will lead to more reliable outcomes.

- Citizen science projects can contribute useful data to the monitoring framework and also provide opportunities for community engagement.
- Policy-makers and practitioners are rightly challenged by the 'paradigm shift' proposed by the NCCARF scoping study into 'climate-ready conservation objectives' (Dunlop et al. 2013), i.e. as the climate changes and species are impacted, land managers will need to focus on maintaining *functioning ecosystems*, rather than conventional objectives around *maintaining or restoring historical ecological vegetation classes*.



Figure 2: The EAGA project records bird sightings across the region and monitors changes to bird diversity and abundance. Source: © EAGA.



Figure 3: EAGA councils are developing ClimateWatch trails to engage residents and schools in citizen science monitoring of phenological changes to flora and fauna across the region. Source: © EAGA, 2015.

References

Dunlop, M., H. Parris, P. Ryan, and F. Kroon, 2013: Climate-ready conservation objectives: A scoping study. National Climate Change Adaptation Research Facility, Gold Coast, 102 pp. Accessed on 15 June 2017. [Available online at https://www.nccarf.edu.au/sites/default/files/attached_files_publications/Dunlop_2013_Climate-ready_conservation_objectives.pdf].

Further reading

All links accessed 15 June 2017:

Project documents: <https://eaga.com.au/projects/biodiversity-monitoring-in-melbournes-east/>

BirdLife Australia: <http://birdlife.org.au/projects/biodiversity-monitoring-in-melbournes-east>

ClimateWatch trail guides: <http://www.climatewatch.org.au/trails?region=VIC>

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Department of the Environment and Energy