



ACSA Publications Listing

No. 6 – October 2018

List moderator: Colleen Foelz
(acsa.pubs.list@gmail.com)

Journal Articles - Conference Proceedings Articles Dissertations - Books & Chapters

From the moderator

Thank you to everyone who contributed to this issue of the ACSA Publications Listing. The ACSA Publication Listing is a quarterly electronic listing of publications in the field of citizen science within the Australian community. The listing is intended to share information with those interested in the Australian citizen science community. The deadline for contributions is announced two weeks prior to the listing. Contributions may be submitted at any time. Please only submit those publications where you are the author (to prevent duplication) and only include those that have been accepted for publication.

Colleen Foelz

Abstracts of recently published journal articles

Road mortality of the eastern long-necked turtle (*Chelodina longicollis*) along the Murray River, Australia: an assessment using citizen science

Claudia Santori ^{A,D}, Ricky-John Spencer ^B, James U. Van Dyke ^C and Michael B. Thompson ^A

^A School of Life and Environmental Sciences, The University of Sydney, Camperdown, NSW 2050, Australia.

^B School of Science and Health, Hawkesbury Institute for the Environment, Western Sydney University, Richmond, NSW 2753, Australia.

^C School of Environmental Sciences, Institute for Land, Water and Society, Charles Sturt University, Albury, NSW 2640, Australia.

^D Corresponding author. Email: claudia.santori@sydney.edu.au

Turtles face a variety of threats (e.g. habitat destruction, introduced predators) that are pushing many species towards extinction. Vehicle collisions are one of the main causes of mortality of adult freshwater turtles. To conceptualise the level of threat that roads pose to Australian turtles, we analysed data gathered through the citizen science project TurtleSAT along the Murray River. We recorded 124 occurrences of turtle road mortality, which included all three local species (*Chelodina expansa*, *Chelodina longicollis*, and *Emydura macquarii*). *Chelodina longicollis* was the most commonly reported species killed on roads. We found that rain and time of year affect the likelihood of *C. longicollis* being killed on roads: increased turtle mortality is associated with rain events and is

highest during the month of November, which coincides with their nesting season. *Chelodina longicollis* was most likely to be killed on the Hume Highway and roads around major urban centres; therefore, we recommend that governing bodies focus management practices and increase awareness at these locations. The degree of road mortality that we detected in this study requires mitigation, as it may contribute to the decline of *C. longicollis* along the Murray River.

Published in Australian Journal of Zoology - Submitted: 6 October 2017 Accepted: 10 August 2018
Published online: 10 September 2018.
Doi: <https://doi.org/10.1071/ZO17065>

Rapid shifts in distribution and high-latitude persistence of oceanographic habitat revealed using citizen science data from a climate change hotspot

Curtis Champion^{1,2}, Alistair J. Hobday^{2,3}, Sean R. Tracey¹, Gretta T. Pecl^{1,3}

¹ Institute for Marine and Antarctic Studies, Hobart, Tasmania, Australia

² CSIRO Oceans and Atmosphere, Hobart, Tasmania, Australia

³ Centre for Marine Socioecology, Hobart, Tasmania, Australia

The environmental effects of climate change are predicted to cause distribution shifts in many marine taxa, yet data are often difficult to collect. Quantifying and monitoring species' suitable environmental habitats is a pragmatic approach for assessing changes in species distributions but is underdeveloped for quantifying climate change induced range shifts in marine systems. Specifically, habitat predictions present opportunities for quantifying spatiotemporal distribution changes while accounting for sources of natural climate variation. Here we demonstrate the utility of a marine-based habitat model parameterized using citizen science data and remotely sensed environmental covariates for quantifying shifts in oceanographic habitat suitability over 22 years for a coastal-pelagic fish species in a climate change hotspot. Our analyses account for the effects of natural intra- and interannual climate variability to reveal rapid poleward shifts in core (94.4 km/decade) and poleward edge (108.8 km/decade) oceanographic habitats. Temporal persistence of suitable oceanographic habitat at high latitudes also increased by approximately 3 months over the study period. Our approach demonstrates how marine citizen science data can be used to quantify range shifts, but necessitates shifting focus from species distributions directly, to the distribution of species' environmental habitat preferences.

Published in Global Change Biology - Received: 18 November 2017 Accepted: 26 June 2018
doi: <https://doi.org/10.1111/gcb.14398>

No butterfly catchers here! Citizen Science involvement in environmental Impact assessment compliance monitoring

Norman, L.C.

The goals of environmental impact assessment (EIA) include ensuring that environmental harms are minimised, and in maintaining public trust in project proponents and government regulators. However, a lack of capacity and resource to scrutinise the actual environmental impacts of projects subverts the purpose of EIA. This article will argue that an opportunity arises for citizen science to contribute to the regulatory framework of EIA follow-up. A new legislative model is proposed under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) in relation to compliance monitoring during the implementation phase of a project. Features of the model include a trigger threshold test for compliance monitoring and an expanded s 134 of the EPBC Act to incorporate the application of citizen science in project approval conditions. Challenges such as the credibility of data and the level of influence of citizen scientists within project management are discussed.

Published in Environmental Planning and Law Journal, September edition.

Abstracts of recently published books and chapters

Shorebird monitoring in Australia: a successful long-term collaboration among citizen scientists, governments and researchers

Hansen, B.D¹, Clemens, R.S., Gallo-Cajiao, E., Jackson, M.V., Kingsford, R.T., Maguire, G.S., Maurer, G., Milton, D., Rogers, D.I., Weller, D.R., Weston, M.A., Woehler, E.J., Fuller, R.A.

¹Centre for eResearch and Digital Innovation, Federation University Australia

Pp. 149-164. In: Legge, S., Lindenmayer, D. B., Robinson, N. M., Scheele, B.C., Southwell, D.M. & Wintle, B.A. (Eds). Monitoring threatened species and ecological communities. CSIRO publishing, Melbourne.

<http://www.publish.csiro.au/book/7720/>

Abstracts of recently published conference proceedings

Abstracts of recently published dissertations
