

7th International Conference on

BIODIVERSITY CONSERVATION AND ECOSYSTEM MANAGEMENT

July 26-27, 2018 Melbourne, Australia

Biodiversity of Manukau mangroves; What's really in there?**Amrit Melissa Dencer Brown**

Auckland University of Technology, New Zealand

Introduction: The accelerated seaward growth of the mangrove *Avicennia marina* subsp. *australasica* over the last century has altered the ecology of estuarine and coastal ecosystems throughout North Island, New Zealand. Expansion has created a myriad of real and perceived social-ecological issues regarding the future of the local communities who live in these areas and potential impacts to New Zealand biodiversity. As a result, there have been many applications submitted to regional councils for their removal. However, the social-ecological issues and related impacts are not yet well understood and there are significant knowledge gaps. Further research is necessary for making informed and evidence-based decision-making around the removal and preservation of these mangrove systems. Whilst there has been a strong effort to quantify benthic community compositional change following mangrove establishment and subsequent removal, there is a lack of long-term monitoring of other groups of organisms, particularly terrestrial vertebrate and invertebrate species. This research presents the findings of integrated biodiversity surveys collected at four sites in mangroves of Manukau Harbour (March-Apr 2018).

Aim: To investigate what biodiversity of species exists at fragmented mangrove sites in Auckland.

Methods: A range of different non-invasive techniques were employed to record presence/absence data of reptiles, mammals, fish and birds utilizing mangroves. Insects and spiders were captured and preserved for identification and future research.

Results: All groups of organisms were found with the exception of reptiles; skink was observed at the marsh-mangrove edges. The most fragmented patch of mangrove had the most species in terms of insects and spiders and bird species. The threatened bird the Banded Rail was present at 50% of the sites. There were significant differences between the sites potentially driven by the proximity and connectivity to nearby forested habitats.

Conclusion: Sites differ in terms of biodiversity and so each site needs to be monitored long-term before any removal. The highly fragmented site should be preserved and protected due to its healthy and high ecological functioning, including habitat for short-finned eels and juvenile yellow-eyed mullet. The results of these assessments have the potential to be implemented in policy for mangrove biodiversity monitoring which may be applied across New Zealand and to mangroves internationally.

Biography

Amrit Melissa Dencer Brown is a Commonwealth Scholar from the UK in the final year of her PhD. Her work focuses on social-ecological trade-offs in mangrove conservation in New Zealand. She has previously worked in tropical mangroves for her Masters research and has co-authored a book chapter on tropical mangrove ecosystem services and an article on blue carbon between salt marshes, mangroves and seagrasses.

adencerb@aut.ac.nz

Notes: