



## Funded PhD Opportunity: Measuring environmental, social, and economic impacts of mangrove restoration projects in the Pacific



Mangroves are a critical coastal ecosystem providing multiple functions for the environment, the shoreline stability and the society. Mangrove habitats are highly productive, providing a vast array of ecological services and coastal protection. They also provide critical habitat and nursery area for many commercial and community-targeted fishing species, ecotourism opportunities for coastal communities, globally important carbon stores, and traditional food and cultural use for indigenous communities. Despite the significance of mangrove ecosystems, they are highly degraded globally due to anthropogenic activities. Nonetheless, there are initiatives to rehabilitate and restore mangrove habitat considering the ecological, coastal and socio-economic benefits of these ecosystems.

There is an opportunity to conduct on-the-ground research to pilot previous developed tidal restoration methodologies and floating mangrove technologies in Viti Levu, Fiji as part of a research project called [Project Halophyte](#), a collaborative effort between UNSW and the University of the South Pacific (USP). Restoring this habitat provides an alternative to reduce the loss of these critical ecosystems while also providing biodiversity conservation, climate change mitigation and adaptation to sea level rise, living improvements and overall sustainable development (aligned with UN SDGs). Mangroves are crucial in the cultural, social and ecological development of Pacific Islands. However, climate change and anthropogenic activities have highly impacted the mangrove ecosystem, including accelerated sea level rise in the Pacific compared to mangrove migration rate, mangrove deforestation, farming or highly engineered/urban structures. Building on previous mangrove restoration projects in Fiji and worldwide, this project is expected to provide significant ecological, social, and economic benefits, considering fishing opportunities and increasing mangrove-associated habitat while protecting the region from coastal erosion and sea level rise.

The PhD research requires identifying and monitoring environmental, social and economic indicators to estimate the direct and secondary impacts of the pilot on-the-ground research project and its sustainability and appropriateness. The assessment will be developed in partnership with USP and will consider the region's community values, biodiversity and local economy. The successful candidate will thrive as part of a multidisciplinary and international team and should have exceptional research and communication skills. The candidate should have a background in either environmental engineering, geography or science (or similar), and a demonstrated ability to conduct some or all of: fieldwork in Fiji, numerical modelling (prior knowledge of "R" skills or willing to learn), and community household surveys.

Opportunity to enrol in a [Cotutelle PhD](#) with both UNSW and USP is available as part of Project Halophyte and considered on a case-by-case basis with each applicant, with a PhD degree awarded by both UNSW and USP upon completion of the PhD. The successful domestic or international candidate will be eligible to receive a Research Scholarship for 3.5 years funded and a potential top-up scholarship is available for exceptional candidates. Domestic applicants will need to be competitive for an Australian Government Research Training Program (RTP) Fees Offset Scholarship to cover tuition fees. A successful international candidate will need to satisfy the requirements for a Research Training Program Fee offset or Tuition Fee Scholarship. Please see <https://research.unsw.edu.au/higher-degree-research-programs> for information on your eligibility, competitiveness and PhD entry requirements.

For further inquiries or to express your interest in the project, please contact Dr. Andrew Dansie ([a.dansie@unsw.edu.au](mailto:a.dansie@unsw.edu.au)) or Dr. Laura Montano ([l.montano@unsw.edu.au](mailto:l.montano@unsw.edu.au))