



**Macquarie University Safety Net Funding
Budget Request and Justification**

Please complete this form and email to Ross Hill (ross.hill@mq.edu.au)
by 12 pm Thursday 3 February 2022

Please also complete a Pure record for this funding request
by 12 pm Thursday 3 February 2022

1. Application details

ARC Project ID	DP220100131
Project Title	Mangrove response to rapid sea-level rise
Name of Lead CI	Neil Saintilan
Pure ID for this MQ Safety Net Funding Application	185365168

2. Budget – total funds requested (total cannot exceed \$20,000)

Total	\$15,234
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3. Budget request and justification – please specify how the requested funds will be spent and provide a justification as to how the additional preliminary data or other work to be funded by a Safety Net allocation would improve the competitiveness of your resubmission. What other major changes are you proposing to increase competitiveness?

The project will provide a proof-of-concept pilot study, focussed on one of the seven study sites detailed in DP220100131. Magnetic Island is chosen for ease of access and the known availability of mangrove peat material dating to the period of interest (Spenceley 1980: Core 15). The basal unit has been previously 14C dated to 8592-7476BP (95% probability range), a period for which rates of relative sea-level rise were nearly double those encountered today. 5 days required for the coring of six exploratory transects in the vicinity of Core 15, with the aim of identifying the deepest contiguous mangrove peat, which will then be extensively sampled. Samples will be retrieved from a depth of ~3.5 metres with a hand auger, subsampled at 50cm increments and submitted for radioisotope and pollen analysis to determine the rate of mangrove peat vertical development. Fieldwork would be scheduled for June 2022.

Travel:
Return flights to Townsville: 2 flights @ \$370 = \$740 (Saintilan + field assistant)
Car hire: Compact SUV 6 days Hertz Townsville = \$680
Ferry: \$216
Accommodation (5 nights @ \$195/night) = \$975

Personnel
Field assistance (5 days) and laboratory preparation (5 days): Level 5 Step 1 with 17% on-costs 0.05 fraction: \$5388

Shipping
Commercial transfer of auger and core samples between Townsville and Macquarie University: \$710 (entire core lengths to be transported, along with auger equipment (~70kg). Quote of \$355 each way by BHF Couriers

Core profiling and Radiometric Dating
5 samples (\$AUD405/sample based on quotes from Direct AMS, Seattle): \$2025
Geotek and Intrax scanner will be used to record optical, radiographic and elemental variations (using X-ray fluorescence; XRF) from sediment cores at a resolution of 200 µm: 3.5 metres of core to be sampled at \$750 per metre: \$2625
Pollen analysis (\$AUD375/sample): \$1875

TOTAL: \$15,234

How the work will improve the application:

The Assessment scores in the 2021 round for DP220100131 suggested that while the overall project description was sound, there were questions regarding project feasibility. This safety net proposal incorporates all elements of the core project for a single case study, including field sampling and laboratory techniques. The result will be a fully documented, publishable account of Australian mangrove responses during a period of rapid sea-level rise. The project will yield results by the end of the 2022 calendar year, allowing results to be incorporated into a 2023 proposal.

A handwritten signature in black ink, appearing to read "David", is located in the lower-left quadrant of the page.






ARC Safety Net - Neil Saintilan - revised

Final Audit Report

2022-02-18

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