birdlife
Northern
Queensland

Graham Harrington

STUDENT RESEARCH SCHOLARSHIP

BIRDLIFE NORTHERN QUEENSLAND

APPLICATION

Applicant details	
Applicant name	Jennifer Godfrey
Applicant address	[redacted]
Daytime telephone	[redacted]
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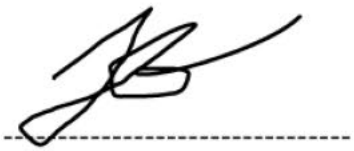
Institution name and address	James Cook University
Program of Study (degree type)	Honours Degree of Bachelor of Science
Department/School/College/Discipline	Ecology & Zoology
Supervisor's name	Golo Maurer
Supervisor's phone and email	[redacted]
Other supervisor names	Martijn van de Pol, Nicholas Friedman
Other supervisor phone and email	[redacted]

About your research project	
Project title	Passive acoustic monitoring of Bridled Terns (*Onychoprion anaethetus*) on the Great Barrier Reef.
Brief description of project (max 200 words)	Bridled Tern populations on the Great Barrier Reef (GBR) are of global importance with more than 1% of the global population estimated to breed on the South Barnard Islands Key Biodiversity Area (KBA) alone, and c. 70 additional GBR breeding colonies. No validated monitoring method has been established for the species in Australia or elsewhere due to their cryptic nesting habits on offshore islands, yet Queensland Parks and Wildlife Service (QPWS) is required to track these significant populations. Previous work on the Bridled Terns on the Barnards established the technical feasibility of Passive Acoustic Monitoring (PAM) but did not validate methodological reliability. The islands' steep and overgrown terrain prevented benchmarking of the acoustic signal against accurate visual counts of adults and chicks. My project addresses this key limitation by applying PAM to the Low Island Bridled Tern colony. The Island is a tourist destination with fairly open vegetation and a population of terns habituated to people, which will enable accurate and repeatable visual censusing of the Bridled Tern colony to validate the acoustic data. By doing so, I will develop PAM so that it is scalable for the Barnards and other breeding colonies of Bridled Terns, supporting QPWS monitoring.

Project aim (max 100 words)	Aims: 1. Develop and validate a cost-effective Passive Acoustic Monitoring (PAM) tool for Bridled Terns, with applications for other colonies on the Great Barrier Reef to support regular QPWS monitoring. 2. Deliver an estimate of the population size and breeding success of the Low Island breeding colony of Bridled Terns. 3. Establish a banded Bridled Tern population on Low Island to link individual health and breeding success with acoustic data, enabling validation of passive acoustic monitoring approaches (in coordination with Birds Queensland).
What are the anticipated conservation outcomes of your research? (max 200 words)	Effective conservation management depends on reliable monitoring programs capable of detecting population change. Without robust monitoring, population declines may remain undetected until substantial losses have occurred, limiting opportunities for timely management intervention. This challenge is particularly acute in remote environments such as the Great Barrier Reef, where logistical constraints make regular surveys difficult and expensive. Cost-effective and remotely deployable monitoring methods therefore represent a high priority for conservation managers responsible for Queensland's island ecosystems. Seabirds are widely recognised as indicators of marine ecosystem health because their breeding success, survival and distribution respond to changes in ocean productivity, prey availability and environmental conditions. Monitoring seabird populations and breeding success therefore provides insight not only into the status of individual species but also broader ecosystem conditions across the GBR. Considering the changing climate and the recent detections of H5N1 Bird Flu in an Australian tern species, it is becoming increasingly important to develop a baseline understanding of the population demographics of our seabird species. Through long-term monitoring programs that track how external pressures are impacting the populations we can plan appropriate management actions and measure their success.
Project methodology (max 100 words)	The part-time, 18 month-long set up of this honours project allows for data collection across a whole breeding season (September-March) of the Bridled Terns on Low Island. This includes: - Deploying autonomous acoustic recording units and camera traps on Low Island for the duration of the breeding season. - Monthly visual census of the entire 2ha island to ground-truth the acoustic data (alongside the Low Isles Preservation Societies regular monthly Torresian Imperial-pigeon count). - A 2-day bird banding trip in November to band and leg-flag the population (alongside Birds Queensland).
What are the start and finish dates of your research project?	February 2026 - September 2027
If this is longer than a one-year project, identify milestones and outcomes to be completed within this academic year	This project is a 1-year honours project, spread over 18 months part-time. In 2026, I have met all foundational milestones such as an introductory seminar, ethics permits, and engagement with stakeholders including the Low Isles Preservation Society, and I look forward to achieving the following milestones: **17-20 August** – Presenting at World Ecoacoustics Congress in Cairns **September** – Deploy equipment (autonomous recording units, camera traps) and collect data from initial visual census. **October** – submission of my literature review. **24-26 November** – Banding trip to Low Island with Birds Queensland.

	October-December - Monthly trips to Low Isles to visually census the population (alongside Low Isles Preservation Society). - Collection of acoustic data each month. - Beginning of data analysis. In the 2027 academic year I look forward to: - Completing fieldwork and analysing data. - Completing my thesis. - Presenting a final seminar on my work.
If successful, how do you intend to spend the grant funds (excludes conferences)?	If successful I intend to spend the funds in the following manner: **Deploy and collect equipment at beginning and end of season** - Extension of Low Isles Preservation Society pigeon count to deploy and collect equipment @ $400 nightly (3 nights required). - = $1,200 **Bird banding on Low Island** - Travel to Low Island via tourist ferry and accommodation for 2 nights. - Island transfer @ $265pp (4 required) = $1,060 - Accommodation @ $400 nightly (2 required) = $800 - = $1,860 Total: $3,060 (additionally $60 covered by small JCU honours allowance)
How do you intend to communicate your research? e.g., papers, presentations	The method will be published in a peer-reviewed journal (e.g. Emu Austral Ornithology) to ensure the method is available for use on other breeding colonies of Bridled Terns. In addition, I am planning to share my work through popular outlets (e.g. JCU media) and via community groups such as Birds Queensland and Low Isles Preservation Society. I would be happy if I could present my work in the Australian BirdLife Magazine, and of course it will also be my pleasure to present to the BirdLife Branch meeting and in the contact call.

Additional information	
Curriculum vitae (short)	Bachelor of Science (Biodiversity and Conservation) from Flinders University: 2017-2020. Birdwatching tour guide for Bellbird Tours: February 2025 – present. Current member of BirdLife Australia, Birds Queensland, Low Isles Preservation Society, and the Queensland Bird Research and Banding Group. More information to be found at: linkedin.com/in/jennifergodfrey2301
Other documentation in support of your application e.g. papers already published (optional)	NB Include Supervisor letter of support.

Acceptance	
I agree to these conditions: a) A final report submitted at the conclusion of my research. b) Acknowledgement of BirdLife Northern Queensland in all papers and presentations. c) Short (popular) article submitted to BirdLife Northern Queensland Newsletter. d) A public talk / presentation to BirdLife Northern Queensland (if feasible).	
Applicant's signature and date	 **14/07/2026**

APPLICATIONS CLOSE 31 JULY 2026 • APPLICANTS NOTIFIED AUGUST 2026

Application form including attachments to be emailed to BirdLife Northern Queensland:
northernqld@birdlife.org.au