



Australian Museum Lizard Island Research Station

Report 2025

Prepared by:
Lizard Island Reef Research Foundation

**Australian Museum Lizard Island Research Station
2025 Report**

Australian Museum

Lizard Island Research Station

Directors: Dr David Abrego and Dr Emily Howells
PMB 37
Cairns QLD 4870
Australia
T + 61 (0)7 4060 3977
australianmuseum.net.au/Lizard-Island-Research-Station

Australian Museum Research Institute

Director: Julie Ellmers
M 0407 629 892
E Julie.Ellmers@australian.museum
Acting Chief Scientist: Professor Shane Ah Yong
T + 61 (0)2 9320 6440
E Shane.Ahyong@australian.museum

Australian Museum

Director and CEO: Kim McKay AO
Trust President: Brian Hartzer

Lizard Island Reef Research Foundation
Chair: Kate Hayward

Acknowledgements

The Australian Museum acknowledges and pays respect to the Gadigal people and the Dinaal and Ngurumungu people, as the First Peoples and Custodians of the land and waterways on which the Australian Museum and Lizard Island Research Station stand.

Published May 2026

Produced by Lizard Island Reef Research Foundation and the Australian Museum

All photographs by David Abrego or Emily Howells unless otherwise indicated.

Design and production:
Australian Museum Design Studio

ISSN 0729-0942

Welcome

**About the Australian Museum’s
Lizard Island Research Station**

The Australian Museum’s Lizard Island Research Station is a world-leading supplier of on-reef facilities for coral reef research and education.

Located 270 kms north east of Cairns on the northern end of the Great Barrier Reef, the Australian Museum’s Lizard Island Research Station (LIRS) has been a vital facilitator of coral reef research and education for scientists and researchers from around the world since it was founded in 1973 by former Australian Museum Director, Professor Frank Talbot AM.

LIRS is part of the Australian Museum Research Institute (AMRI). It facilitates coral reef research and education on the Great Barrier and is key to the AM’s commitment to transforming the conversation around climate change. In addition to coral reefs, Lizard Island offers access to important marine habitats, including extensive areas of mangroves and seagrass beds. The surrounding ecosystem offers remarkable biodiversity, including approximately 1600 species of fish, more than 350 species of hard corals and 4000 mollusc species.

**About Lizard Island Reef Research
Foundation (LIRRF)**

The LIRRF is an independent trust established in 1978 to support scientific research at the Australian Museum’s Lizard Island Research Station (LIRS) and elsewhere on the Great Barrier Reef.

LIRRF provides targeted and practical support for coral reef science and education through an extensive fellowships and grants program and by developing and maintaining research facilities at LIRS

As well as supporting education and research, the Foundation seeks to communicate the science, show why it is important and why it needs and merits donor support. It connects with people and organizations interested in marine science and conservation while striving to fulfill its trust mandate: to raise funds for scientific research on the Great Barrier Reef.



Kim McKay AO
Director & CEO, Australian Museum

2025 marked a defining moment for the Australian Museum’s Lizard Island Research Station (LIRS); a year of leadership renewal, and a year that crystallised the urgency of the work ahead.

We have seen consecutive coral bleaching events around Lizard Island which means work into reef resilience, once a theoretical framework, is now an imperative. As marine heatwaves intensify and coral bleaching becomes more frequent, the mission of LIRS has never been more critical. The focus has shifted from documentation to action and understanding not just how reefs are declining, but how we can actively support their capacity to withstand and recover from thermal stress.

Now well settled into their new co-director roles, Dr Emily Howells and Dr David Abrego specialise in coral resilience science and are well-suited to helping with the challenges ahead.

As a world centre of coral reef expertise, LIRS also holds a place in the broader story of how humanity has come to understand and cherish the Great Barrier Reef. In 2026, as Sir David Attenborough celebrates his 100th birthday, we are reminded of his visit to the AM’s Lizard Island Research Station, which was featured in his landmark documentary on the Great Barrier Reef. That a global science leader and storyteller of his stature chose LIRS as a backdrop speaks to the station’s standing as a place where world-class science and the wonder of the natural world converge.

None of this work would be possible without the Lizard Island Reef Research Foundation (LIRRF), which contributed significantly in 2025 to research, education and infrastructure. The Fiftieth Anniversary infrastructure project, building a new staff house and research laboratory, is well underway, ensuring LIRS continues to facilitate world-leading researchers for years to come.

LIRS has entered a new and important era. With the world’s oceans now at critical risk, warming, acidifying, and bleaching at a pace that demands urgent scientific response, the Station’s work has taken on a significance that extends well beyond Australia’s shores. The research conducted here, the fellowships supported, the monitoring programs maintained season after season, represent some of the most consequential science being done anywhere in the world.

The commitment at the heart of LIRS is simply stated but of deep importance: to leave the Great Barrier Reef better for the next generation. It is a commitment that shapes every research program, every fellowship, every monitoring expedition, and one that the Australian Museum has been proud to support since its founding in 1973. I’d like to sincerely thank LIRFF and all its supporters, led by Kate Hayward, for their support and commitment to the Reef and the AM’s LIRS.



Kate Hayward
Chair, Lizard Island Reef Research Foundation

Reflecting on important research undertaken by the dedicated scientists supported by the Station in any one year, highlighted in this informative annual publication, evokes admiration and awe. The Station is now in its 53rd year, playing an outsized role in supporting the scientists who collaborate in a collegiate environment, working to better understand and preserve our coral reef ecosystems.

There are also ecosystems of a different sort to acknowledge – the researchers themselves, also supported by their ‘home’ universities and institutions, the Australian Museum staff at the station and in Sydney, our own Trustees who volunteer their expertise and, in many cases, donate generously. However, it’s our Foundation members and donors I’d like to strongly acknowledge for their exceptional support, large and small. This Foundation was established 48 years ago and over that time has benefited from the generosity of many keen and passionate supporters, some intergenerational, all of whom have enabled the Foundation to play an outsized role while operating with virtually no overheads.

During 2025, \$570,000 of LIRRF funds contributed to research, education and the upkeep of Station facilities. This includes \$250,000 in support of the fellowships and grants program. In total, 67 research projects were supported, conducted by scientists from 39 institutions. It also includes approximately \$255,000 directed to the maintenance of infrastructure, including three new dinghies, new motors for the Station’s largest boat, painting, replacement of saltwater pumps, microscope cameras and various general maintenance projects.

As I write, Dr David Abrego and Dr Emily Howells have been in their AM LIRS Co-Directorship roles for just over a year. Many of you met them at our Sydney or Melbourne events in October last year and were impressed by their professionalism, energy and warmth. Their first busy year is now backed up by an equally demanding one, overseeing a major build project now underway, incorporating a new Staff House and new Laboratory, as well as supporting visiting scientists. Other projects slated for the coming year include remedial works to the aquarium facilities and the expansion of solar energy infrastructure.

Why is supporting this research so important? In a rapidly changing environment, it’s becoming increasingly critical to understand the stresses our reef ecosystems are undergoing, gauge how they’re reacting, manage pressures and protect what we have. We thank all our donors, the very fabric of our Foundation. What you are about to read in this report could not have happened without your support and that of our Foundation board.

Year in review

The year began with a significant change for the AM's Lizard Island Research Station (LIRS) with our arrival as new directors after the retirement of Dr Anne Hoggett AM and Dr Lyle Vail AM.

Our first year on the island has gone blindingly fast with many inspiring moments highlighting the unique and timely work that happens at LIRS. The diversity of research we have facilitated is well beyond what we experienced in our previous academic roles. We loved meeting researchers and learning about the biology and ecology of familiar and lesser-known reef inhabitants, and how researchers collaborate with one another to enact novel ways to monitor reef communities with fine-scale precision. We were encouraged by discussions with teachers visiting the island to learn about coral reefs and ways to translate the knowledge generated at LIRS into meaningful learning material. Reading the students' hopeful reflections on their experiences during educational trips to the island crystallised our appreciation of the impacts of the work happening here. This was further amplified by returning visits from established documentary filmmakers producing media with worldwide reach. Overall, we are happy to report that LIRS continues its upward trajectory as a world-class facility for coral reef research, education, and science communication.

Living on the island and having the reef at our doorstep has attuned us to its rhythms. We arrived during hot and humid summer conditions with consequent stressors on reef organisms. Then came cooler, windier and wetter-than-usual autumn and winter conditions. Spring and early summer brought the onset of reproductive activity everywhere, with the spawning of fish, corals and other invertebrates, and sea turtle nesting. A challenging aspect of living on the island is witnessing the never ending wave of plastic debris washing onto the shoreline. LIRS staff and visitors have participated in and supported beach clean-ups to reduce the build-up and effects of debris on the island, and this work will continue in collaboration with the Lizard Island Resort, the Parley for the Oceans organisation, and other visitors to the island.

In addition to the arrival of new directors, a Scientific Officer Role was created by the AM and filled in May 2025 to provide much needed support to our small staff team. LIRS has progressed from a station where tenacious researchers carried out their work while sleeping and cooking in tents, to become a world-class facility that consistently attracts top researchers and education groups from Australia and overseas, as well as internationally recognised documentary film teams. The administrative and regulatory environment in which LIRS operates has also become much more complex, making it extremely challenging to run with a small but dedicated staff. We are grateful for the creation of the new role and look forward to continuing support from the Australian Museum (AM) and Lizard Island Reef Research Foundation (LIRRF) to meet the Station's future needs.

The Fiftieth Anniversary infrastructure project to build a new staff house and research laboratory is well underway. All the regulatory and development approvals have been obtained, and a builder with significant experience in LIRS building projects was engaged at the end of the year. They have been busy sourcing materials and consulting with the LIRS, LIRRF, and the AM's Corporate Facilities team as Project Managers on design questions and delivery of materials. Extensive consultation with Queensland National Parks has also been undertaken to ensure local permissions and regulations have been observed. More details are provided on page 14.

Occupancy rates at the LIRS were similar to 2024, and included researchers from 11 countries, educational groups from both Australia and overseas, media groups from the US, UK, and Australia, and official visits from the AM and LIRRF. More details are provided on page 19.

With the generous support of the Corella Fund, Peters Family Foundation, and Big Blue Ocean Foundation, LIRS hosted two Lizard Island Coral Reef Study Tours in 2025 (one for teachers and one for students). The feedback from both tours was very positive and we are already acting to improve our offer for 2026/27. More details are provided on page 15.

The Science Committee of LIRRF was busy at the end of the year assessing applications for the fellowship program. The successful applicants include four PhD candidates and two postdoctoral fellows. You can read more about their projects on pages 6–10.

Engagement with Traditional Owners of Lizard Island (Jiigurru) is an important priority for the LIRS and the AM and we look forward to welcoming Dingaal elders and other members of their community to LIRS in 2026 to develop meaningful relationships and identify collaborative opportunities to foster connections and knowledge sharing, as well as education and cultural content development.

Dr Emily Howells and Dr David Abrego
Directors, Australian Museum Lizard Island Research Station



Fellowships and grants

The Lizard Island fellowships and grants program provides funding for field-intensive research at LIRS. It is fully supported by the Lizard Island Reef Foundation (LIRRF) and its donors.

New fellowships are awarded each year to support broad categories of research by PhD candidates and recent postdocs. Grants are awarded periodically to support more targeted research into coral reef conservation and management.

Four doctoral and two postdoctoral fellowships for research were awarded to commence in 2026. A new critical research grant was not awarded for fieldwork in 2026, although research carried out during 2025 was supported by three critical research grants awarded in that year. Donors supporting 2026 Fellowships are listed below. We sincerely thank them for their generous support.

- LIRFF members and friends
- Big Blue Ocean Foundation
- The Charles Warman Foundation
- The Maple-Brown Family Foundation
- The John and Laurine Proud Fellowship
- Sally White OAM
- Zoltan Florian bequest

Details of the conditions and selection criteria for these awards can be found in the LIRS section of the AM’s website: <https://australian.museum/get-involved/amri/lirs/>. Applications close in August or September 2026 for funding that becomes available in April of the following year.

Fellowships

The scope of projects supported by fellowships is intentionally broad to enable applicants to seek support for research within their areas of expertise and existing commitments. The fellowships are highly competitive and produce excellent research while making an important contribution to research training. The program is unique for its scope and longevity, and for the rare support it offers for early career scientists to conduct fieldwork. Since the program’s inception in 1984, the LIRRF has supported 145 fellowships totalling about \$2.2 million.

The value of fellowships has been increased substantially in recent years. This ensures that their value can be maintained in the face of increasing costs of conducting research at LIRS. There is a growing requirement by Australian universities for diving to be conducted in three-person teams instead of two-person teams, while the cost of flights between Cairns and Lizard Island has also risen steeply. Doctoral fellowships are now worth up to \$14,000 per year (excluding GST) for up to three years while postdoctoral fellowships are now up to \$19,000 per year (excluding GST) for up to two years.

Outlines of these projects can be found on pages 8–10.

Grants

The LIRRF has supported a research grants program since 2012 with 33 grants awarded for a total value of more than \$1.1 million.

Critical research grants support coral reef research that is important on a broad scale and has a time-critical element. Unlike the fellowships program, grants are not limited to a particular research demographic – applicants can be from any level within the research community. These grants are offered irregularly depending on need and the funding available.

Progress updates for grants research carried out in 2025 follow.

Prof Maria Bryne (University of Sydney), **A/Prof Jon Allen** (College of William and Mary, USA) and **Prof Mary Sewell** (University of Auckland, NZ) were awarded a 2025 critical research grant thanks to funding from Sally White OAM.

Resilience and adaptation of Crown-of-Thorns Starfish (CoTS) larvae to development in oligotrophic tropical waters: maternal provisioning, bacterivory and larval cloning.

It is still not well understood why CoTS form aggregations that can devastate reefs by eating live coral. One explanation for the aggregations of CoTS is that nutrient rich run-off from floods leads to plankton blooms, which in turn increase survival rates of CoTS larvae. In this project we asked the question: how far can CoTS larvae develop when the only sources of nutrients are those provided in the egg and potential food that naturally occurs in pristine tropical waters?

Eight populations of CoTS larvae were reared in water that contained only natural background levels of food such as algal cells, bacteria and other organic matter. In these conditions CoTS larvae thrived. The energetic buffer provided by the eggs allowed the larvae to develop to an advanced stage. Our findings show that the larvae of CoTS do not require nutrient augmentation, such as generated by run-off, to reach an advanced larval stage.

Prof Morgan Pratchett and **Dr Peter Doll** (James Cook University) were awarded a two-year critical research grant thanks to funding from the Big Blue Ocean Foundation.

Novel methods for Crown-of-Thorns Starfish management to contain emerging outbreaks at Lizard Island.

Progress to date: This project capitalises on the demonstrated capacity to detect CoTS using scooter assisted large-area diver (SALAD) surveys (Pratchett et al. 2026) to increase the efficiency and effectiveness of CoTS management for suppressing the early initiation of CoTS outbreaks. Critically, established culling activities undertaken by commercial operators were developed to address high localised densities of CoTS, using teams of up to eight divers to intensively cull within a prescribed area. Our method (SALAD culling) enables divers to cover extensive areas of reef habitat in a single dive, which is critical where CoTS densities are low to moderate. We have also made refinements to the injecting apparatus (smaller wand and container), making it very easy to carry the necessary equipment. Using these methods, we have culled 383 CoTS across Lizard Island and North Direction, and there is evidence that densities of CoTS were effectively reduced from 2025 to 2026. In contrast, at Eagle Island, where culling has been conducted by

commercial operators with limited supplementary culling using SALAD, the densities more than doubled from 2025 to 2026.

Significance: The current project highlights the potential application and benefits of SALAD surveys and culling for managing emerging outbreaks of CoTS. This provides an unprecedented opportunity to move beyond reactive management (where culling is undertaken in areas with established CoTS outbreaks) to pre-emptive culling to suppress the apparent initiation of new and renewed CoTS outbreaks. This approach is expected to greatly increase the feasibility and effectiveness of CoTS management on the Great Barrier Reef. The early signs regarding the application and benefits of SALAD culling have also led to additional funding to support more expansive SALAD culling at other regions in the northern Great Barrier Reef in 2026 (GBR Foundation CoTS Control Innovation Program bridging funding). However, the current project at Lizard Island (and surrounding reefs), combining not only intensive culling but recurrent surveys, will be critical to demonstrate that SALAD culling can effectively complement commercial culling operations to suppress increasing densities in this region.

Dr Vicent Raoult (Griffith University), **Dr Karen Joyce** (James Cook University), **Dr Stephanie Duce** (James Cook University), **Dr George Roff** (CSIRO) and Prof **Jane Williamson** (Macquarie University) were awarded a two-year critical research grant thanks to funding from Sally White.

Drone-based monitoring of Lizard Island bleaching recovery.

Since obtaining the LIRRF critical research grant, the team has travelled to Lizard Island twice, in June and December 2025. In that time, using aerial drone flights travelling over 320 kilometres, we have mapped more than three square kilometres of key reefs. We also developed and trialled reef mapping using our automated surface vessel Nautilus, and the outcomes have surpassed our expectations. We have been able to map eight key reefs and reef areas at resolutions 10 times greater than with drones (~1mm per pixel). These maps are detailed enough to separate coral polyps for some species. Planning is currently underway for the next aerial drone-focused survey trip in June 2026.

We believe this project has already produced the largest drone-based dataset for coral reefs ever collected, and the largest documented monitoring project for bleaching recovery with data now spanning two years post-bleaching. It is also the first time a coral monitoring project has made the source data available almost immediately to researchers and the public for use in other projects.

Bailey Bonham

2026 Zoltan Florian
Doctoral Fellowship

University of Texas at
Austin, USA



Reef halos, edge effects and nutrient loops: examining the role of reef fishes in nutrient transport across ecological boundaries

Coral reefs persist in nutrient-poor waters by efficiently recycling energy and nutrients, yet how these nutrients move across reef boundaries remains poorly understood. Reef-sand interfaces are widespread transition zones where physical structure, biological communities, and biogeochemical processes intersect. These reef edges often produce ecological “halos” driven by herbivory and predation, but their role in nutrient transport has received little attention.

Sand-dwelling gobies dominate reef-adjacent sandy habitats and may play a key role in recycling reef-derived nutrients. By foraging on sediment-associated prey and organic material, gobies may assimilate nutrients originating from the reef and transfer them back through predation by reef-associated fishes. This process may form a trophic loop that helps retain nutrients within reef ecosystems. Around Lizard Island, goby communities vary strongly across reef edges, providing an ideal system to examine cross-habitat nutrient connectivity.

Bailey’s research aims to determine how reef-edge structure and biological activity generate nutrient “halos” in adjacent sandy habitats, and how gobies function as nutrient vectors across ecological boundaries. The project integrates surveys of benthic and mobile communities, measurements of sediment nutrient gradients extending away from reef edges, and stable isotope analysis to assess reef-derived nutrient incorporation in gobies.

By extending the concept of reef halos beyond herbivory and predation to include nutrient dynamics, Bailey’s research provides new insight into how coral reefs retain productivity in nutrient-poor environments. This work will improve understanding of reef resilience and inform ecosystem-based management strategies focused on conserving the processes that sustain coral reef ecosystems.

Cecilia Martin

2026 Charles Warman
Foundation Doctoral
Fellowship

James Cook University,
Australia



Timing is everything: ontogenetic shifts in habitat, diet, and morphology of rabbitfishes

Coral reefs, seagrass meadows, mangroves and macroalgal beds form interconnected seascapes that together sustain an extraordinary diversity of marine life and provide food security for millions across the Indo-Pacific region. Understanding how marine animals move between and rely on these habitats is key to predicting how coastal ecosystems will respond to the growing pressures of climate change and human activity. Among the key residents of these habitats are rabbitfishes, a family of herbivorous fish that play an important role in keeping reef ecosystems healthy by consuming algae and providing an important source of protein for coastal communities.

Interestingly, rabbitfishes often occupy different habitats throughout their lives. Many juveniles settle into beds of macroalgae, seagrass or mangroves before later transitioning to coral reefs. These movements intertwine ecosystems, linking rabbitfish survival and ecological function to multiple habitat types. Despite this importance, little is known about when and why these transitions happen, or how they may change under increasing environmental pressures.

Cecilia’s research will investigate these questions at Lizard Island. Using underwater surveys, fish collections, and experimental patch reefs, she will track how rabbitfishes of different sizes and species use different habitats. She will explore their diets at each life stage and how the bones and muscles associated with feeding change with shifting diets and environments. Additionally, her project will examine how growth, survival and physiological condition of rabbitfishes vary across habitats. This research will highlight the importance of interconnectedness among habitats in tropical coastal seascapes, as well as ways in which habitat loss may alter species behaviours and functional roles.

Rebecca Loy

2026 Lizard Island Doctoral
Fellowship

University of Bristol, UK



Determining the settlement outcomes of coral reef fish under contrasting thermal regimes

Larval recruitment plays a central role in shaping the structure, distribution and genetic diversity of populations. In coral reef fish, successful recruitment depends heavily on larvae settling to a suitable habitat and surviving through an intense period of early post-settlement mortality. Survival at this stage can be strongly size-selective, and larvae can also exhibit behavioural plasticity in timing settlement to maximise fitness. The relationship between growth, settlement and post-settlement survival is therefore key in determining recruitment success. However, as ocean temperatures rise rapidly under climate change, there remains limited understanding of how these tightly coupled interactions might shift. Rising ocean temperatures can accelerate larval growth and shorten pelagic larval duration (PLD) but may also impose energetic and phenological trade-offs. Rebecca’s project seeks to understand the impacts of natural temperature variations on the early life history traits driving recruitment success in coral reef fish, providing a framework for informing how reef population dynamics might respond to climate change.

Settlement trends of several reef fish species will be quantified using light trap deployments around Lizard Island in the Austral spring and summer, representing a contrast of up to 5°C between seasons. The early life history traits (daily growth increments, PLD, size-at-settlement) of these cohorts will then be evaluated using otolith microstructure and morphological measurements, investigating the developmental trajectories of reef fish under different temperature environments. Finally, post-settlement experiments with damselfish will evaluate whether these characteristics carry over to mediate early survival outcomes in cohorts of settlers.

Recruitment is the demographic bottleneck for many coral reef fish species, yet the impacts of climate-driven warming on the early life history traits that determine recruitment success remain poorly understood. This project will take a multifaceted approach to draw the link between larval environmental history, settlement outcomes and early juvenile persistence.

Zoe Storm

2026 Big Blue Ocean
Foundation Doctoral
Fellowship

James Cook University,
Australia



Navigating change: understanding coral trout vulnerability to fishing through behaviour, physiology and environment

Sustainable fisheries management depends on accurate estimates of population size, yet directly counting fish in the ocean is rarely feasible. Managers therefore often rely on catch-per-unit-effort (CPUE: the number of fish caught per unit of fishing effort) derived from fisheries data as an indirect proxy for stock size, assuming larger populations produce proportionally higher catch rates. However, this relationship holds only if catchability, a constant in the CPUE equation describing the probability of any given fish being caught, remains stable over time.

In reality, catchability is not constant. It emerges from individual vulnerability to fishing, shaped by behavioural and physiological traits that vary widely among fish. For example, following the 2016 Great Barrier Reef marine heatwave, CPUE for coral trout in the reef line fishery increased even as the population declined, suggesting a thriving fishery whereas the stock was actually under stress due to a catchability change. Understanding when and why catchability may change is therefore essential for reliable stock assessment and management.

Zoe’s research will examine catchability as a dynamic outcome of individual traits, fish-fishery interactions, and thermal variability in common coral trout (*Plectropomus leopardus*), the primary target of the Great Barrier Reef reef line fishery. No-take research zones around Lizard Island provide a rare opportunity to study fish naïve to fishing pressure. There, Zoe will track individually identified coral trout through repeated hook-exposure experiments to test how behaviour changes with experience and whether some individuals are consistently more vulnerable than others. She will link these behavioural patterns to physiological measurements to identify the trait profiles that predispose fish to capture. Seasonal return visits across the thermal extremes of the annual cycle will examine how temperature reshapes these traits, and whether vulnerability remains consistent or shifts across the population. Combined with analyses of long-term fish and fisheries monitoring datasets, this work will help identify the mechanisms driving changes in catchability, and clarify when and why CPUE may misrepresent true population size, providing information to aid the management of one of Australia’s most iconic reef fisheries in a changing climate.

Dr Jessica Reichert

2026 John and Laurine Proud
Postdoctoral Fellowship
University of Hawai'i, USA



Linking reef structural complexity and coral recruitment using coral settlement modules

Coral reefs have a remarkable capacity to recover after disturbance, but only if young corals can find somewhere to settle and survive. The three-dimensional structure of a reef plays a crucial role in this: the ridges, overhangs, and sheltered crevices that make a reef architecturally complex also create the calm microhabitats that coral larvae need to settle, and provide the refuges that protect them during their most vulnerable early weeks. As bleaching events, storms and erosion become more frequent, reefs are losing this complexity, becoming flatter and simpler. Restoration efforts are growing, yet we still know surprisingly little about which reef conditions give young corals the best chance to settle and survive.

A key reason this question has been so hard to answer is methodological. Traditional settlement tiles capture only a small fraction of the larvae actually settling on a reef, making it difficult to detect meaningful patterns across sites. To overcome this, Jessica developed a new set of 3D-printed coral settlement modules: small, specially designed structures that replicate the natural nooks and crevices where coral larvae prefer to settle. Each module features internal recesses and sheltered surfaces that mimic the microtopography of real reef surfaces, offering larvae the kind of protected habitat they seek.

Lizard Island is an ideal place to put these tools to work at the reef scale. Around Lizard Island, 12 long-term reef monitoring sites have been 3D mapped every year using underwater photogrammetry, providing an exceptional foundation for this work. This project will link coral recruitment and survival to each reef's long-term structural complexity, including its rugosity, fractal dimension, and coral cover – measures that would take years to establish from scratch elsewhere. The protected waters of the Great Barrier Reef Marine Park around Lizard Island also mean that patterns in coral settlement can be interpreted as genuine ecological signals, free from the noise of local human impacts.

By deploying the modules across reefs that vary in their structural complexity, and then following settlement and survival over a full year, the project will identify which features of reef geometry matter most for coral recovery. The results will also reveal the reef conditions in which the modules themselves work best as a restoration tool, helping ensure that investment in reef recovery can be targeted to where it is most likely to make a lasting difference.

10 Fellowships and grants

Dr Magena Marzonie

2026 Maple-Brown Family
Foundation Postdoctoral
Fellowship



Australian Institute of Marine
Science, Australia

Micro-scale, macro-impact: identifying and predicting coral adaptation at habitat scales

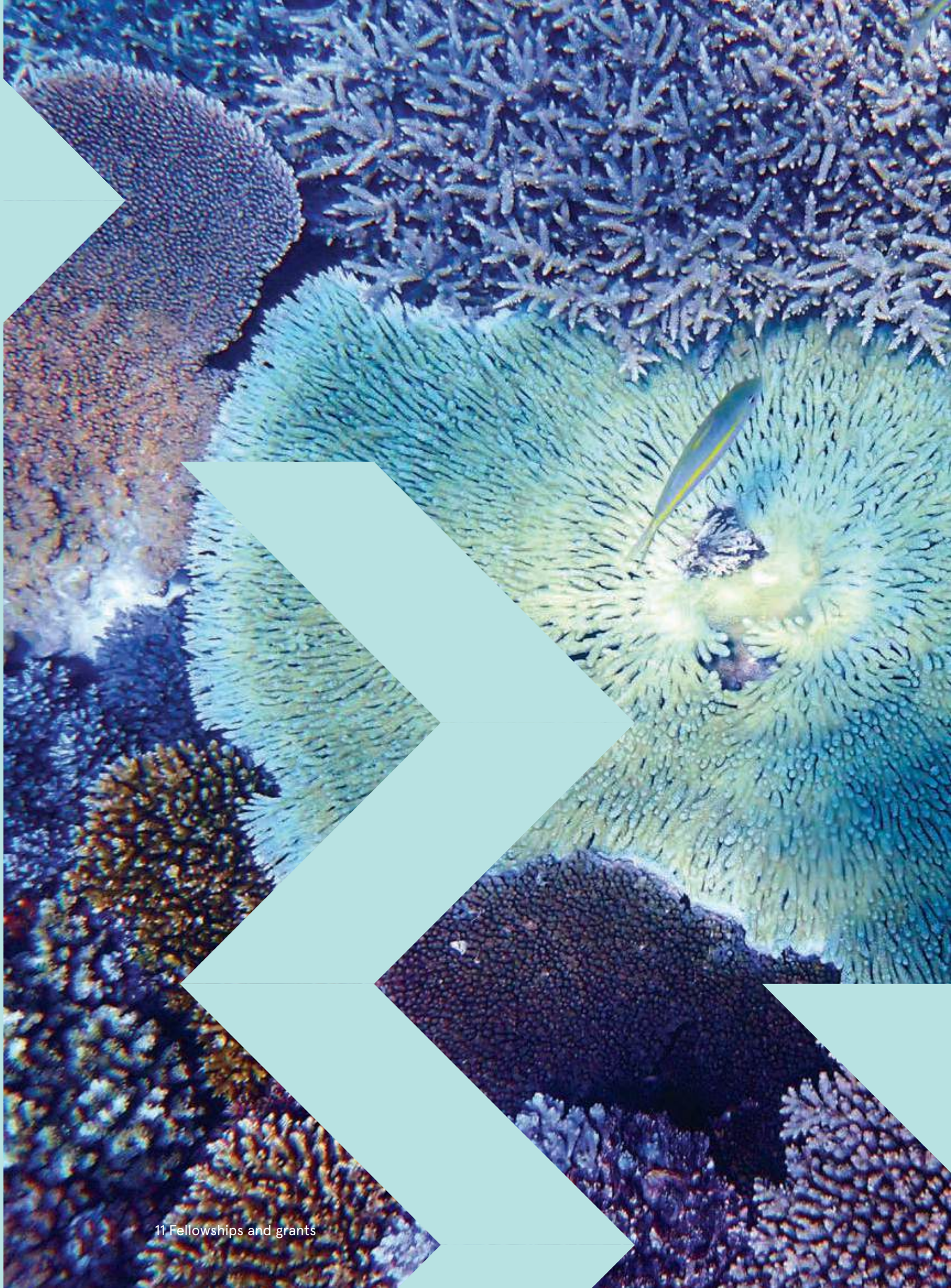
The Great Barrier Reef has suffered six mass bleaching events in the past decade, driven by increasingly frequent and severe marine heatwaves that disrupt the delicate partnership between corals and their symbiotic algae. These events are typically assessed across vast spatial scales, yet in some cases, variation within a single reef can equal, or even exceed, that observed between reefs or across entire regions. Uncovering the patterns and processes driving this fine-scale variability is critical for understanding how reef-building corals will respond to the persistent effects of climate change.

Magena's project zooms in on these micro-scale patterns of resilience and adaptation. Shaped by a mosaic of habitats, combined with repeated exposure to bleaching in recent years, Lizard Island's reefs provide an ideal natural laboratory for exploring how corals respond and adapt to their local environment. By combining high-resolution environmental data, genomic analyses, and aquarium-based heat stress experiments, the project seeks to determine whether corals are locally adapted to specific habitats – within the same reef – and how this shapes their capacity to withstand rising temperatures.

Focusing on two common reef-building coral species, this research aims to pinpoint whether habitats such as shallow reef flats, deeper slopes, or exposed reef fronts harbour more heat-tolerant individuals. It also tackles a deeper question: within a reef, are these differential heat stress responses purely environmental, or do they reflect underlying genetic adaptation? By linking habitat conditions with both physiological performance and genomic variation, the project will help unveil how resilience is structured across the reef at micro-scales.

These insights carry important implications for reef conservation and management. If certain habitats consistently harbour more heat-tolerant corals, they may function as natural refuges or sources of recovery following bleaching events. If this is the case, protecting these pockets of resilience could prove just as important as conserving entire reefs. By revealing where, why, and how corals are most likely to persist, Magena's project offers a lens for managing reefs – one where micro-scale differences may drive large-scale outcomes for reef resilience.

11 Fellowships and grants



Lizard Island Reef Research Foundation

Founder

The late Sir John Proud

Patrons

Mr Andrew Green

Dr Des Griffin AM

Mrs Jacqueline Loomis

The Ian Potter Foundation

Mr Robert Purves AM

Thyne Reid Foundation

Trustees

Ms Kate Hayward (Chair)

Mr Charlie Shuetrim AM
(Treasurer)

Mrs Greer Banyer

Prof Larissa Behrendt AO

Dr Penny Berents

Ms Jennifer Dalitz

Ms Kylie Doye

Ms Allison Haworth West

Mrs Wendy King

Mr James Kirby

Mrs Anna Le Deux

Prof Lynne Madden

Ms Kim McKay AO

Mrs Heather Power

Mr Robert Purves AM

Dr Geoff Shuetrim

Science Committee

Dr Penny Berents (Chair)

Dr David Abrego

Prof Shane Ah Yong

Dr Emily Howells

Prof Lynne Madden

Mr Charlie Shuetrim AM

We thank AM researcher Dr Elena Kupriyanova for being part of the Selection Committee for the 2026 LIRRF Fellowships and Grants, joining Science Committee members Dr Penny Berents (Chair of Selection Committee), Prof Shane Ah Yong, Dr David Abrego, and Dr Emily Howells. Dr Anne Hoggett AM and Dr Lyle Vail retired from LIRS in 2025. We thank them for their service on the Selection Committee over many years.

The Lizard Island Reef Research Foundation (LIRRF) is an independent trust established in 1978 to conduct and support scientific research at LIRS and elsewhere on the Great Barrier Reef. LIRS would not be the place that it is without the support of the LIRRF.

Go to lirrf.org for information about the foundation and the research it supports and to donate to its important causes. All donations of \$2 or more are tax deductible in Australia.

Supporters are recognised at several levels.

- Friends donate any amount below \$1000 in a year.
- Members donate \$1000 or more in a year.
- Major Supporters have a history of recent donations exceeding \$20,000 in total.
- Principal Supporters have donated between \$20,000 and \$100,000 in total, with support continuing in recent years. Individuals and institutions are listed separately in this category.
- Life Members donate at least \$100,000 which may be spread over several years.

Members and higher-level supporters are listed on page 28–29.



New dinghy Zofia in operation at LIRS

Board changes

The LIRRF welcomed a new Trustee in February 2025, Melbourne-based Kylie Doye. Kylie is an experienced director, non-executive director and board chair serving on company boards, charity boards, committees and councils across private business, government and community sectors. Kylie is passionate about education and is an experienced education executive. She is former Academic Director for Monash Online and is currently Chair of Big Blue Ocean Foundation.

Trustees meet four times a year and are responsible for meeting the foundation’s objectives, including raising funds for LIRS.

Projects and equipment in 2025

In the 2025 financial year, the LIRRF contributed a total of \$570,320 to research, education and upkeep of LIRS, which underpins its ability to facilitate those activities.

- \$247,882 for research through the fellowships and grants program
- \$61,345 for the Lizard Island Coral Reef Study Tour educational program
- \$130,412 for the design and construction of the new dinghies, Lulu, Sylvia and Zofia
- \$38,755 for new motors for the catamaran Kirsty K
- \$33,960 for painting Talbot House and the diesel bulk container
- \$18,603 for the replacement of microscope cameras
- \$13,479 for the replacement of a saltwater pump to supply the aquarium system
- \$8,000 for the development of plans for the fiftieth anniversary laboratory
- \$3,955 deposit for a major service of the SCUBA compressor to support diving operations
- \$13,929 for regular maintenance projects

Fiftieth Anniversary Infrastructure Projects

When LIRS celebrated its Fiftieth Anniversary in 2023, LIRRF started an ambitious fundraising campaign to mark this significant milestone. The target was to raise \$2 million for two major items of infrastructure that will help LIRS remain at the forefront of coral reef research for the coming decades.

- The new air-conditioned laboratory is needed to provide adequate laboratory space, especially during the busy summer period. It will accommodate up to eight researchers with their equipment. Funding for this facility is secure thanks to a generous donation by Life Member Rowena Danziger AM in memory of her late husband and former LIRRF Chair Ken Coles AM. She wishes the new laboratory to be named: Anne Hoggett and Lyle Vail Laboratory given in memory of Ken Coles by his wife Rowena Danziger.
- The new three-bedroom staff house is needed to accommodate a planned increase in the number of staff at LIRS and to allow for greater flexibility in filling staff positions. Contributors to this project to date include the Thyne Reid Foundation, the James N. Kirby Foundation, the Maple-Brown Family Foundation, Raymond E Purves Foundation, the Charles Warman Foundation, an anonymous foundation, the Sapphire Project, Lady Potter AC, Tim Fairfax AC, Sally White OAM, Frank and Susie Herd, Jay and Greer Banyer, Mark McGovern and others.

Design and Queensland National Parks and council approval processes for both buildings are now complete and a contract has been signed with Bryant Constructions for \$2.54 million. In addition we need to allow 5% for contingencies (eg, fuel surcharges) and \$60,000 furniture and fittings bringing the total amount of funding required to just over \$2.7 million. We have raised \$2.3 million already and plan to raise the balance over the next 12 months. Construction is scheduled for completion before the end of 2026.

Planning is also underway for upgrades to the solar power facilities to allow replacement of existing gas appliances with electrical ones. The objective is to ensure that solar continues to supply at least 96% of the power needs of the LIRS. The Australian Museum’s Corporate Facilities team is the project manager for the infrastructure development.



House build plans

Coral Reef Study Tour

In September and October 2025, the Lizard Island Coral Reef Study Tour (LICRST) initiative successfully took place for the fourth year in a row and held dedicated programs for teachers and Year 11 biology students for the first time.

These tours provide a 7-night, live-in educational experience at LIRS that is fully funded by the LIRRF with small contributions from some participants. The program was conceived by former AM LIRS director Dr Anne Hoggett AM and organised by the current LIRS directors Dr David Abrego and Dr Emily Howells with support from LIRRF trustees Greer Banyer and Kylie Doye, and the Coral Sea Foundation. Day-to-day operations and educational content were provided by the Coral Sea Foundation led by Dr Andy Lewis.

Participants from New South Wales schools were selected through a competitive process. Of the 17 teachers selected, 59% were from regional schools, 65% were female, and 65% were high-school science teachers. Of the 17 students selected, 65% were from Sydney-area schools, 82% were female, and two First Nations applicants were selected.



Teachers Tour. Photo: Andy Lewis



Students near the top of Cook's Look. Photo: Andy Lewis

“LICRST was such an amazing and immersive experience giving layers and layers of value by the way it was designed for passionate educators by passionate educators.”
Dr Teresa Wilson, teacher at Lucas Heights Community School

“Being a part of the LICRST was a truly extraordinary experience that opened my eyes to the world of marine science through the guidance of highly qualified staff. I arrived expecting widespread bleaching and ecological decline, yet what I encountered was a thriving mosaic of biodiversity and coral resilience.”
Anson Tsai, Year 11 student at Sydney Technical High School

We thank the Corella Fund, the Peters Family Foundation, and the Big Blue Ocean Foundation for supporting the teacher and student Lizard Island Coral Reef Study programs in 2025. Planning is currently underway for the 2026/27 programs.



Drawing by Tineke Condon, teacher from Stella Maris College



Students about to start snorkelling activity during LICRST
Photo: Andy Lewis

Events

LIRRF events keep its supporters in touch with activities at LIRS and with coral reef issues. They are organised by a group of LIRRF trustees, led by Chair Kate Hayward and are detailed below.

Visits to LIRS

LIRRF Chair Kate Hayward led a trip to LIRS in September 2025 for a small number of donors and other supporters. Participants took part in the daily life of the LIRS, meeting with researchers, attending presentations about reef topics and experiencing the reef firsthand through snorkelling.

In addition to the trip by LIRRF donors and trustees in September, several VIPs visited the LIRS throughout 2025. These included Kylie Doye, Chris Barlow and Sandra Birkensleigh (Big Blue Ocean Foundation), Barbara Agar (LIRRF Major Supporter), Frank and Susie Herd (LIRRF Life Members), John and Laura Foster (Former Chair, the Smithsonian Natural History Museum, US), and Matt Crocker (Chair, Sydney Institute of Marine Science). Elizabeth Salkeld (Corella Fund) also visited with her family including Louise Salkeld and Nicola, Benjamin, Leo and Willa Birt.



LIRRF Supporters Trip September 2025
Front left to right – Richard Lester, Marigold Hayward, Reina Nicholls, Matilda Lester. Rear – Steven Yusi.

Meet the new LIRS directors – evening events in Sydney and Melbourne

Two special evening events were held this past year to introduce the new LIRS directors to LIRRF supporters. The first took place at the Australian Museum Theatre and Wild Planet, with a welcome address by Kim McKay AO, the AM’s Director and CEO, and an introduction to Dr Emily Howells and Dr David Abrego by Kate Hayward. During the event, Emily and David gave a brief presentation of their research and academic backgrounds as well as impressions from their first six months at the helm of LIRS. The Sydney event was attended by 110 guests, including LIRRF supporters, trustees and AM staff. The Melbourne event took place at Elwood Bathers with a dinner generously supported by LIRRF Trustee Kylie Doye and Chris Barlow from the Big Blue Ocean Foundation. This dinner was attended by 75 guests.

Lizard Island Resort

The six star Lizard Island Resort provides an exceptional base from which to experience the Great Barrier Reef. Delaware North, operator of the resort, is a long-term supporter of the AM’s LIRS and of LIRRF. Guests from the resort regularly visit the LIRS during tours led by either the LIRS directors or a resort naturalist. In 2025, 446 resort guests took a tour of the LIRS.

Each year Delaware North donates to LIRRF an exceptional experience of a three-night stay at the resort for two people that includes return transfers by light aircraft from Cairns, accommodation, meals, beverages and more. This generous package is used to raise funds.

In addition, current LIRRF Members (ie, those who have donated \$1000 or more in the last 12 months) qualify for a 20% discount on any stay of three or more nights at the resort(except in nominated peak times. See lirrf.org or contact the foundation for information about making a booking.

When on the island, members are encouraged to visit the LIRS to see how their donation is being put to good use. For more information about the resort, visit lizardisland.com.

Donations

LIRRF operates with very low overhead costs, and it provides a highly efficient channel for donations to support science on the reef. LIRS would not exist and could not continue without donor support. Various options for donating are available online at lirrf.org/donate. All donations of \$2 or more are tax deductible in Australia.



Scan to donate online

For the record

Weather and reef health

Early 2025 was yet again characterised by warmer than usual sea temperatures, causing corals to bleach on the reefs around Lizard Island for the sixth year in a row. Fortunately, severe cases of bleaching and mortality were minimal in contrast to the devastating marine heatwave events of 2016 and 2024.

Signs of coral recovery are being observed at some of the worst-hit sites in 2024, with growth of young corals as well as regrowth of a small number of surviving older corals observed. Other sites, such as those in the lagoon, have still not fully recovered from the 2016 heatwave.

Outbreaks of the native coral predator, Crown-of-Thorns Starfish (CoTS), remain a prominent threat to the Great Barrier Reef. Active culling activities by LIRRF-funded researchers and the government-funded CoTS control program continue to reduce the degree of impact to corals at Lizard Island.



Young corals recolonising areas of reef that suffered widespread coral mortality during the 2024 bleaching event

The annual mass coral spawning at Lizard Island was a split-spawning event observed between the third and fifth nights after the full moon in November and December. Split spawning is where corals spawn over two consecutive months (rather than a single month) every few years.¹ This is thought to realign reproductive timing with optimal environmental cues and may also benefit the replenishment of coral populations by increasing the reliability of larval supply.^{1,2}

The year ended with a very warm December leaving us on watch for another potential bleaching event in 2026.

1. Baird, A.H., Guest, J.R. and Willis, B.L., 2009. Systematic and biogeographical patterns in the reproductive biology of scleractinian corals. *Annual review of ecology, evolution, and systematics*, 40(1), 551-571.

2. Hock, K., Doropoulos, C., Gorton, R., Condie, S.A. and Mumby, P.J., 2019. Split spawning increases robustness of coral larval supply and inter-reef connectivity. *Nature Communications*, 10, 3463.



Coral colony preparing to release bundles of eggs and sperm in the annual mass spawning event. Photo: Lucia Pombo-Ayora

Staff

Staff at the AM's LIRS are employees of the Australian Museum funded by the AM.

Dr Lyle Vail AM and Dr Anne Hoggett AM were farewelled from LIRS in February 2025 after more than 34 years as joint directors.

Dr David Abrego and Dr Emily Howells arrived at LIRS at the end of January 2025 and began their tenure as directors on 14 February, after a brief handover period.

Arthur Davie and Ruth Carr have completed almost five years as Maintenance Officer and Accommodation Officer, respectively, and retired in January 2026 and we thank them for their service.

Norbert Rápolthy joined LIRS in the newly created Station Officer position in May. This provided much needed support for operations which have grown considerably since a staff team of four was established 35 years ago.

Snow Amos and Renie Amos filled in for Arthur and Ruth who were off the island in April-May 2025. Grace Frank filled in for David and Emily when both were off the island attending LIRRF events in October 2025.



2026 Doctoral Fellow Zoe Storm up close and personal with her study fish: coral trout. Photo: Zoe Storm.

Volunteers

Volunteers are vital for LIRS operations. With diverse backgrounds and skills, they help maintain the facilities and grounds to a high standard. Their reward is to know that they are helping to facilitate important coral reef research while becoming valued members of this small community. With rising costs of travelling to LIRS, it is becoming more challenging to attract volunteers, and we are very grateful for their contributions to the LIRS.

Lizard Island Field Guide

The Lizard Island Field Guide is an online guide to the sea and land life of Lizard Island. It can be accessed at <http://lifg.australianmuseum.net.au/Hierarchy.html>. There were few additions to the guide in 2025 due to continuing technical upgrades. At the end of 2025, the guide comprised 3440 species with photos and other information, and the background database contained 7950 named species (excluding taxonomic synonyms) known from the Lizard Island area. The guide continues to be developed by LIRRF Trustee Geoff Shuetrim (back end), former AM LIRS Co-Director Anne Hoggett (content), and former AM LIRS staff member Marianne Pearce (collection data entry). LIRRF continues to support the production of the field guide.

Bench fees

The Australian Museum LIRS collects ‘bench fees’ from researchers and approved visitors to the research station. These fees play an important role in covering some of the day-to-day operations.

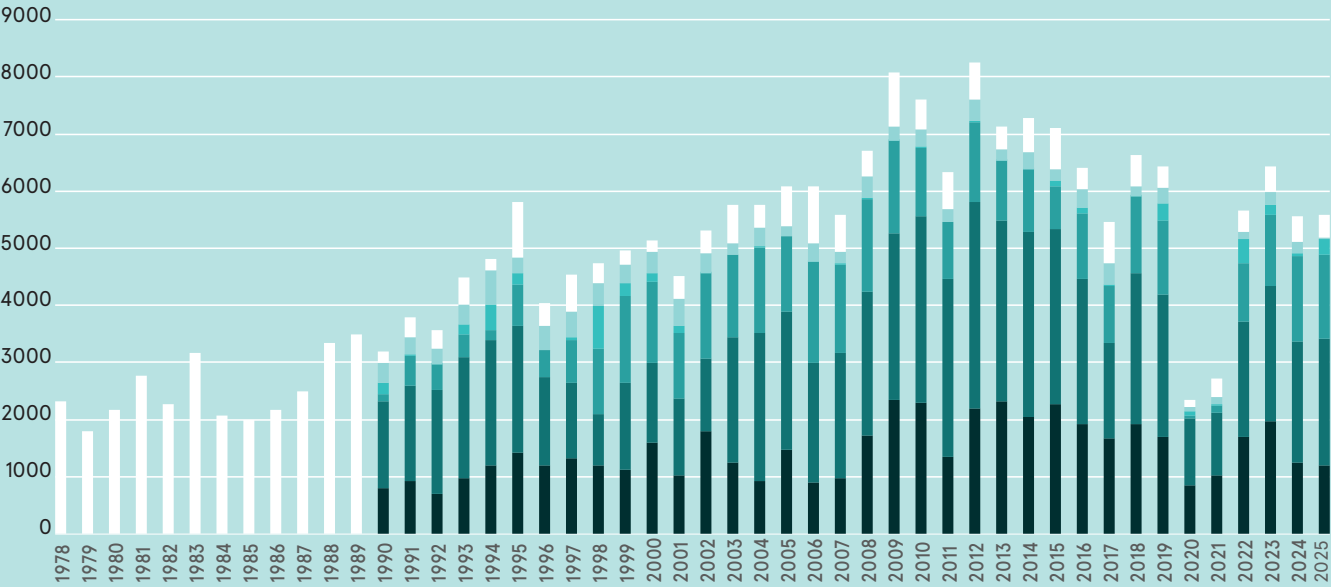
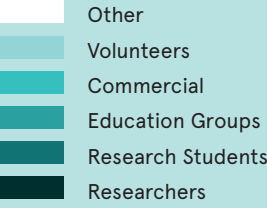
Per person per night, including GST	2025	2026
Researcher	\$174.00	\$182.00
Researcher’s assistant	\$156.00	\$163.00
Postgrad student (own project)	\$67.00	\$70.00
Postgrad’s assistant	\$63.00	\$66.00
School or university group	\$111.00	\$116.00
Media	\$262.00	\$275.00
Commercial	\$328.00	\$344.00



2025 Doctoral Fellow Eleanor Kelly hard at work

Occupancy

Occupancy was 5635 visitor nights in 2025, similar to the previous year, and below the optimum of 7000. This was mainly due to accommodation constraints for new staff, as well as a substantial drop in volunteers visiting the station.



20 For the record

Visitors in 2025

Scientists from 39 institutions in 11 countries conducted 67 research projects at LIRS in 2025. Of these, 22 were led by senior scientists or postdocs, 20 by PhD candidates, 13 by MSc candidates, 2 by Honours candidates and 10 by undergraduate research students. The researchers are listed below with project titles and institutional affiliations.

Institutions

Australian

- 1. Australian Institute of Marine Science
- 2. Australian National University
- 3. Cape York Water Partnership
- 4. CSIRO
- 5. Edith Cowan University
- 6. Griffith University
- 7. James Cook University
- 8. Macquarie University
- 9. Murdoch University
- 10. Queensland Museum
- 11. Southern Cross University
- 12. University of Queensland
- 13. University of Sunshine Coast
- 14. University of Sydney
- 15. University of Tasmania
- 16. University of Technology Sydney
- 17. University of Western Australia
- 18. Walmbaar Aboriginal Corporation

Institutions – International

- 19. Bar Ilan University, Israel
- 20. College of William and Mary, USA
- 21. Dauphin Island Sea Lab, USA
- 22. Max-Planck Institute for Behavioural Physiology, Germany
- 23. Museum für Naturkunde Berlin, Germany
- 24. Nova Southeastern University, USA
- 25. School for International Training, USA
- 26. Sorbonne University, France
- 27. Stazione Zoologica Anton Dohrn, Italy
- 28. University of Alabama, USA
- 29. University of Amsterdam, Netherlands
- 30. University of Auckland, New Zealand
- 31. University of Bristol, UK
- 32. University of Exeter, UK
- 33. University of Hawaii, USA
- 34. University of Lisbon, Portugal
- 35. University of Neuchatel, Switzerland
- 36. University of North Carolina, USA
- 37. University of Otago , New Zealand
- 38. University of St Andrews, UK
- 39. University of Texas Austin, USA

21 Visitors in 2024

Senior scientists and postdoctoral researchers

Rohan Brooker¹, Daniel Pygas¹ and others¹

Reef Song: an ecosystem-based approach to enhancing reef recovery and resilience

Maria Byrne¹⁴, Jonathan Allen²⁰ and Mary Sewell³⁰

Resilience and adaptation of CoTS larvae to development in oligotrophic tropical waters: maternal provisioning, bacterivory and larval cloning

Fabio Cortesi¹² and Lior Appelbaum¹⁹

The impacts of artificial light at night on sleep in coral reef fishes

Fabio Cortesi¹² and Laurence Besseau²⁶

MC-NEMO: Mega Colonies of aNEMOnefish, how does their social organisation work?

Maria Dornelas^{34,38} and others^{33,34,38}

Understanding coral reef recovery from extreme disturbances using 3D maps

Sam England²³ and Emma Weschke³¹

Surfing the web: elucidating the ecology of enigmatic coral reef spiders

Catheline Froehlich²¹

Long-term monitoring of clownfish-anemone mutualisms

Marine Gouezo¹¹, Lauren Hardiman⁴, George Roff⁴, and others¹¹

Reef restoration and adaptation program: moving corals project

Christopher Hemingson³⁹

Understanding the drivers of diverse coloration on coral reefs and their susceptibility to environmental change

Andrew Hoey⁷

Differential recovery of coral- and macroalgal-dominated areas following repeated disturbances

Christina Howley³ and others¹⁸

Lizard Island Seagrass Mapping Project

Jennifer Mallon²⁴

Quantifying calcification by distinct functional groups in reef benthic metabolism measurements

Wyatt Million¹⁶

Hypoxia thresholds in corals

Morgan Pratchett⁷ and others⁷

Novel methods for crown-of-thorns starfish management to contain emerging outbreaks in the Lizard Island region

Kate Quigley⁷

Long-term genetic recruitment patterns at Lizard Island

Vincent Raoult⁶, Karen Joyce⁷, and Jane Williamson⁸

Drone-based monitoring of Lizard Island bleaching recovery

Eduardo Sampaio²² and Piero Amodio²⁷

Unveiling octopus collaborative hunting with fish through animal-robot interactions

Alexandre Siqueira Correa⁵

Feeding macroecology of reef fishes across spatial and temporal scales

Sterling Tebbet^{7,15}

Feeding macroecology of reef fishes across spatial and temporal scales

Sven Uthicke¹ and Jason Doyle¹

eDNA detection of crown-of-thorns starfish

Nicholas Wee¹⁰

Diversity of monorchiid trematodes in mullid fishes of Australia

Stefan Williams¹⁴ and others¹⁴

Autonomous underwater vehicle (AUV) reef survey of Lizard Island

Research students

Leo Andrey³⁵ with supervisor Redouan Bshary³⁵

Sex differences in cognitive abilities and brain morphology of male and female cleaner fish (MSc)

Olivia Becker²⁵

Effects and importance of structure and light on *Acropora* and *Platygyra* corals in a shallow reef (Undergraduate)

Bailey Bonham³⁹

Reef halos, edge effects, and nutrient loops: examining the role of reef fishes in nutrient transport across ecological boundaries (PhD)

Matthew-James Bennett³⁴

Coral community effects on early post-settlement dynamics (PhD)

Leo Chiu-Leung²⁶

Soundscapes of the Great Barrier Reef (PhD)

Cher Chow³⁸

Biodiversity and productivity relationships in coral reef ecosystems (PhD)

Ellie Christensen²⁵

Effects of oil exposure on swimming performance in Ambon Damsel (*Pomacentrus amboinensis*) (Undergraduate)

Kyra Jean Cipolla³⁹

Scaling-up estimates of cryptobenthic fish communities using structure-from-motion and remote sensing (PhD)

Delaney Cole⁷

Factors shaping macroinvertebrate assemblages on patch reefs (MSc)

Lenin De Silva Manage⁹

Biogeography and biodiversity of *Opecoelid trematodes* parasitic in coral reef fishes of the Indo-West Pacific (PhD)

Santiago Diaz-Pazmino¹⁴

Membership and partner roles in multi-species hunting (PhD)

Alan Gojanovic¹⁷

Breaking the bottleneck: methods for enhancing post-settlement survival in coral reef fishes (PhD)

Hannah Gower³²

Behavioural ecology of snapping shrimp trapped on patch and natural reefs (PhD)

Ronan Hill¹⁴

Maternal provisioning in the crown-of-thorns sea star (*Acanthaster* sp.) determining in situ facultative feeding period in larvae (PhD)

Jess Hodge³¹

Assessing long-term changes in coral reef soundscapes at Lizard Island (PhD)

Brandon Hopkins⁷

Examining the ontogenetic shift in diet of Unicornfish (MSc)

Hun Jang²²

Ocean Robocto (PhD)

Thomas Johnstone³⁷ with supervisor Bridie Allan³⁷

Understanding the invaders – a study of lionfish ecology in their native range (MSc)

Eleanor Kelly³⁷ with supervisor Bridie Allan³⁷

The effect of oil exposure and elevated temperature on the predator-prey dynamics of coral reef fish (PhD)

Mollie Kroll²⁵

Presence and change of fluorescence in two broadcast spawning hermaphroditic coral species through development from egg to early settlement (Undergraduate)

Rebecca Licciardo⁶

Affordable automated surface vessels (ASVs) for high-resolution, large-scale reef mapping and surveying (Hons)

Cynthia Ludi³⁵ with supervisor Redouan Bshary³⁵

Social hierarchies and sex-based roles in anemonefish territorial defense (MSc)

Kieran Martin⁷

Cross-shelf variation in the diet of the Bulbnose Unicornfish (*Naso tonganus*) (MSc)

Ryan McAndrews⁷

The evolution and ecology of reciprocal cooperation among *Siganus doliatus*, a coral reef rabbitfish (PhD)

Melman Neill³⁹

Physiology, life history, and the pace of life: understanding the role of cryptobenthic fishes in coral reef ecosystems (PhD)

Navya Mittal²⁵

What’s on the menu? An observational study of the predatory ecology of *Pseudochromis fuscus* (Undergraduate)

Kayla Patla²⁵

How does coral habitat degradation affect the abundance and foraging behaviors of parrotfish? (Undergraduate)

Letizia Pessina³⁵

Life history of cleaner fishes (PhD)

Manuel Ploner²⁴

Effects of sediment load and light on the in situ primary productivity of Algal Turfs (MSc)

Camille Roth³⁵ with supervisor Redouan Bshary³⁵

Do cleaner wrasse (*Labroides dimidiatus*) use a hierarchical representation of client traits? (MSc)

Carl Santiago¹²

An assessment of the abundance of anemonefish and host-sharing behaviours following the 2024 bleaching event (PhD)

Ava Santos-Volpe²⁵

Recovery of juvenile and adult corals following a mass bleaching at Lizard Island (Undergraduate)

Camille Sautereau²⁶ with supervisor Laurence Besseau²⁶

Anemonefish social interactions (PhD)

Gabriele Sciamma³⁵ with supervisor Redouan Bshary³⁵

The effect of sex and sociality on brain morphology of a sex-changing fish species, *Dascyllus aruanus* (PhD)

Savara Shrivastava²⁵

Exploring the relationship between the Asteroidea community and habitat type in the face of reef degradation around Lizard Island, Queensland (Undergraduate)

Calisa Staniforth⁷

Drivers of reef fish assemblages on patch reefs at Lizard Island (MSc)

Jasper Stead¹²

The comparative and evolutionary anatomy of reef and deep-sea fish brains (PhD)

Jan van Straaten²⁹

Do nocturnal fish sleep during the day (MSc)

Greta Swilka²²

Automatic segmentation and tracking of octopuses and fish (MSc)

Adelaide Tomerlin²¹

Uncovering cryptic species of clownfish-hosting sea anemones (Undergraduate)

Sebastian Viner² with supervisor Bradley Opdyke²

Quantifying crustose coralline algae extent on the Great Barrier Reef (Hons)

Lily Watts²⁵

How does *Acropora* colony size influence the presence of coral gobies (genus *Gobiodon*), and how does bleaching impact their presence and abundance? (Undergraduate)

Monique White⁷

Temporal variability in coral recruitment across the shelf in the northern GBR (MSc)

Brody Wolfenden¹³

Visual consciousness and behaviour of clownfishes and their host anemones (Undergraduate)

Evan Zurcher³⁵ with supervisor Redouan Bshary³⁵

Impact of seasonal variation on the cleaning behaviour of *Labroides dimidiatus* depending on client diversity (MSc)

Education groups

Ascham School

Emmanuel Anglican College

International Grammar School

Lizard Island Coral Reef Study Tours

RMIT University

School for International training

Sea Women Great Barrier Reef

Southern Cross University

US National Science Foundation

Other visitors

Australian Museum

Lizard Island Reef Research Foundation trustees and supporters

Australian Institute of Marine Science maintenance of Lizard Island weather station

Queensland Parks and Wildlife Service

Various Services and Trades

Volunteers

Anthea Bell and Charlie Salamon

Ellie Christensen

Sherrie Cowie

Media and Content companies

• Butter Media

• Freeborne Media

• Grumpy Turtle Films

• Sydney Morning Herald

Publications

1. Anderson, G. D. (2025). Recovery of coral cover at Lizard Island Australia 6 years post-disturbance. *Frontiers in Marine Science*, 11, 1509455. doi.org/10.3389/fmars.2024.1509455

2. Azofeifa-Solano, J. C., Erbe, C., Brooker, R. M., McCauley, R. D., and Parsons, M. J. G. (2025). Advancing coral reef conservation through passive acoustic monitoring. *Australian Acoustical Society 2025 Conference Proceedings*, https://www.acoustics.asn.au/conference_proceedings/AAS2025/papers/p10.pdf

3. Azofeifa-Solano, J. C., Parsons, M. J., Brooker, R., McCauley, R., Pygas, D., Feeney, W., Simpson, S., Nedelec, S. L., Croxford, E. M., Meekan, M., and Erbe, C. (2025). Soundscape analysis reveals fine ecological differences among coral reef habitats. *Ecological Indicators*, 171, 113120. doi.org/10.1016/j.ecolind.2025.113120

4. Azofeifa-Solano, J. C., Parsons, M. J. G., Kemp, J., Brooker, R. M., McCauley, R. D., Madhusudhana, S., Wyatt, M., Simpson, S. D., and Erbe, C. (2025). Impact of parameterization in multiple acoustic index comparisons: practical cases in terrestrial and underwater soundscapes. *Remote Sensing in Ecology and Conservation*. doi.org/10.1002/rse2.70044

5. Branconi, R., Buston, P. M., and Wong, M. Y. (2025). Not all social coral reef fishes form strict size-based dominance hierarchies: An investigation of intraspecific size ratios in *Dascyllus aruanus*. *Journal of Fish Biology*, 107(2), 673–678. doi.org/10.1111/jfb.70047

6. Chandler, J. F., Burn, D., Figueira, W. F., Doll, P. C., Johandes, A., Piccaluga, A., and Pratchett, M. S. (2025). Daily Variation in the Feeding Activity of Pacific Crown-of-Thorns Starfish (*Acanthaster cf. solaris*). *Biology*, 14(8), 1001. doi.org/10.3390/biology14081001

7. Chapuis, L., Lin, T.-H., Williams, B., Lamont, T. A. C., Karkarey, R., Nava-Martínez, G. G., Naseem, A. M. R., Radford, A. N., and Simpson, S. D. (2025). A universal symphony: coral reef fish calls exhibit consistent acoustic characteristics across different bioregions. *Frontiers in Remote Sensing*, 6, 1522641. doi.org/10.3389/frsen.2025.1522641

8. Collins, S., Ulm, S., and Mcniven, I. (2025). Not Mary Watson’s cottage: A reassessment of the ruined stone building, Jiigurru (Lizard Island Group), northern Great Barrier Reef. *Queensland Archaeological Research*, 28, 1–11. doi.org/10.25120/qar.28.2025.4278

9. Costa, V. A., Bellwood, D. R., Mifsud, J. C., Geoghegan, J. L., Harvey, E., & Holmes, E. C. (2025). Limited similarity in microbial composition among coral reef fishes from the Great Barrier Reef, Australia. *FEMS microbiology ecology*, 101(3), fiaf016. doi.org/10.1093/femsec/fiaf016

10. Cribb, T. H., Martin, S. B., and Cutmore, S. C. (2025). *Neohexangitrema* spp. (Trematoda: Microscaphidiidae) in Indo-West Pacific Acanthuridae: Richness, distribution, diet and contemporary naming issues. *Parasitology International*, 108, 103033. doi.org/10.1016/j.parint.2025.103033

11. Doll, P. C., Pratchett, M. S., Ling, S. D., Tebbett, S. B., Hoey A. S., and Caballes, C. F. (2025). Predation on adult Pacific crown-of-thorns starfish (*Acanthaster cf. solaris*) relative to fisheries management zones on Australia’s Great Barrier Reef. *A report to the Australian Government by the COTS Control Innovation Program*.

12. Doropoulos, C., Roff, G., Carlin, G., Gouezo, M., Dela Cruz, D., Chai, A., Hardiman, L., Hasson, L., Thomson, D.P. and Harrison, P.L. (2025). Larval seedboxes: A modular and effective tool for scaling coral reef restoration. *Ecological applications*, 35(7), e70140. doi.org/10.1002/eap.70140

13. Duong, B., Martin, S. B., Cutmore, S. C., and Cribb, T. H. (2025). Zoogonids (trematoda) infecting Indo-West Pacific damselfishes (Pomacentridae), including the proposal of a new genus and two new species. *Parasitology*, 152(4), 436–452. doi.org/10.1017/s0031182025000307

14. Emery, Y., Pessina, L., and Bshary, R. (2025). Population density drives concerted increase in whole brain volume in a wrasse species *Coris batuensis*. *Brain Behavior and Evolution*, 100, 112–122. doi.org/10.1159/000543220

15. Emslie, M. J., Ceccarelli, D. M., Logan, M., Blandford, M. I., Bray, P., Campili, A. R., Cantin, N., Choukroun, S., Cole, A., Jonker, M. J., Langlais, C., Puotinen, M., Prenzlau, T., Sinclair-Taylor T. H., and Stephenson, B. (2025). Anthropogenic climate change causes substantial loss of coral on the northern Great Barrier Reef during the 2024 bleaching event. *Coral Reefs*, 1–17. doi.org/10.1007/s00338-025-02774-y

16. Epstein, H. E., Brown, T., Akinrinade, A. O., McMinds, R., Pollock, F. J., Sonett, D., Smith, S., Bourne, D. G., Carpenter, C. S., Knight, R., Willis, B. L., Medina, M., Lamb, J. B., Vega Thurber, R., and Zaneveld, J. R. (2025). Evidence for microbially-mediated tradeoffs between growth and defense throughout coral evolution. *Animal Microbiome*, 7(1), 1. doi.org/10.1186/s42523-024-00370-z

17. Fakan, E. P., Dubuc, A., Hemingson, C. R., McCormick, M. I., and Hoey, A. S. (2024). Habitat degradation has species-specific effects on the stress response of coral reef fishes. *Journal of Experimental Marine Biology and Ecology*, 582, 152070. doi.org/10.1016/j.jembe.2024.152070

18. García-Jiménez, A., Talbi, M., Fitzgerald, L.M., Heim, A., Marcionetti, A., Schmid, S., Bertrand, J., Shaughnessy, A., Santiago, C., Rangseethampanya, P., Ruttanachuchote, P., Aunkhongthong, W., Pengsakun, S., Sutthacheep, M., Malinsky, M., Frédéricich, B., Cortesi, F., Kochzius, M., Yeemin, T., Gaboriau, T. and Salamin, N. (2025). Habitat Specialisation Impacts Clownfish Demographic Resilience to Pleistocene Sea-Level Fluctuations. *Molecular Ecology*, 34(24), e70134. https://doi.org/10.1111/mec.70134

19. García-Seoane, R., White, W. L., Taylor, B. M., and Clements, K. D. (2025). Characterizing the trophic ecology of herbivorous coral reef fishes using stable isotope and fatty acid biomarkers. *PLoS One*, 20(6), e0327594. https://doi.org/10.1371/journal.pone.0327594

20. Garing, M. R., McWilliam, M. J., Tebbett, S. B., Levering, L. T., and Pratchett, M. S. (2025). Coral bleaching and crown-of-thorns starfish modulate long-term changes in coral cover and composition across reef zones at Lizard Island, northern Great Barrier Reef. *Coral Reefs*, 1–15. doi.org/10.1007/s00338-025-02785-9

21. Gouezo, M., Harrison, P. L., Roff, G., Chai, A., Thomson, D. P., Guglielmo, M., Hardiman, L., Forbes, A., Gardner, B., and Doropoulos, C. (2025). Coral larval enhancement with and without nets yields similar recruitment during slack current releases. *Restoration Ecology*, 34(1), e70219. doi.org/10.1111/rec.70219

22. Gouezo, M., Langlais, C., Beardsley, J., Roff, G., Harrison, P. L., Thomson, D. P., and Doropoulos, C. (2025). Going with the flow: Leveraging reef-scale hydrodynamics for upscaling larval-based restoration. *Ecological Applications*, 35(3), e70020. doi.org/10.1002/eap.70020

23. Heim, S., Teav, T., Cortesi, F., Gallart-Ayala, H., Ivanisevic, J., and Salamin, N. (2025). N-acetylated sugars in clownfish and damselfish skin mucus as messengers involved in chemical recognition by anemone host. *Scientific reports*, 15(1), 2048. doi.org/10.1038/s41598-024-84495-w

24. Hsu, T. H. T., Gordon, S., Ferrari, R., Hoey, A. S., and Figueira, W. F. (2025). Optimizing remote underwater video sampling to quantify relative abundance, richness, and corallivory rates of reef fish. *Coral Reefs*, 44(2), 435–449. doi.org/10.1007/s00338-024-02613-6

25. Hutchings, P., Ponder, W., and Recher, H. (2025). Remembering the remarkable Frank Talbot. *Australian Zoologist*, 44(2), 383–389. doi.org/10.7882/AZ.2025.004

26. Jones, T. R., Edgar, G. J., Trebilco, R., Mellin, C., Stuart-Smith, R. D., Denis-Roy, L., Johnson, O. J., Rose, M., and Ling, S. D. (2025). Fish and invertebrate communities show greater day-night partitioning on tropical than temperate reefs. *Ecology*, 106(1), e4477. doi.org/10.1002/ecy.4477

27. Kritsky, D. C. (2025). Two New Species of *Metabenedeniella* (Monogenea: Capsalidae: Benedeniinae) Parasitizing Marine Snappers (Teleostei: Lutjanidae) in the Western Pacific Ocean, with Notes on the Nomenclature of *Metabenedeniella* and *Metabenediella hoplognathi*. *The Journal of Parasitology*, 111(4), 571–581. doi.org/10.1645/25-26

28. Kritsky, D. C. (2025). New Geographic Records and Description of *Sprostoniella* cf. *multitestis* Bychowsky and Nagibina, 1967 (Monogenea: Capsalidae: Trochopodinae) Parasitizing the Longfin Batfish *Platax teira* (Fabricius)(Ephippidae) from the Coastal Waters of Queensland, Australia. *Comparative Parasitology*, 92(1), 67–74. doi.org/10.1654/COPA-D-25-00001

29. Lei, C., Hobbs, J. P. A., Riginos, C., Prata, K. E., Heatwole, S. J., and Popovic, I. (2025). Conserving Nemo: Genomic insights into the history and status of the endangered anemonefish *Amphiprion mccullochi* and its sister species *Amphiprion akindynos*. *Conservation Genetics*, 26(3), 419–428. doi.org/10.1007/s10592-025-01678-2

30. Manera, J. L., Martin, J. M., Palacios, M. M., Mason, R. T., McCormick, M. I. and Wong, B. B. M. (2025). Boat noise alters individual behaviors but not communication between partners in a fish-shrimp mutualism. *Behavioral Ecology*, 36(5), araf110. doi.org/10.1093/beheco/araf110

31. Mannering, A. M., Burritt, D. J., Komyakova, V., Ferrari, M. C., Vamvounis, G., Gulizia, A. M., Staples, A., McCormick, M. I., and Allan, B. J. (2025). Microplastic consumption elevates fish oxidative stress but does not affect predator-driven mortality. *Science of The Total Environment*, 983, 179644. doi.org/10.1016/j.scitotenv.2025.179644

32. Marquardt, B., Elder, H., Yeoh, Y. K., Heyward, A., Randall, C. J., Harrison, P. L., Logan, M., and Howells, E. J. (2025). Determining the diversity and relative abundance of coral taxa in wild spawning slicks for effective restoration. *Frontiers in Ecology and Evolution*, 13, 1602543. doi.org/10.3389/fevo.2025.1602543

33. Meyer, D. L., Hoggett, A., Huang, D., Rouse, G. W., Vail, L., Yen, Y. H., and Messing, C. G. (2025). A new species of the feather star *Capillaster* within *C. multiradiatus* species complex (Crinoidea, Comatulidae) in Palau and the Great Barrier Reef. *Zootaxa*, 5647(3), 275–288. doi.org/10.11646/zootaxa.5647.3.4

34. Meziere, Z., Prata, K., Lechene, M., Ferrari, R., Popovic, I., and Riginos, C. (2025). Connectivity differs by orders of magnitude among co-distributed corals, affecting spatial scales of eco-evolutionary processes. *Science Advances*, 11(27), eadt2066. doi.org/10.1126/sciadv.adt2066

35. Moad, C. M., Fakan, E. P., Brooker, R. M., and McCormick, M. I. (2025). Habitat degradation alters trait-based survival in a coral reef fish. *Scientific Reports*, 15(1), 38631. doi.org/10.1038/s41598-025-22578-y

36. Moreno, K., Medrano, S., Gosliner, T. M., Wilson, N. G., Krug, P. J., and Valdés, Á. (2025). Phylogenetic systematics of the genus *Cyerce* (Mollusca: Heterobranchia: Sacoglossa: Caliphyllidae) from the Pacific and Indian oceans with descriptions of nine new species. *Zoological Journal of the Linnean Society*, 204(1), zlaf030. doi.org/10.1093/zoolinnean/zlaf030

37. Nimbs, M. J., Byrne, M., Dalton, S. J., Maguire, D., Malcolm, H. A., Strehling, N., Sommer, B., and Coleman, M. A. (2025). Genetic Evidence of Multiple and Diverse Range Expansion Events From an Outbreak of the Crown-of-Thorns Seastar, *Acanthaster cf. solaris* on a Subtropical Reef. *Ecology and Evolution*, 15(12), e72799. doi.org/10.1002/ece3.72799

38. Page, T. M., Jeong, S. Y., and Diaz-Pulido, G. (2025). Differential thermal tolerances in geographically distinct lineages of a dominant reef building alga. *Coral Reefs*, 44(5), 1561–1571. doi.org/10.1007/s00338-025-02724-8

39. Patterson, M. A., Webster, J. M., Chazottes, V., Renema, W., Szilagyi, Z., and Hutchings, P. (2025). Net erosion and accretion of experimental blocks of Porites sp. skeleton deployed for 10.6 to 20.3 years at Lizard Island, northern Great Barrier Reef. *Coral Reefs*, 1–19. doi.org/10.1007/s00338-025-02759-x



40. Pisaniello, A., Handley, K. M., White, W. L., Angert, E. R., and Clements, K. D. (2025). Ontogenetic variation in the gut microbiota of *Kyphosus sydneyanus*: a comparative analysis. *Microbiology Spectrum*, 13(12), e02317–25. doi.org/10.1128/spectrum.02317-25

41. Poulos, D.E., Brooker, R.M., and McCormick, M.I. (2025). Prior residents mediate density-dependent success in newly arriving reef fish. *Coral Reefs*, 1–10. doi.org/10.1007/s00338-025-02782-y

42. Pratchett, M. S., and Caballes, C. F. (2025). Detectability of Crown-of-Thorns Starfish and Consequences for Culling or Removal. *Biology*, 14(10), 1391. doi.org/10.3390/biology14101391

43. Pratchett, M. S., Caballes, C. F., Levering, L. T., Burn, D., Chandler, J. F., and Leitman, A. S. (2025). Rates of Spawning and Mortality Using Contrasting Methods for Culling Pacific Crown-of-Thorns Starfish, *Acanthaster cf. solaris*. *Biology*, 14(12), 1720. doi.org/10.3390/biology14121720

44. Raoult, V., Joyce, K., Li, J. Y., Roff, G., Carlin, G., and Williamson, J. E. (2025). Coral bleaching and mass mortality at Lizard Island revealed by drone imagery. *Coral Reefs*, 1–10. doi.org/10.1007/s00338-025-02695-w

45. Remmers, T., Boutros, N., Wyatt, M., Gordon, S., Toor, M., Roelfsema, C., Fabricius, K., Grech, A., Lechene, M., and Ferrari, R. (2025). RapidBenthos: Automated segmentation and multi-view classification of coral reef communities from photogrammetric reconstruction. *Methods in Ecology and Evolution*, 16(2), 427–441. doi.org/10.1111/2041-210X.14477

46. Santana, M. F., Tonin, H., Vamvounis, G., van Herwerden, L., Motti, C. A., & Kroon, F. J. (2025). Predicting microplastic dynamics in coral reefs: presence, distribution, and bioavailability through field data and numerical simulation analysis. *Environmental Science and Pollution Research*, 32(15), 9655–9675. doi.org/10.1007/s11356-025-36234-5

47. Scatà, G., Marshall, N. J., and Chung, W. S. (2025). Octopus body language: body patterns of *Abdopus capricornicus* during social interactions. *Marine Biology*, 172(2), 37. doi.org/10.1007/s00227-024-04591-3

48. Spady, B. L., Skirving, W. J., Geiger, E. F., Cantin, N. E., Liu, G., De La Cour, J. L., Mumby, P. J., Norrie, A., and Manzello, D. P. (2025). Satellite-based analysis of an unverified mass coral bleaching event on the Great Barrier Reef in 2021. *Coral Reefs*, 44(4), 1275–1285. doi.org/10.1007/s00338-025-02690-1

49. Stępień, A., Saeedi, H., and Błażewicz, M. (2025). Global Leptocheiliidae diversity: environmental drivers and richness hotspots. *Biodiversity and Conservation*, 35(1), 9. doi.org/10.1007/s10531-025-03211-w

50. Streets, A., England, H., and Marshall, J. (2025). Neural Repertoire Behind the World’s Most Complex Retina: Neuroanatomy of the Stomatopod Lamina. *Journal of Comparative Neurology*, 533(6), e70063. doi.org/10.1002/cne.70063

51. Tettamanti, V., Marshall, N. J., Cheney, K. L., and Cortesi, F. (2025). Damsels in Disguise: Development of Ultraviolet Sensitivity and Colour Patterns in Damselishes (Pomacentridae). *Molecular Ecology*, 34(6), e17680. doi.org/10.1111/mec.17680

52. Uthicke, S., Cabrera, M., Patel, F., Lawrence, E., Tabor, B., Foster, S., and Doyle, J. (2025). COTS Control Innovation Program Operationalising and implementing crown-of-thorns starfish (COTS) environmental DNA (eDNA) monitoring on the Great Barrier Reef. *A report to the Australian Government by the COTS Control Innovation Program*.

53. Wang, C. W. J., and Marshall, N. J. (2025). Behavioural evidence of spectral opponent processing in the visual system of stomatopod crustaceans. *Journal of Experimental Biology*, 228(1), jeb247952. doi.org/10.1242/jeb.247952

54. Waters, C., Harrison, P. L., Gouezo, M., Severati, A., and Doropoulos, C. (2025). Early-stage coral survivorship using wild larval assemblages on coral seeding devices for reef restoration. *Restoration ecology*, 33(3), e14387. doi.org/10.1111/rec.14387

55. Wee, N. X., Cribb, T. H., Miller, T. L., and Cutmore, S. C. (2025). Monorchids of silverbiddies (Gerreidae) from Queensland, Australia, including two new genera and species. *Journal of Helminthology*, 99, e70. doi.org/10.1017/S0022149X25100321

56. Williams, B., Balvanera, S. M., Sethi, S. S., Lamont, T. A., Jompa, J., Prasetya, M. Laura Richardson, L., Chapuis, L., Weschke, E., Hoey, A., Beldade, R., Mills, S. C., Haguenaer, A., Zuberer, F., Simpson, S. D., Curnick, D., and Jones, K. E. (2025). Unlocking the soundscape of coral reefs with artificial intelligence: pretrained networks and unsupervised learning win out. *PLoS computational biology*, 21(4), e1013029. doi.org/10.1371/journal.pcbi.1013029

57. Williams, S. T., Heyworth, S. M., Kano, Y., Roberts, N. W., Carter, H. F., and Cheney, K. L. (2025). The blue advantage: a novel blue carotenoprotein pigment in the tropical seastar *Linckia laevigata* is an antioxidant defence against extreme environmental stress. *Marine Biology*, 172(2), 31. doi.org/10.1007/s00227-025-04595-7

58. Wilson, A., Harris, J. E., de Nys, R., and Jerry, D. R. (2025). Insights into the molecular and morphological diversity of *Asparagopsis taxiformis* in north-eastern Australia. *Algal Research*, 90, 104182. doi.org/10.1016/j.algal.2025.104182

59. Wolfe, K., Desbiens, A. A., Uthicke, S., Patel, F., Dworjanyn, S., Riginos, C., Byrne, I., Fisher, E., and Mumby, P. (2025). COTS Control Innovation Program Resolving the impact of benthic and cryptic predation on the crown-of-thorns starfish. *A report to the Australian Government by the COTS Control Innovation Program*.

60. Wolfe, K., Desbiens, A. A., Patel, F., Kwong, S., Fisher, E., Mumby, P. J., and Uthicke, S. (2025). eDNA confirms lower trophic interactions help to modulate population outbreaks of the notorious crown-of-thorns sea star. *Proceedings of the National Academy of Sciences*, 122(11), e2424560122. doi.org/10.1073/pnas.2424560122

Donors to Lizard Island Reef Research Foundation (LIRRF)

Life Members

The Banyer Family
Michael and Catherine Batten
Ken Coles AM* and Rowena Danziger AM
Tim Fairfax AC
Frank and Susie Herd
Bill Hayward OAM and Alison Hayward*
Vivian and Wendy King
Raymond Kirby AO
Robert Maple-Brown AO and Susan Maple-Brown AM
Mark McGovern and Katherine Gambini
Craig Moffatt
Gordon Moffatt AM
Scott Moffatt
Susan Morgan OAM
Lady Potter AC
Heather Power
Robert Purves AM
Peter Rockey and Patricia Roberts
Alan Rydge AM and Lynne Rydge
David and Daniela Shannon
Charlie Shuetrim AM and Sandy Shuetrim
Paul and Lucie Slade
Dick Smith AC and Pip Smith AO
Peter Teakle
Julie Viney
Geoffrey White OAM and Sally White OAM

Bequests

Estate of Zoltan Florian
Estate of Geraldine Haworth
Estate of Raymond Kirby AO
Estate of Chris Joscelyne
Estate of Sir John Proud
Estate of Frank Talbot AM

Principal Individual Supporters

Barbara Agar
Ian Darling AO and Min Darling
The Gough Family
Geoff and Elisabeth Haddy
Louise and Mike Hamshere
Tom Hayward and Fiona Martin-Weber
Penelope McKeown
John Sharpe and Claire Armstrong
Principal Institutional Supporters
Big Blue Ocean Foundation
S.L. Bray Memorial Foundation
Coles Danziger Foundation
The Corella Fund
Delaware North Australia Parks and Resorts
Vincent Fairfax Family Foundation
James N. Kirby Foundation
KPMG
Maple-Brown Family Foundation
Minderoo Foundation
Peters Family Foundation
The Ian Potter Foundation
John and Laurine Proud Family Estate Trust
Raymond E Purves Foundation
Sapphire Project
Nell and Hermon Slade Trust
Hermon Slade Raiatea Foundation
Dick and Pip Smith Foundation
Thyne Reid Foundation
John Villiers Trust
Charles Warman Foundation
Yulgilbar Foundation

Major Supporters

Antoinette Albert
Sam Armstrong & Abesi Mwenda
David Armstrong AM* and Megan Armstrong
Philip Bacon AO
Ken and Roddy Bell
Penny and Peter Berents
Ross and Bronwyn Boakes

Coolaroo Foundation
Crane Family Foundation
Christopher Dibden
Percy and Nicola Ellis
Virginia Ford
Don Fry AO NQEA
Peter and Linda Greer
John and Margie Goodall
Hanlon Foundation
Hartog Family (Chestnut Tree Foundation)
Kate Hayward
Sam Hayward
Jane Hemstritch AO
Robert and Elizabeth Johnson
James Kirby and Claire Wivell Plater
Juliet Lockhart
Alice and Bill Mahoney and Family
The R and M Macdonald Family
Madden Sainsbury Foundation
Ian and Susie McIntosh
In memoriam Gerald (Bill) Page-Hanify
Rossi Foundation
Geoff Shuetrim and Alex Heath
John and Christina Stitt
Lyle Vail AM and Anne Hoggett AM
Rob and Bron Wannan
Sarah Whyte
Steve Wilson AM and Jane Wilson AO
* Deceased

Other Members

James and Belinda Allen
Apollo Sports Company
Tony and Avril Ayling
Baillie Family Foundation
Larissa Behrendt AO
Bill and Annette Blinco
Les Brierley
Chris and Philippa Bunday
Maria Byrne
John Calvert-Jones AM and Janet Calvert-Jones AO

David Chatfield and Sarah Penturn
George and Kate Colman
Melissa and Gus Cutler
Sian and Michael Dart Endowment Fund
Jonathan and Christine Dempsey
Lynnie and Edgar Downes
Ian and Angela Fendley
Michael Fordham and Georgie Haysom
Colette Garnsey OAM
Angus and Booie Geddes
Belinda Gibson
David Goodman
John and Meta Goodman
Camilla and Toby Graves
Peter and Linda Greer
Jeurgen and Dagmar Grossman
Tony Haider
Geoffrey and Jan Hamilton
Paul and Gail Harris
Harding Miller Education Foundation
The Hartley Family
Allison Haworth West
Robert Hayward
Tom Healy AO and Jan Gill
Margaret Henderson
Krystal Higgins
Simon and Sophie Holloway
Jacqueline Howarth
James Family Fund
Anna Josephson
Robyn Julian
Karina Kelly AM and David Mills
Natalie and Charlton Lawson
Judy Lee
John Leece AM and Anne Leece
Diccon and Elizabeth Loxton
Cathy Martin and Greg Miller
Ian and Susie McIntosh
Ian and Margaret McKellar
Andrew and Abbey McKinnon
Catherine Meldrum

Elizabeth Mildwater and Stuart Schaefer
Mark and Louise Nelson
In honour of Celia Oakley and Craig Barratt
Tom and Libby Owen Edmunds
Sarah Price
Price Family Foundation
Charlie Puchala
Scott and Fiona Reinke
David Rickards OAM and Sally Rickards
Patricia and Lee Ridoutt
Lynne Saunder
Rolf and Lee Schimann
David and Liz Sheen
Lindy Shelmerdine
David and Vanessa Shuetrim
Fiona Sinclair and Peter King
Tracy Steggall (Horizon Foundation)
Nigel Stewart
Nicholas and Camilla Strausfeld
Andrew and Fiona Sutcliff
Frank Talbot AM*
Jane Taylor and Scott Malcolm
Rob Thomas AO and Sam Meers AO
Lucinda and Richard Udovenya
Jol and Jane Valentine
Petille von Bibra
Stephen and Katrina Weir
Helen Wellings AM
Westpac Group Matching Gifts Program
Graeme Wood Foundation
Jacky, Christina and Evelyn Zhu
* Deceased



The Australian Museum Lizard Island
Research Station is supported by the
Lizard Island Reef Research Foundation.

Australian Museum
1 William Street Sydney NSW 2010 Australia
T +61 (0)2 9320 6000
W australian.museum

