

# CAIRNS-PORT DOUGLAS REEF HUB

Pilot Phase Summary 2022 - 2025

[www.reefhub.com.au](http://www.reefhub.com.au)

The Cairns-Port Douglas Reef Hub is a community-driven network that connects over 30 local organisations—from Traditional Owner groups and tourism operators to researchers and conservation groups—around a shared mission: strengthening collective capacity to care for local reefs and benefit the community the reef ultimately supports. It draws upon the lived experiences of community members whose diverse backgrounds enhance reef stewardship.

## At a Glance

**Respect, collaboration, inclusion, action-focused and adaptive—** these core principles have guided the Reef Hub's journey of achievements, learnings and ultimate momentum over the last four years:



**Built a skilled network** of over 150 participants by providing one of the region's only pathways for practical reef training, including coral identification, photogrammetry, and reef monitoring. Our flagship Spawning School program built capacity for 30+ First Nations rangers, and together with on-Country workshops, provided transferable skills for reef stewardship.



**Activated collaborative science** through community-driven research including a regional coral recruitment study with seven local organisations and partnerships with CSIRO, RRAP, and AIMS that addressed critical knowledge gaps and produced peer-reviewed research.



**Provided a bridge between science and community** by facilitating community-led initiatives that translate on-ground knowledge to inform higher-level decision-making while ensuring local perspectives reach reef managers and government bodies.



**Championed local voices** by hosting annual Round Up symposia connecting 50+ participants across sectors, engaging 100+ community members through monthly seminars, and building a network reaching 2,300+ individuals from 50+ organisations.



**Generated connections that build outcomes greater than the sum of their parts** by fostering trust, alignment, and collaboration across diverse reef stewardship efforts throughout the Cairns-Port Douglas region.

**What we've learned** about building successful community networks



- Local coordination strengthens connections.
- Doing drives engagement.
- Trust grows through adaptive coordination and feedback.
- Work moves at the speed of trust.
- Connection creates collective impact.
- Diverse governance builds shared ownership

The Reef Hub demonstrates that community-centered networks can effectively bridge science and practice, creating impact through respectful collaboration. The four-year pilot shows this model works—connecting diverse stakeholders, building practical skills, and delivering meaningful conservation outcomes while honoring Traditional Owner knowledge and community priorities.

The momentum and trust built through this pilot has created strong demand for the model to continue, offering a replicable framework for regional reef stewardship efforts. Learn more about [our impact here](#).



Great Barrier  
Reef Foundation

# The Need for Connection: A Changing Reef Landscape

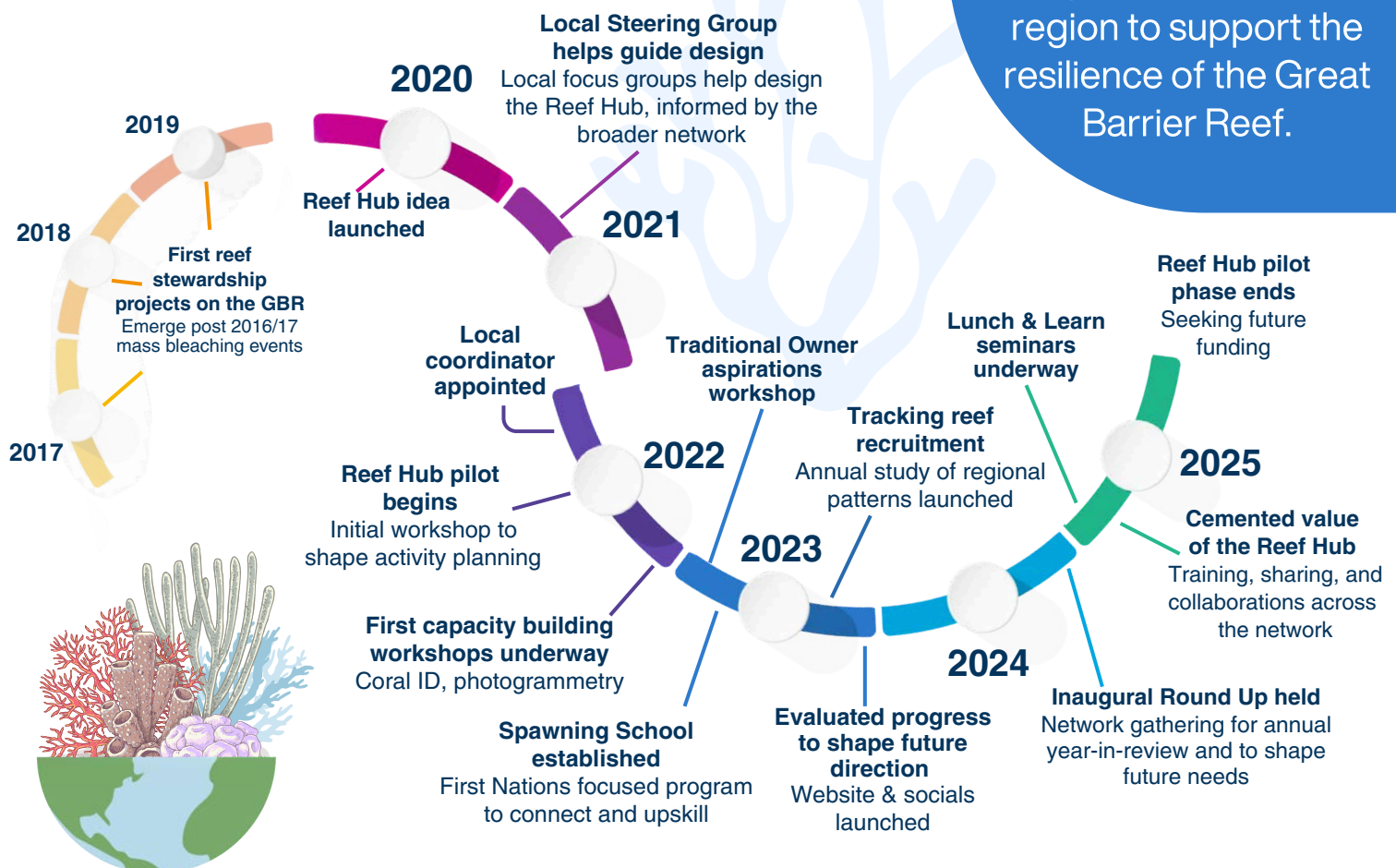
Following the devastating 2016/17 mass bleaching events on the Great Barrier Reef, the traditional approach of passive reef management was no longer sufficient as climate change impacts accelerated across the region. Small-scale, community-led stewardship initiatives began emerging throughout the Cairns-Port Douglas area—driven by tourism operators, researchers, Traditional Owners and conservation groups—but these efforts were operating in isolation without mechanisms to share learnings or amplify their collective voice. Meanwhile, reef managers lacked meaningful pathways to connect large-scale planning with the on-ground realities and innovations happening at the community level.

The Reef Hub emerged not to replace or duplicate existing groups, but to fill critical gaps by connecting diverse stakeholders, amplifying new voices that hadn't been heard in reef management conversations, and creating bridging activities that translate between community-scale action and broader conservation strategies. This community-based model offered something unique: a neutral space where different sectors could collaborate, share knowledge, and collectively strengthen their impact on reef resilience.



The Reef Hub is a local network to connect, grow and champion the efforts of diverse organisations in the region to support the resilience of the Great Barrier Reef.

## Reef Hub journey highlights



# Our approach

The Reef Hub was developed with the community and input from focus groups, it is also guided by a steering group that has local representation across sectors.

The focus groups in 2020 provided five common themes for working together to guide the overall operation of the Reef Hub. These set the foundation for the Reef Hub and have remained integral to how we have operated. These five themes are:

## RESPECTFUL

Respectful interaction and recognition of efforts, rights, knowledge and diverse interests.

## INCLUSIVE

The Reef Hub is an open network, inclusive of different interests and ideas about reef stewardship.

## COLLABORATIVE

A neutral, non competitive space for collaboration that unites many partners towards a shared cause.

## ACTION-FOCUSED

Focused on supporting positive individual and collective action - accelerate what's already happening.

## ADAPTIVE

Committed to seeking and actioning feedback to shape the network and sharing lessons.

## Our mission

Our core mission has been developed and adapted with feedback from the network. In 2022, in response to input from the network and Steering Group, the Reef Hub team worked to clearly articulate the purpose, focus, and value of the Hub. This aimed to sharpen external messaging and build shared understanding across the network.

### Three key areas of impact



1

#### Build a skilled network

To strengthen collective capacity to care for local reefs and benefit the community.



2

#### Facilitate collaborative, practical reef science

To address critical gaps in Reef knowledge and drive solutions that benefit partners, reef managers and the wider sector.



3

#### Champion local voices

To shine a light on local efforts and build partnerships.

**Who is involved?** Over 30 local organisations from tourism, industry, Traditional Owner groups, not-for-profits, research and education.



# Key projects

Guided by network feedback on shared priorities, these activities provide direct benefits to participants and generate broader outcomes that strengthen reef resilience efforts across the Cairns-Port Douglas region.

On water workshops



Coral ID workshops



Spawning School



Lunch & Learn seminars



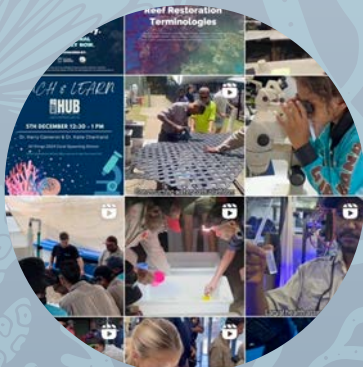
Reef Foundations workshops



Reef Hub Round Up



Social media



Traditional Owner aspirations workshop



Regional scale coral recruitment study



**BUILD A  
SKILLED  
NETWORK**

**CHAMPION  
LOCAL  
VOICES**

**FACILITATE  
COLLABORATIVE,  
PRACTICAL  
REEF SCIENCE**



# Highlights

Over the past four years, the Reef Hub has strengthened two-way communication, enabled collaboration, and deepened understanding of place-based approaches — shaping a connected and impactful community.



## Activated collaborative reef science

Implemented community-driven study at Moore Reef in partnership with CSIRO, RRAP, AIMS and local partners including Traditional Owners, tourism operators and NGOs, to design and trial monitoring of a new assisted coral recovery technique. Co-authored peer-reviewed research on Reef visitor perceptions of coral restoration techniques.



## Built a strong grassroots community

Hosted annual Reef Hub Round Up symposia with >50 participants across tourism, industry, NGOs, TOs, education, and research sectors to foster valuable connections and share learnings. A monthly Lunch and Learn seminar series further engages >100 community members.



## Addressed regional research priorities

Leveraged our collaborative monitoring model to understand coral recruitment patterns in a novel regional research project that addressed critical fine-scale information gaps identified by our local network and the broader scientific community. This shared need drew on local knowledge and capacity to inform multiple stakeholders while upskilling our network partners.



## Strengthened Traditional Owner-led stewardship

Trained 30 rangers from five organisations through Spawning School, reaching 100 community members over two years. Alongside this flagship program, we delivered on-Country reef foundations workshops and engaged junior ranger groups. All programs are shaped by Traditional Owner needs and build capacity for enduring community leadership in sea Country stewardship.



## Delivered training to build a skilled network

Delivered specialised training in Coral ID, photogrammetry, and Reef Foundations to strengthen our network's capacity for reef monitoring and conservation. This training provides transferable skills that can be applied across a range of stewardship projects.

# Building Strong Foundations with Traditional Custodians

The Cairns–Port Douglas Reef Hub is committed to working in genuine partnership with Traditional Custodians to deliver practical, impactful training and opportunities that align with their priorities for caring for sea Country. Our approach is guided by respect, deep connection, and the belief that enduring outcomes are built over time through trust, collaboration, and collective capacity.

In 2021, during the Reef Hub's design phase, conversations were held with five Traditional Owner groups in the region. These sessions sought insights on the Reef Hub's design and governance, while deepening our understanding of Traditional Owner priorities relevant to assisted coral recovery. At that time, participation was limited due to other pressing priorities.

As the pilot progressed, alongside emerging funding opportunities for Indigenous-led projects, relationships strengthened and interest in the Reef Hub grew. This was seen through participation in Reef Hub workshops and training activities and helped inform initiatives like the Spawning School program. A dedicated Traditional Owner collaboration workshop further guided activities, ensuring design and delivery were shaped in partnership and aligned with community priorities.

## Deepening connections through action



### Collaboration and consultation

Workshop followed by Ranger coordinator meetings to develop activities.



### Training and on Country days

Reef Foundations workshop followed by two on Country days to put skills into practice and connect.



### Research training & data collection

Collecting data on coral recruitment, groups deployed and analysed recruitment tiles.



### Junior ranger workshops

Integrating with junior Ranger programs to deliver talks and hands-on activities.

Guided by the principles outlined in the Heart of the Reef statement, the Reef Hub has strived to learn from Traditional Owner partners and support Traditional Owner aspirations on sea Country. Today, we work alongside five Traditional Owner groups, growing leadership, skills, and opportunities together to help progress their long-term goals as sea Country custodians. The Reef Hub is committed to strong, respectful relationships with First Nations people, built on two-way learning and shared care for sea Country.

*“The Reef Hub has been an invaluable partner that strengthens our ranger teams’ ability to care for sea Country. From Yarrabah to Port Douglas, they walk alongside us, listening, learning, and working together to achieve real outcomes that honour Traditional Owners’ knowledge and aspirations for the Reef.”*

— Helen Tait, Gunggandji-Mandingalbay Yidinji Peoples PBC Aboriginal Corporation



# FOCUS ON - Spawning School

**Spawning School is a project to connect First Nations rangers and communities in our region with coral spawning. It provides rangers with practical skills in aquaculture, lab work and ecological restoration.**

In 2023 and 2024, the Reef Hub and TropWATER, in collaboration with Reef Recruits, successfully led Spawning School as a pilot training program during the annual mass spawning event. Spawning School was designed to support Traditional Owners seeking greater connection and involvement with coral reproduction and the growing field of conservation to harness its' role in reef recovery.

Spawning School is an immersive, place-based training program that equips First Nations Land and Sea Rangers with practical skills, knowledge and training in coral biology, aquarium husbandry, water quality, larval rearing, trialing coral settlement devices, and ultimately road-testing the appropriateness of these reef restoration tools for community-based groups.

During Spawning School, Rangers receive education and training in coral biology, aquarium husbandry, water quality, larval rearing, trialing coral settlement devices, and ultimately road-testing the appropriateness of these reef restoration tools for community-based groups.



Over two years, more than 30 rangers and 60 community members from five Traditional Owner groups across the Cairns–Port Douglas region have been involved in Spawning School. Its success is built on strong local relationships, collaboratively designed content, and trust—ensuring the training is culturally safe, relevant, and guided by the aspirations of the communities it serves.

Spawning School program has continued to evolve — growing from a proof-of-concept into a dynamic, responsive training experience. Initially road-tested as an accessible way to support learning and connection during mass coral spawning events, the first program provided valuable hands-on exposure to larval restoration techniques. Positive feedback from the participating rangers and their community helped build confidence in the program and encouraged broader participation in 2024.



# FOCUS ON - Spawning School



Each year, the curriculum is refined to meet the emerging needs of rangers and communities, ensuring skills are practical, transferable, and empowering. From microscope work to water quality testing — techniques widely applicable across Sea Country monitoring and marine research — the program builds confidence that extends beyond the 10-day experience. By listening, adapting, and continually incorporating participant feedback, Spawning School is creating a training model that not only teaches but transforms.

## Tangible success and impact beyond the classroom

The success of Spawning School in providing training to over 30 First Nations Land and Sea Rangers across two years reflects more than just numbers—it speaks to the deep trust, mutual respect, and strong relationships built with ranger groups across the Cairns–Port Douglas region.

This level of impact is the result of sustained, meaningful engagement: long-term relationship-building, collaboratively designed training content, and consistent communication with ranger teams. Spawning School is not a “drop in and deliver” training model—it is built on listening, responding to community needs, and creating a space where rangers feel respected, empowered, and invested in their own learning.

### 1. More Than Skills: Building connections

Skills build capacity, but connection builds resilience. It's the relationships formed that carry the work forward long after the training ends. Spawning School serves as more than just a training opportunity — it's a dedicated space for rangers to come together, share experiences, and build lasting bonds.

### 2. Engaging with the broader community

Spawning School community days engaged with over 60 Traditional Custodians from the region, spanning little ones to Elders, and featured in a video created by ReefCast, a platform that promotes the stories and ideas of the Traditional Custodians of the Great Barrier Reef.

### 3. Leadership and peer-to-peer learning

Opportunities for peer-to-peer learning and leadership are integrated into Spawning School. Rangers learn from each other, with those attending multiple years sharing knowledge with newer Rangers. They have delivered presentations about Spawning School, building skills in public speaking and networking with peers and industry to generate further benefits for their individual paths.





# FOCUS ON - Collaborative coral recruitment study

- In late 2023 and 2024 the Cairns-Port Douglas Reef Hub led a collaborative study with seven local organisations to explore coral recruitment rates following coral spawning.
- The study is aimed to help tourism operators, non-profits and the broader scientific community better understand and make decisions about local reefs.
- This is the first step in a planned long-term study of coral recruitment among and within reefs in the region delivered by a diverse community of partners through the Reef Hub.

## What is coral recruitment?

Coral recruitment is the process by which coral larvae settle onto reef surfaces, attach, and grow into juvenile corals—a critical life cycle stage that underpins reef recovery, biodiversity, and overall ecosystem function.



- The tiles were analysed at James Cook University, where Reef Hub participants learned how to identify coral recruits and record data from the 180 deployed tiles. This included members of local First Nations ranger groups, school groups, staff members of the organisations involved, and the broader Reef Hub community.



Field work was completed with the support of four tourism operators, one First Nations Land & Sea Ranger Group, and one reef conservation group, lead by the Cairns-Port Douglas Reef Hub.

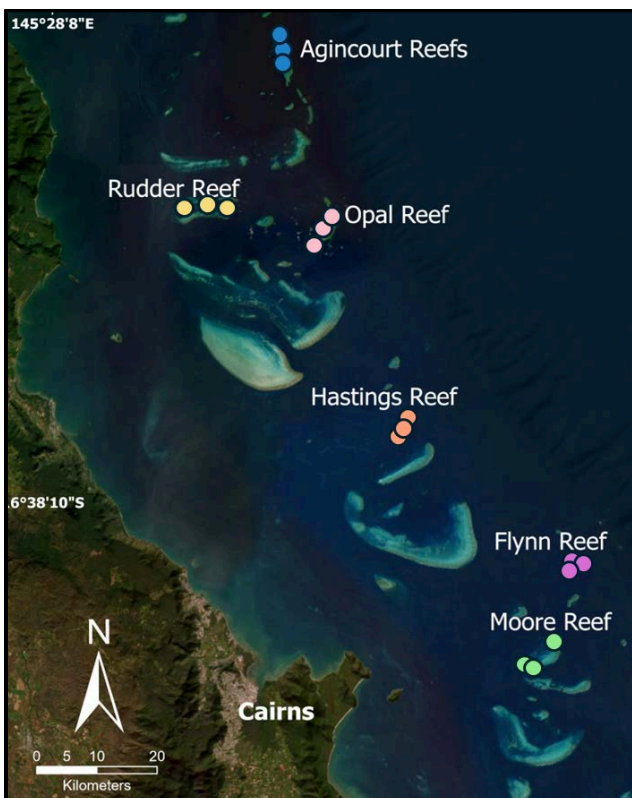


# FOCUS ON - Collaborative coral recruitment study

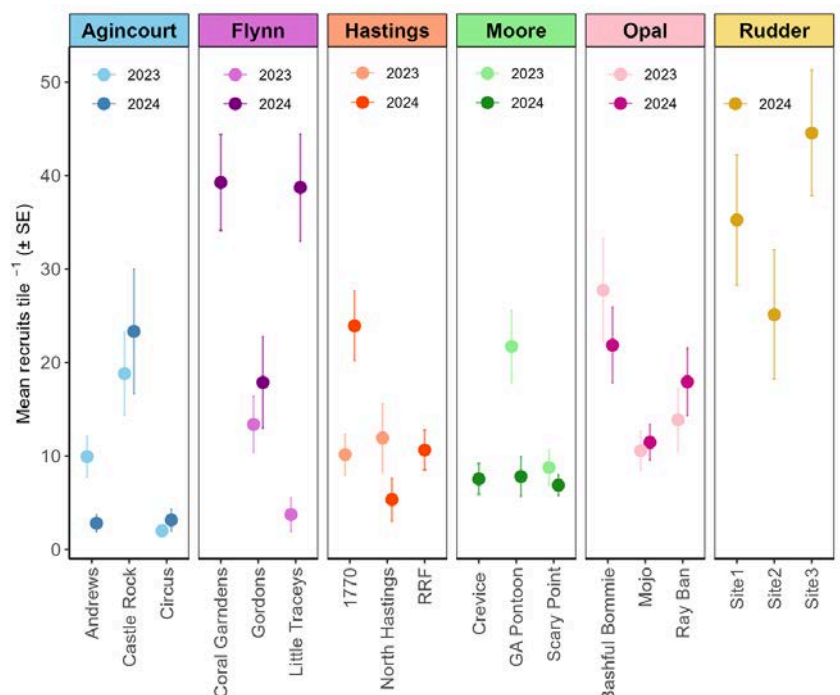
- Each organisation deployed 15 limestone recruitment tiles (9 x 9 x 1.5 cm) at 2-3 sites per reef.
- Recruitment tiles, temporarily placed on reefs, help estimate coral recruitment, as new coral offspring are not visible to the naked eye until nearly 12 months old.
- Temperature loggers were also deployed at each site to track local temperature trends over time.
- Tiles were fixed at reef sites in early October and left for 10-12 weeks post-spawning.
- After retrieval, tiles were treated with a mild bleach solution to reveal the coral recruit skeletons on top, side and bottom surfaces.



**Coral recruitment patterns varied within and among reefs, and from year to year. Ongoing monitoring is essential to identify long-term trends and understand how recruitment responds to environmental changes and disturbance events.**



Marine Parks Permit G23/49163.1.







# FOCUS ON - Champion and connect

The Cairns–Port Douglas Reef Hub bridges science and community, creating a space where existing knowledge, skills, and passion are shared to maximise learning and partnership opportunities. By connecting practitioners, facilitating collaboration, and advocating for small-scale initiatives, the Reef Hub champions community-led conservation while ensuring local efforts are recognised, supported, and strengthened. Together, these efforts create outcomes far greater than the sum of their parts.

*“The Reef Hub has been so powerful in connecting tourism with science and conservation efforts. We need to work together in every way we can to make a difference.”*

— Phil Coulthard, Quicksilver Group



**Bridging science & community**

## Facilitating connection

We provided opportunities for the Reef Hub network to connect and learn from each other at in person training events, meetings and regular events like the Reef Hub Round Up and Lunch and Learn seminars.



## Advocating for the network

The Reef Hub team have been advocating for the network by providing a vital channel of communication — helping management and government bodies build understanding of local context, while enabling the network to have its on-ground perspectives heard at higher levels.



## Championing local work

We have championed the reef stewardship work taking place in the region through features on our social media, hosting talks from the network and giving interviews in the media.





# Lasting lessons



The initial four years of the Cairns-Port Douglas Reef Hub offer useful insights for other programs building community-centred networks and collaborations.

- **Local coordination strengthens connections.** Connecting local stewardship projects through a central facilitation role fostered collaboration, knowledge sharing, and the brokering of ideas. Understanding local context and having established relationships helped to set up a foundation for building networks.
- **Doing drives engagement.** Collaborative projects enabled networking, leveraged skills and capacity, and generated new opportunities for collective outcomes that were greater than the sum of the parts. Beyond that, enabling training activities that were unavailable through other channels provided tangible benefits for network participants.
- **Work moves at the speed of trust.** It took several years for the Reef Hub to build traction and trust, and show measurable progress. Key factors to this evolving momentum included more clearly demonstrating how network feedback shaped activities and ensuring that activities offered unique value for participants.
- **Readiness shapes outcomes.** It's important to consider context and readiness when timing and phasing activities. External factors, including broader programs and policy frameworks, influence success, as does the readiness and capacity of partners. Two-way information exchange and relationship building across partners also requires dedicated effort across multiple parties.
- **Trust grows through adaptive coordination and feedback.** Adaptive coordination proved essential in a continually evolving environment, where strong communication helped support a diverse network. Encouraging feedback and using it to guide activities supported a place-based and responsive approach that built and embedded trust with the community.
- **Connection creates collective impact.** Bringing people together to share on-ground work builds a community of practice that drives powerful reef outcomes. The Reef Hub has acted as an enabling force, fostering trust, alignment, and collaboration across diverse efforts.
- **Diverse governance builds shared ownership.** A steering group with representation across sectors—Traditional Owners, tourism, research, conservation, and industry—provided essential guidance and legitimacy for the Reef Hub. This governance structure ensured diverse perspectives shaped strategic direction, helped navigate complex stakeholder dynamics, and fostered a sense of collective ownership that strengthened commitment across the network.



*The momentum built through the pilot has demonstrated both the importance of the Reef Hub and the value it brings to the network. There is a strong desire for this model to endure.*



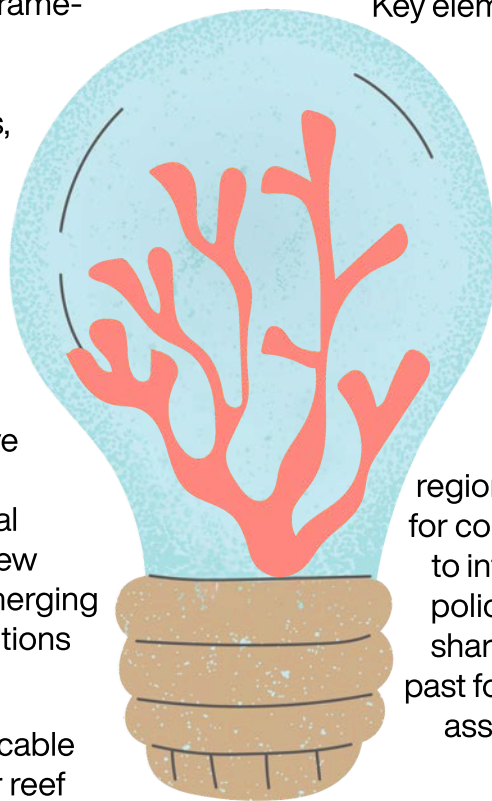
# Looking ahead

*“The Reef Hub has demonstrated that when we come together and collaborate we are able to achieve so much more together than we are as individuals.”* — Christine Roper, Coral Nurture Program

The coming years will bring unprecedented challenges for reef stewardship as climate impacts accelerate. Coral bleaching events are projected to become more frequent, marine heatwaves will intensify, and reef ecosystems will face compounding stressors that demand rapid, coordinated responses. In this environment, the ability to quickly mobilise local knowledge, deploy community-based monitoring, and adapt restoration techniques will be critical for maintaining reef health and function.

The Reef Hub model offers a proven framework for this adaptive capacity. By maintaining strong networks across Traditional Owners, tourism operators, researchers, and conservation groups, similar community-driven networks can serve as early warning systems—detecting changes, sharing innovations, and coordinating responses faster than traditional management structures allow. The connections built through collaborative research, skills training, and regular knowledge exchange create the social infrastructure needed to implement new restoration techniques, respond to emerging threats, and scale successful interventions across multiple sites.

The Reef Hub pilot has created a replicable template that can be adapted to other reef communities facing similar challenges.



Key elements—collaborative monitoring programs, place-based training initiatives, and regular network gatherings—can be tailored to local contexts while maintaining the core principles of respect, inclusion, and adaptive management. Future opportunities include expanding the model to neighboring reef systems, developing digital platforms to connect multiple regional hubs, and creating pathways for community-generated knowledge to inform broader reef management policies. The relationships, trust, and shared understanding built over the past four years represent foundational assets that will continue generating value long after formal funding cycles end.

*“Collective action, pooling diverse skills and knowledge of the reef, and shared decision making are critical capabilities to underpin the next generation of reef stewardship actions to tackle climate change. The Reef Hub is a great example of a regional network that can do just that – a platform to help scale-up action on the reef by linking people, knowledge and skills.”*

— Bruce Taylor, Social Scientist CSIRO

Our actions over the last four years have led to a connected and impactful Reef Hub community.



Built a **network of >2,300 individuals from 50+ organisations** that learn, share and collaborate to actively care for coral reefs in our region.



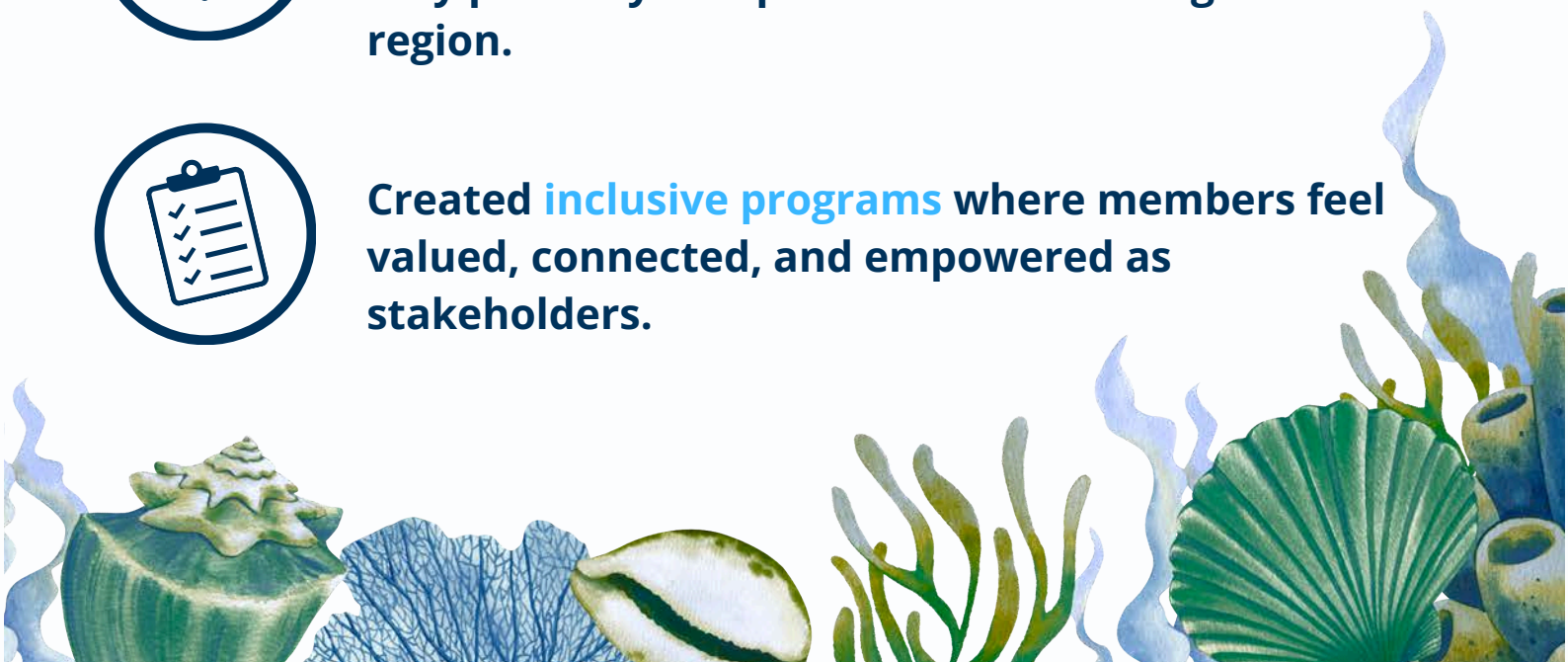
Delivered flagship programs — **Spawning School** and the long-term **regional recruitment study** — that have brought new capability to the region.



Equipped local practitioners with **hands-on skills and foundational knowledge**, providing one of the only pathways for practical reef training in the region.



Created **inclusive programs** where members feel valued, connected, and empowered as stakeholders.



By strengthening collective capacity, filling critical gaps in Reef knowledge to drive solutions, and shining a light on local efforts, the Reef Hub provides a successful community model for engagement and action in regional reef stewardship.



# Celebrating the collective contributions



The success of the Reef Hub pilot has only been possible through the contributions of many. We value the guidance, expertise, and commitment of those who have supported the Reef Hub's growth, development and continual improvement in many ways.

We acknowledge the diverse Aboriginal and Torres Strait Islander groups that span the Cairns–Port Douglas region as the Traditional Custodians of the Land and Sea Country on which we live and work. We pay our deepest respects to Elders past, present, and emerging for their enduring stewardship and continued efforts to manage and protect the Reef for future generations.

We extend our gratitude to the current Steering Group — Ryan Donnelly, Peppi Iovannella, Phil Laycock, Jenn Loder, Stewart Lockie, Neil Mattocks, and Brian Singleton — whose guidance, expertise, and commitment have shaped the Reef Hub into a strong and impactful model. We also acknowledge the contributions of past members Johnny Gaskell, Eric Fisher, Fiona Merida, Gareth Phillips, and David Suggett.

We sincerely thank key strategic contributors Bruce Taylor, Matt Curnock, and Samantha Stone-Jovicich who have contributed valuable input and support that contributed to the Reef Hub's design, growth and continual improvement.

We particularly acknowledge Jenn Loder, whose vision and dedication helped drive the initial framework and iterative design with local partners. Her ongoing support throughout the pilot phase laid the foundations for an enduring model of a place-based community network.

Our thanks to the community of partners, rangers, and stakeholders who have shared their time, knowledge, and feedback to ensure the Reef Hub remains relevant, effective, and connected. Their willingness to collaborate and contribute has been central to building momentum and creating an initiative worthy of enduring.

*The Cairns-Port Douglas Reef Hub pilot was funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation.*

## CONTACT



The Cairns–Port Douglas Reef Hub is coordinated by Dr Katie Chartrand & Dr Abbi Scott at James Cook University.

Email: [cpdhubcoordinator@jcu.edu.au](mailto:cpdhubcoordinator@jcu.edu.au)

Website: [reefhub.com.au](http://reefhub.com.au)



Great Barrier  
Reef Foundation