REEF CATCHMENTS

REEF RESILIENCE IN THE *Whitsundays*

DISCOVER LOCAL CHAMPIONS AND INNOVATIVE WORK BEING DONE TO PROTECT THE GREAT BARRIER REEF

CONTENTS

This magazine is a celebration of the work being delivered across the Whitsundays to protect and preserve our precious Great Barrier Reef

Content is laid out across four general sections.

Section one introduces the **Whitsunday Reef Islands Initiative**, showcasing five transformative projects delivered through the program.

Section two is a **celebration of stewardship.** It will introduce you to a few of our local pioneering champions of reef protection, including the Ngaro people-the original stewards of this region's reefs. Hear their stories and be inspired by their dedication to preserving these vital ecosystems.

Section 3 will allow you to **explore some of the inspiring Reef projects and groups active in the Whitsundays.** Discover how you can get involved in protecting this precious ecosystem!

At the end of this magazine, you'll find a fun **activity section** designed to enjoy with the kids. Put your Reef knowledge to the test with some exciting challenges and share in the fun!

Reef Catchments would like to acknowledge the Traditional Owners of the Whitsunday region, the Ngaro, Gia and Juru people, on whose lands the work featured in this magazine has been undertaken.

Front cover photo credits:
Johnny Gaskell, Cass Hayward, Paige Strudwick.

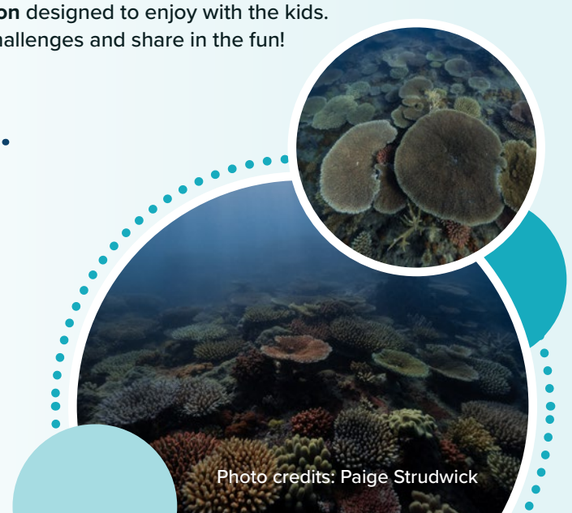


Photo credits: Paige Strudwick

REEF ISLANDS *Initiative*

The Reef Islands Initiative (RII or the Initiative) is a 10-year program launched in 2018 by the Great Barrier Reef Foundation as the largest reef habitat rehabilitation project of its kind in the Southern Hemisphere – bringing together Traditional Owners, scientists, local tourism leaders, governments and the community to protect and restore critical island habitats

The overarching vision of RII is to establish a network of climate refuges to protect critical habitats and species across the Great Barrier Reef islands. This involves designing and implementing bespoke on-land and in-water restoration projects to enhance the resilience of ecosystems, which are underpinned by the best available science and local needs.

As of 2024, the Reef Islands Initiative has established programs at Lady Elliot Island, the Whitsundays, Avoid Island and Munamudanamy (Hinchinbrook). Each site has been developed with a bespoke, place-based approach in partnership with local stakeholders. Some sites focus on on-ground works targeting terrestrial ecosystems with strong Reef links, while others are piloting novel marine-based restoration technologies or supporting businesses to reduce carbon emissions. A golden thread across all sites is the investment in local knowledge-building and empowerment of local stakeholders and Traditional Owners to support long-term stewardship.

The Reef Islands Initiative was pioneered by the Great Barrier Reef Foundation and supported by funding from Lendlease, the Australian Government's Reef Trust, the Queensland Government and the Fitzgerald Family Foundation.

WHITSUNDAY REEF ISLANDS *Initiative*

Right in the heart of the Great Barrier Reef, the Whitsunday islands are a critical habitat sanctuary for the Reef's diverse marine life including humpback whales, dugongs, manta rays and coral species that have only been described in the Whitsundays. In the face of climate change, the islands, adjoining reefs and supporting ecosystems need our help to recover from recurring major impacts like coral bleaching and severe storms like Cyclone Debbie in 2017.

Following the launch of the Initiative in the Whitsundays in early 2020, we have been working closely with the local Reef community, including Traditional Owners, Reef managers and tourism operators, to co-design the project vision and priority local actions.

The focus of the Whitsunday Reef Islands Initiative project is to:

- Position the Whitsundays as a recognised global hub for inshore fringing reef stewardship, undertaking a program of activities that is underpinned by an exemplary evidence base to support adaptive management decisions.
- Ignite a movement for reef restoration and stewardship by piloting new approaches to reef restoration driven and led by local tourism, community and Traditional Owner partners.
- Invest in and showcase climate-friendly Reef projects, technologies and tourism activities that incentivise behaviour-change towards a more sustainable Whitsundays.
- Support the local tourism industry to pave the way towards a carbon neutral Reef industry – in the Whitsundays, and beyond.

Within the Whitsunday Reef Islands Initiative there are five projects. Three are on-ground projects focused on improving the resilience of local seagrass meadows and coral reefs. These are supported by a mapping project to inform site selection, and a sustainability project focused on decarbonisation led by the Whitsundays tourism industry. Each is described in more detail on the following pages.

lendlease · Australian Government · Reef Trust · Queensland Government · Fitzgerald Family Foundation · Great Barrier Reef Foundation

MAPPING TO INFORM *Restoration Activities*

Project leads: University of Queensland, CQUniversity

When the Whitsundays was selected as a key Reef Islands Initiative site, one of the first activities was to work with stakeholders and experts to determine the best locations for seagrass and coral restoration to ensure maximum impact of restoration activities.

To achieve this, spatial data was mapped throughout the Whitsundays, including habitat distribution, water quality, exposure to stress and local connectivity patterns. Results were presented to local stakeholders for feedback, including tourism operators and Traditional Owners, to ensure that local knowledge and priorities were considered and the chosen sites were suitable.

The selected restoration sites were Blue Pearl Bay, Black Island, and Luncheon Bay for coral restoration and Pioneer Bay for seagrass restoration.

This process fostered site stewardship and a sense of ownership by locals over the program of works at these sites.

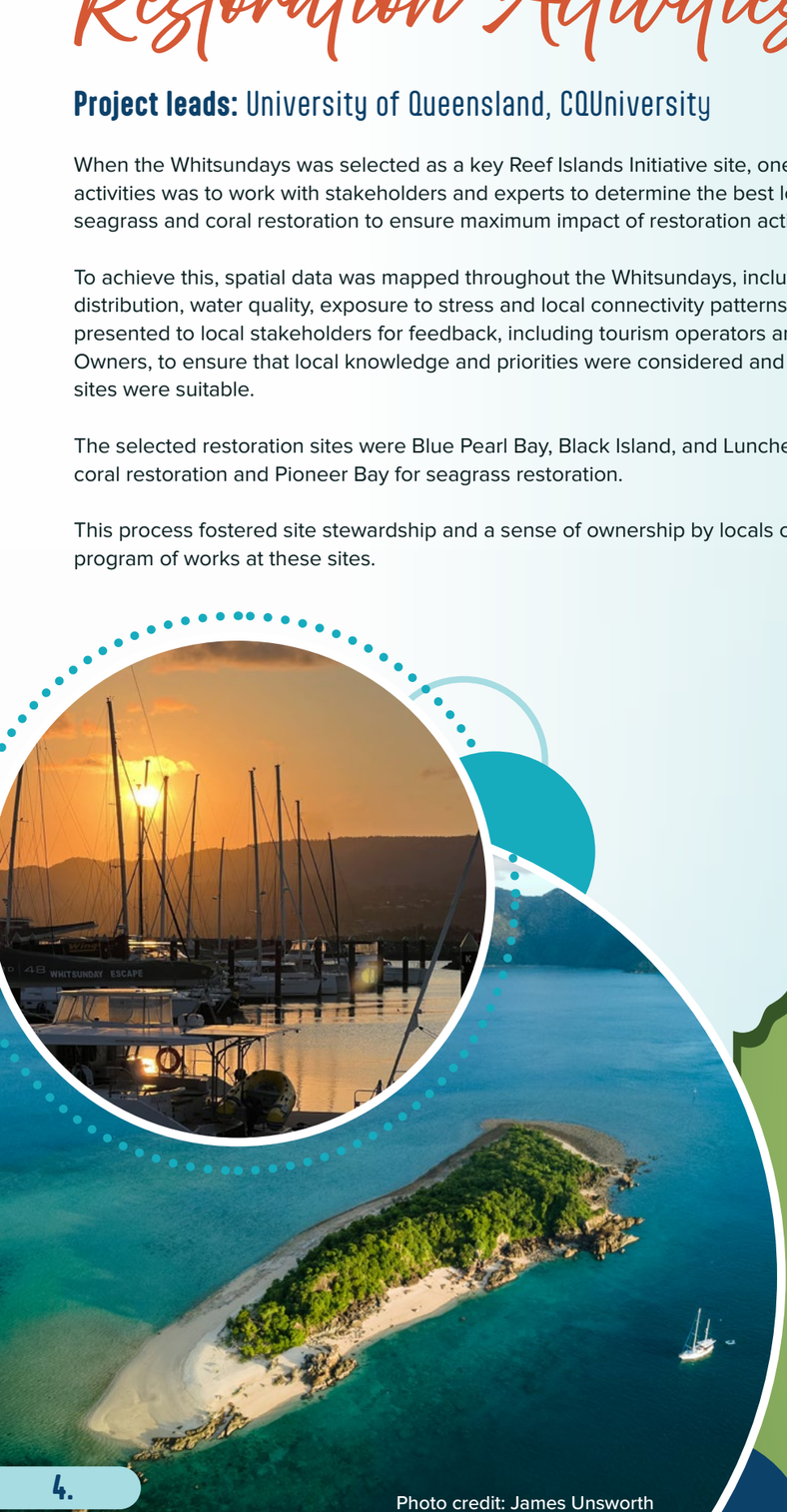
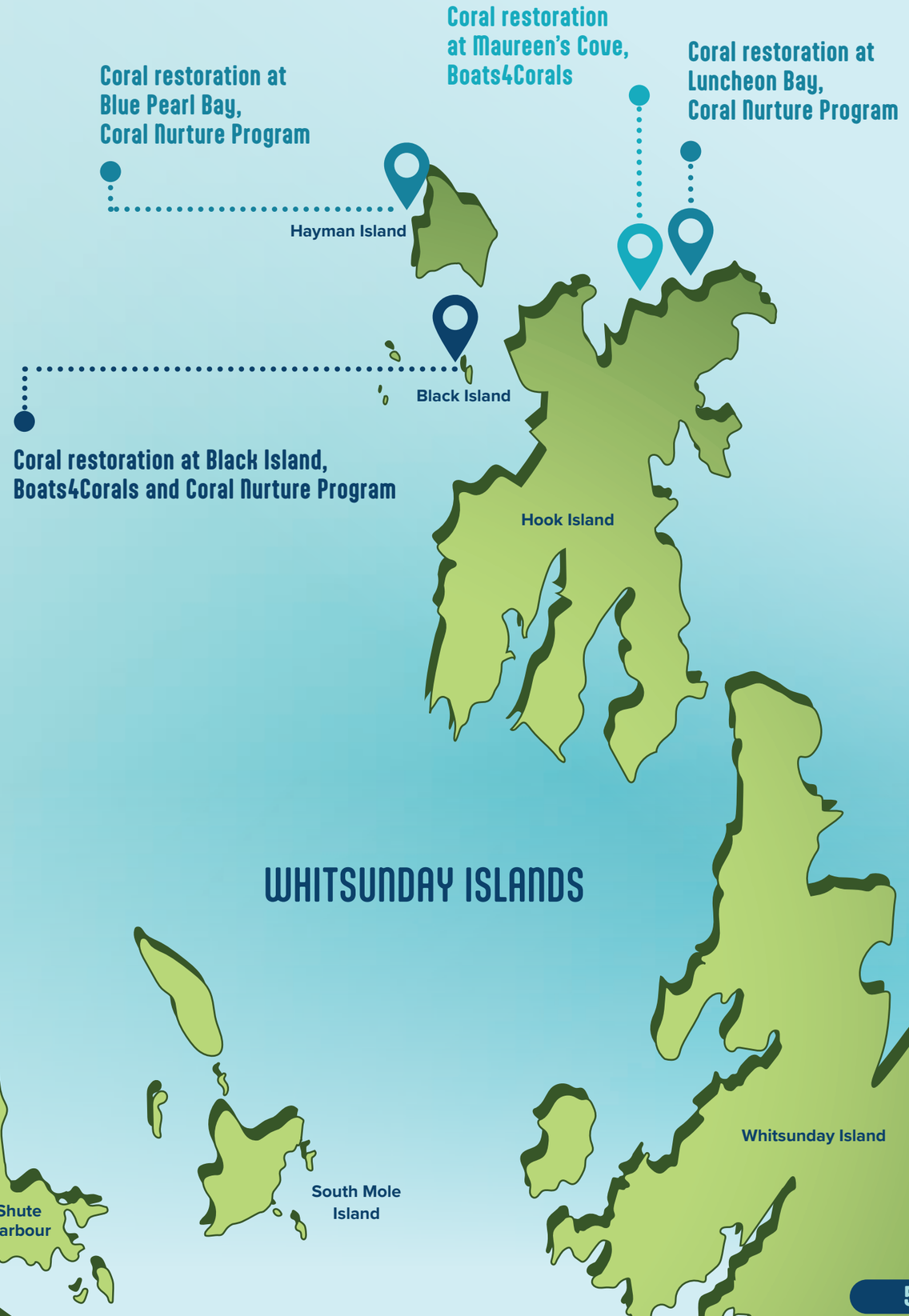


Photo credit: James Unsworth



BOATS4Corals

Project Lead: Australian Institute of Marine Science

Key Project Partners: Southern Cross University and tourism operators including Daydream Island, Ocean Rafting, Red Cat Adventures, ZigZag Whitsundays and SV Whitehaven

One of the greatest challenges to reef restoration and resilience projects is scale. Boats4Corals is an innovative partnership between researchers and local tourism operators that is helping to scale-up coral restoration in the Whitsundays using the ‘Coral IVF’ method.

Coral IVF is a world-leading technique based on the Reef’s natural coral spawning event.

Corals on the Great Barrier Reef undergo a synchronised reproduction event once a year. When conditions are just right, many species of coral release eggs and sperm into the water in a natural phenomenon called coral spawning. The eggs and sperm fertilise, creating coral larvae.

Using the Coral IVF method, coral spawn is collected and placed in floating larval pools for 5-7 days while fertilisation occurs, and then released onto target reefs. Studies indicate that this improves the chance of coral spawn surviving to adulthood from approximately one in one million, to one in ten thousand.

Performing restoration at scale requires an all hands-in approach. Boats4Corals harnesses the latest science and the power of local knowledge, skills, vessels and passion. Since 2020, the Boats4Corals team has proven that Coral IVF can be carried out successfully by trained tourism operators and Traditional Owners.

Each year the number of locals involved and trained has increased and the program’s capacity for spawn collection and deployment has nearly doubled since commencement.

Hundreds of millions of larvae have been deployed onto target reefs since the project started, supporting growth of new corals at Black Island, Stonehaven Bay and Maureen’s Cove.

Photo credit:
Jodi Salmond

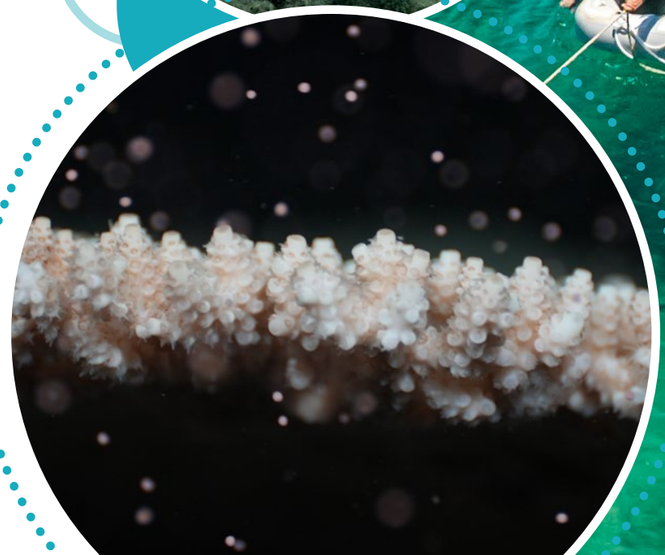


Photo credit: Paige Strudwick

CORAL NURTURE PROGRAM

Whitsundays

Project Lead: University of Technology Sydney

Key Project Partners: Tourism operators including Wavelength Cruises, Kiana Sail and Dive, Ocean Rafting and Red Cat Adventures

Coral propagation and planting practices are rapidly becoming established worldwide by local communities in efforts to restore key reef sites. Recent advances in the scale and impact of these practices have been achieved through an innovative tourism-science partnership – the Coral Nurture Program – where tourism businesses have established coral propagation and planting as part of wider site stewardship activities.

In 2022, the Whitsunday Reef Islands Initiative program brought the Coral Nurture Program to the Whitsundays, with a goal to support coral restoration and tourism operator-led stewardship.

This approach acknowledges and benefits from local knowledge and expertise of the Reef, builds community engagement and further supports Reef health via sustainable tourism practices.

Three sites have been selected for coral restoration: Luncheon Bay, Blue Pearl Bay and western Black Island. Each site is stewarded by a tourism operator, where their staff utilise the CoralClip™ to plant fragments of corals onto bare reef substrate, increasing cover coral over time.

In the first year of the program (2022-2023) more than 4500 corals were planted in the Whitsundays. This number continues to grow each year, as the network of tourism operators leading this work goes from strength-to-strength, collaborating on group planting blitz events and ramping up activity at their own sites.

Importantly, the Coral Nurture Program is based on a strong partnership between tourism operators and research organisations, which helps to continuously validate data and improve the method. A number of research papers have been published by the University of Technology Sydney using data from the Whitsundays, and ongoing research is a high priority for the program.

SEAGRASS RESTORATION *at Pioneer Bay*

11% OF THE WORLD'S SEAGRASS EXISTS IN THE **GREAT BARRIER REEF** MARINE PARK

Project Lead: CQUniversity

Key Project Partner: Coral Sea Marina

Seagrass supports a diverse array of marine life, providing habitat and food for many marine species such as dugongs and marine turtles, and providing a range of ecosystem services. However, in recent years, some seagrass meadows in the Whitsundays have been declining in health and taking longer to recover from shocks and stresses.

CQUniversity is leading the delivery of a seagrass restoration project at Pioneer Bay to assist the recovery of seagrass meadows. As part of this project, seagrass flowers are collected and their seeds are cultivated in nurseries, which are then used to re-seed damaged areas of the meadow. The aim of the project is to help meadows recover quickly and become more resilient in the face of future impacts.

Since the pilot nursery was first established in 2022, seagrass growth has been phenomenal. Following this success, the seagrass nursery was upscaled to three times its size in 2024, significantly increasing local capacity to deliver seagrass restoration. This nursery is situated at Coral Sea Marina A-Arm with open public access during the day, encouraging visits from the public and providing an opportunity for people to learn about the project.

Community participation plays a vital role in restoring our local seagrass meadows. Community members and visitors can participate in seagrass flower collection events and re-seeding activities. Traditional Owners are also being upskilled in seagrass propagation and restoration techniques.

As a pilot project, three different restoration approaches are being tested at Pioneer Bay:

Direct Injection:
Seagrass seeds are injected directly into the substrate of the meadow using a large syringe.

Hand Casting:
Seagrass seeds are sprayed onto the meadow from above, simulating aerial seeding via drones.

Seed Balls:
Seagrass seeds are rolled onto the outside of a small ball of clay and mud. The mud-balls are then placed onto the meadow.

The results from this trial and project learnings will be used to inform future restoration efforts throughout the region. The design of the Whitsundays seagrass nursery has been shared with other regions, so new seagrass nurseries can replicate its success.

Photo credits: Fiona Ayers

WHITSUNDAY Healthy Heart

Project lead: Whitsunday Regional Council

Project partners: 50+ participants from the local tourism industry including marine, island resort, accommodation and aviation businesses

With climate change the number one threat to the Reef, reducing carbon emissions is at the heart of the Whitsunday Reef Islands Initiative.

The Whitsundays Healthy Heart project is assisting more than 50 local tourism businesses to measure and reduce their ecological and carbon footprint and offers an opportunity for genuine commitment and sustainable action in our region.

An incredible network of Whitsunday Healthy Heart businesses have been supported to benchmark their own footprint to better understand areas for improvement, and attend workshops aimed at providing ideas and pathways for emissions reductions. Key areas of interest that have emerged from Healthy Heart partners include:

Waste

Minimisation of food waste and plastic is a key concern for many Healthy Heart partners, and is identified as a potential pathway for emissions reductions.

Electricity

A recommendation for many businesses was to upgrade to more energy efficient equipment. For example, Magnums Airlie Beach reduced their footprint by over 30% primarily through upgrading their air-conditioning and refrigeration systems. Additionally, switching to green power purchasing agreements was another common recommendation.

Fuel

A future ambition for many of the marine tourism businesses is to transition to greener fuel sources, for example using electric or hydrogen outboards.

The key outcome of the Healthy Heart project is to work in the local community to educate, build awareness and encourage further engagement in sustainable practices.

NGARO - The Saltwater People of the *Whitsunday Islands*

Nestled amidst the turquoise waters of the Great Barrier Reef, the Whitsunday Islands boast not only stunning natural beauty but also a rich cultural heritage. The custodians of this islands are the Ngaro people with strong Cultural connections through sharing of food, songs, stories, marriages and ceremonies to the Gia people of the mainland area of Proserpine, whose presence on these islands stretches back thousands of years.

The Ngaro people are Saltwater People; they have long been intimately connected with the land and sea of the Whitsunday Islands. Their traditions, passed down through generations for over 15,000 years, reflect a deep reverence for the natural environment. From their intricate bark canoes to their ingenious fish traps, every aspect of their culture speaks to their profound understanding of the ecosystem.

Central to the way of life of the Ngaro people is the concept of “Caring for Country.” This philosophy emphasises the importance of living in harmony with nature, a principle that is increasingly relevant in today’s world. Traditional practices such as seasonal fishing and cultural burns not only sustained their communities but also ensured the health of the surrounding environment.

The enriched cultural landscape of the Ngaro people offers visitors to the Whitsunday Islands a unique opportunity to connect with the land and sea in a deeply meaningful way. Through guided tours and immersive experiences, tourists can learn about the Saltwater People’s profound connection to the Reef and gain insights into their traditional knowledge systems.

Accessing traditional knowledge is imperative to conservation success in the region. The wisdom of the Ngaro and Gia people, honed over millennia, offers invaluable insights into sustainable living and reef management. By integrating Indigenous wisdom with modern scientific research, we can develop innovative solutions to safeguard the delicate balance of the Great Barrier Reef.

As visitors explore the Whitsunday Islands, they are invited to engage with the rich cultural heritage of the Ngaro people, deepening their understanding of the interconnectedness of all living beings. By fostering a sense of appreciation and respect for Indigenous cultures, we can cultivate a greater sense of stewardship for the Reef and ensure its preservation for future generations.

The Whitsunday Islands are not just a paradise for tourists but also a living testament to the enduring legacy of the Ngaro people. As we marvel at the beauty of this natural wonder, let us also take a moment to immerse ourselves in the enriched cultural landscape that surrounds us, learning from the Saltwater People’s profound connection to the reef and drawing inspiration from their timeless wisdom.

THE FOUNDING OF ECO BARGE: One Woman's Journey to *Protect the Seas*

Libby Edge's journey from a moment of realisation, to leading a transformative environmental initiative is a testament to the power of individual action and community spirit. Through Eco Barge Clean Seas, she has not only cleaned 240,000 kilos of marine debris, but also educated and inspired countless individuals to care for our oceans.

Life changing moments

In 2008, Libby happened upon a documentary on marine debris that left her shocked and saddened. The sight of marine debris devastating marine life and polluting the pristine beaches struck a deep chord within her. The turning point came soon after when she witnessed firsthand the extent of marine debris on an island bay in the Whitsundays. The overwhelming sight was a life-changing moment, initiating her resolve to make a difference. "I knew I had to do something about it." she recalls.

Fortuitously, Libby was a commercial skipper with access to a barge and more than enough passion and drive to get her project into the water. In search of funding Libby wrote a proposal and sent it to a long list of people and departments. Her break finally came when she received a response from Rob Cocco, then CEO of Reef Catchments. He proposed five trips to see what she could achieve, and Eco Barge was born. Libby clearly remembers her excitement, "Just that one decision from Reef Catchments gave me the first push to get out there and show them what we could do."

Community Effort and Education

Libby envisioned a community effort, where education played a key role in demonstrating the impact of land-based activities on oceans and marine life. As a result, Eco Barge has worked with over 8000 volunteers to date. Over time, Libby has seen a big shift in awareness around marine debris and believes it is raising awareness in the community that is going to make lasting change happen. "You have to start somewhere," she advises, urging others to do their part each day to help protect marine life and the aquatic environment.

Broader Issues and Future Vision

More than just picking up rubbish, Libby's focus is on the broader issues associated with marine debris. Through studies and collaborations, she has been exploring options and advocating for systemic change. EcoBarge sorts and recycles debris, recording important information and storing it for a time when a solution becomes available.

The vision for the future of Eco Barge is one of continuous growth and adaptation. "I believe there is no end goal," says Libby. She views herself as a steward of this mission, trusting that others will step forward to collaborate and join her in driving meaningful change.

Photo credits: Eco Barge Clean Seas

85% of Australian seabirds are affected by plastic pollution, and CSIRO predicts that plastics ingestion in seabirds may reach 95 per cent of all species globally by 2050.

Most plastic debris found on Australian beaches is from Australia - not overseas.

Approximately one third of marine turtles globally have likely ingested debris, with oceanic leatherback turtles and green turtles at greatest risk.

Photo credit main: Fiona Ayers
and Bottom Left: Deborah Foote

Photo credit: Fiona Ayers

NAVIGATING SUSTAINABILITY: Nicole Rosser's Mission to Protect *the Whitsundays*

If we're talking about Reef champions in the Whitsundays, we can't go past Nicole Rosser.

Nicole and her partner, Ben, have been the owner/operators of ZigZag Whitsundays since 2017. With a strong focus on sustainability, Zig Zag has become a leader in minimising the carbon footprint of its guests in northern Australia. From fuel efficiency to eliminating single-use containers and even encouraging guests to walk to the marina, Nicole's business is at the forefront of eco-friendly tourism. Guests not only enjoy their experience but also leave with a greater awareness of environmental issues.

Nicole's journey into marine conservation began with a childhood family visit to the Reef. Later, her mother, a pioneering marine biologist, introduced her to the Seagrass project (pg. 10-11), sparking an interest that aligned perfectly with her environmental goals for Zig Zag.

Nicole is now involved in three of four Whitsunday Reef Islands Initiative (WRII) projects: Boats4Corals, Whitsunday Healthy Heart and the Seagrass Restoration of Pioneer Bay pilot project. She is also a member of the Whitsundays Local Marine Advisory Committee and is currently studying for her Masters in Environmental Management.

Through her business and these initiatives Nicole is able to realise her goal to contribute positively to marine restoration efforts.

"Why? It's what I enjoy; it's what I feel passionate about. Doing this work I get a lot of personal satisfaction and it also benefits the crew and environment."

Balancing her numerous roles is not without its difficulties. Yet, Nicole's passion and deep motivation drive her forward. "Being involved in conservation restoration excites me. It's our responsibility to have a positive impact on the world," Nicole says. This philosophy is woven into the fabric of Nicole's life from her family, to business and her contribution to the WRII projects. The rewards, she says, are immense.

Looking ahead, Nicole dreams of dedicating a side of her business solely to reef intervention, to give more focus on protecting, restoring and preserving the coral reef ecosystem.

She is inspired by the growing community interest in environmental issues and believes there are many avenues for people to get involved, regardless of their background.

> ***"It's not just positive for the environment; everyone gets so much personal satisfaction from being involved and learning."***

Nicole Rosser's story is one of passion, dedication, and a deep love for the marine environment. Her work in the Whitsundays showcases the beauty of sustainable tourism, contributes positively to marine conservation efforts and inspires others to join her journey.

ERIC THE EEL
Working alongside Traditional Owners
for Reef Conservation

Reef Traditional Owners have nurtured a harmonious and reciprocal relationship with the Reef and the land surrounding it over millennia, through deep spiritual and cultural connections. These connections are a vital part of the collective action needed to protect the Reef into the future.

Proud Ngaro man, Eric Lymburner, has participated in coral planting and seagrass restoration programs in the Whitsundays, contributing his Traditional Knowledge and learning new restoration techniques.

Eric has been involved in the Boats4Corals program since 2020, which is helping scale up restoration in the Whitsundays by training tourism operators and Traditional Owners in the Coral IVF method. This method involves rearing coral spawn in floating pools on the Reef and deploying them to help repopulate damaged areas.

As a member of Red Cat's ReefSearch team, Eric has been learning alongside marine biologists as they delivered coral predator control and reef health surveys.

Snorkeling with the team has brought back cherished childhood memories of being in the water and earned him the nickname "Eric the Eel".

Eric is also employed as a seagrass trainee through CQUniversity's seagrass restoration project. This project aims to replenish local seagrass meadows, which are vital food sources for turtles and dugong, and provide shelter and breeding grounds for fish and other marine life.

Eric is responsible for upkeep of the local seagrass nursery, where researchers collect seagrass flowers so the seeds can be germinated to regenerate fragmented meadows.

Working in the nursery allows Eric to help care for his Country. He notes:

> *"Seagrass cleans the ocean. It is a part of a larger ecosystem, supporting the dugong, other important fish, and the reef."*

For Eric, reconnecting with Country through local reef conservation projects has been "a profound blessing".

When asked about his vision for the future, Eric says he's focused on connecting others with the Reef and Country. He adds: "When I see a turtle in the water, I know it is my Old People checking in, and making sure I'm on the right track. "Looking after seagrass and coral means we have sealife. Without this, we would have a pretty boring coastline.

"I think I belong outside, with coral and seagrass, not in an office".

SCIENCE, CULTURE AND TOURISM:

Project Blueprint's Collaborative Approach *to Water Quality*

Photo credits: Marty Strecker Photography

Driven by their shared passion for reef resilience, tourism operators, Traditional Owners and scientists have been brought together by Project Blueprint to conduct inshore Whitsunday Island water quality monitoring at key tourism sites - Tongue Bay and Cairn Beach - which have been identified as critical locations for filling data gaps in the Whitsunday Inshore marine zone.

Established in 2020 as a citizen science initiative and now led by the Healthy Rivers to Reef Partnership (HR2RP), the project aims to collect data on water quality conditions to identify pressures the reef system is facing. Project Blueprint also has a core goal to facilitate the sharing of information, science and traditional culture with the community.

SCIENCE, Culture, Tourism

HR2RP's efforts focus on monitoring various marine water quality indicators, such as nutrients, chlorophyll-a, and water clarity. 10 bottle samples are collected from each site monthly and sent to James Cook University (TropWATER) in Townsville for comprehensive analysis, with an estimated 200 to 240 samples analysed annually.

This data helps to provide an understanding of the impacts of human activities, terrestrial runoff, and weather and climate events on the Reef ecosystem. Findings will help to educate the public and inform key decision-makers in the waterway-health space about current water quality conditions.

Science, CULTURE, Tourism

Central to the project is the involvement of local Traditional Owners, such as Reef Catchments Project Officer Robert Congoo - proud Ngaro and Gia man. During the trips, Robert welcomes tourists and Reef visitors and shares the cultural importance of the Whitsundays to the Ngaro and Gia people.

Storytelling deepens visitors' appreciation for the region's history and traditional practices. This mix of cultural learning and environmental care both enhances tourists' connection to the area and improves scientific understanding. Through collaboration with Traditional Owners like Robert, Project Blueprint integrates traditional ecological knowledge with modern scientific approaches, leading to more holistic and effective strategies in natural resource management.

Science, Culture, TOURISM

No one knows the Great Barrier Reef Marine Park like the tourism operators. These businesses are on-water every day, and they know their patch better than anyone in the world. Additionally, the tourism industry plays an important role in environmental awareness. For visitors to the region, tourism operators are the most accessible and trusted source of reef information.

As part of Project Blueprint, tourism operators inspire tourists to become advocates for change, and are a vital driver of the project, providing the ability to collect quality data on their charters.

Tourism cultivates a profound sense of responsibility and connection to the marine environment. Tourists witness the water quality monitoring process first-hand, giving them an appreciation of the work involved in protecting the reef, and sparking conversations about pressures affecting the local marine ecosystem. This fosters a newfound appreciation for reef resilience and instills a sense of responsibility for its preservation.

All in for the Reef

Bringing together science, traditional knowledge, and tourism can be a powerful force for protecting the Great Barrier Reef. Project Blueprint does just that, uniting the community to preserve this vital marine ecosystem. By combining the strengths of each sector, the project educates the public and inspires action to safeguard the Reef for future generations.

Project Blueprint is funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation, BHP Mitsubishi Alliance (BMA), and North Queensland Bulk Ports Corporation. The project would not be possible without strong support from local tourism operators, Ocean Rafting and Red Cat Adventures and ZigZag Whitsundays, who provide regular passage to the Whitsundays. Additional project contributors include James Cook University, the Whitsunday Charter Boat Industry Association, and Reef Catchments.

Photo credits: Deborah Duggan

WHALES OF THE *Whitsundays*

In 2024, the Whitsundays region received some exciting news. The region had been declared a Whale Heritage Area - just the second of its kind in Australia, and one of only eleven in the world. The declaration came about as a result of months of hard work by a dedicated steering committee.

What does this mean?

The Whitsundays has been recognised by the World Cetacean Alliance as a Whale Heritage Area. This means that this region has been acknowledged as having outstanding protection in place for whales, and emphasises the important role of our local community in celebrating and building understanding and respect for whales.

> *Whale Heritage Areas are a global network of outstanding places where local communities celebrate, respect and protect cetaceans and their habitats.*
>
> - World Cetacean Alliance

As of 2023, it was estimated that approximately 40,000 humpback whales travel up the East coast of Australia every year, after leaving Antarctica to give birth in warmer waters. The Whitsundays are the main calving ground for humpback whales within the Great Barrier Reef. Here, they teach the calves how to swim in the shallow waters around the islands.

Humpback numbers have been on the rise since the 1960s when commercial whaling was banned. At that time humpback populations had dropped to below 5%. Since the ban, their population size has been increasing steadily each year.

Recently, local people have been raising awareness of the welfare of whales. A Steering Committee was formed, Chaired by Olivia Brodhurst, to drive community interest and action for whale and cetacean conservation. *"We could see that there could be a significant issue due to increasing whale numbers and increasing numbers of boats in the Whitsundays, of which over 70% are high speed. There is a risk of incidents which can harm whales and be a human safety issue."*

A core goal of the Steering Committee is to educate and increase community stewardship for whales; to inspire locals to take a more active role in citizen science and protection. The Whales of the Whitsundays program rolls out a suite of community events including an annual Welcome Whales event, a cultural celebration of whales. The program includes collaboration with the University of Queensland to capture whale song for their long term monitoring program. Hydrophones are now being used by the tourism industry to bring whale songs to their guests and feed into the program providing rich information to help us learn more about humpback whales.

Steering Committee Secretary, Deanna Vierling, says whales are a great way to connect people. *"Whales are something that everyone can get around. When you see them, your heart is so full and happy. You can't not love them."*

Recognition of the Whitsundays as a Whale Heritage Area is an important milestone highlighting the region's significance as a unique destination for whales and also underscores the importance of local stewardship in protecting these majestic creatures.

Initiatives such as the Welcome Whales event and citizen science projects allow the local community to learn more about our marine life and play an active role in whale conservation.

Photo credit: Helene Buttigieg

CORALPALOOZA

Every World Oceans Day since 2014, the Coral Restoration Foundation has mobilised hundreds of divers to support coral restoration through one coordinated day of coral planting called 'Coralpalooza'. In 2023, however, Coralpalooza went global, with divers in 12 countries planting 15,200 corals on reefs around the world.

It was also the first time that Australia participated in Coralpalooza, enabled by funding from the Great Barrier Reef Foundation and other philanthropic supporters. Amazingly, Australia accounted for almost half of all corals planted worldwide, with more than 6,700 planted in Cairns, Port Douglas and the Whitsundays.

In the Whitsundays, 1,716 corals were planted by 18 divers at Black Island, Blue Pearl Bay and Luncheon Bay. In 2024, another 1,286 were planted by 13 divers.

To date, Coralpalooza is the biggest international day of collaborative action to help restore reef sites. This event is an important opportunity for Coral Nurture Program operators to involve and train new staff, and put the Whitsundays on the map within the broader global reef restoration community.

Importantly, research is closely linked to the Coral Nurture Program. Researchers from the University of Technology Sydney will oversee monitoring of the Coralpalooza outplants in order to maximise learning opportunities from these events and to better understand the impact coral planting has on reefs and their marine life.

> *"This was our second Coralpalooza event and it was fantastic to have so many passionate, motivated people who love the Reef and want to see the Reef sustained into the future."*
>
> Dr Emma Camp, University of Technology Sydney.

Photo credit: James Unsworth

BEYOND THE *Surface*

Daydream Island's Living Reef Team: Educational tourism and reef conservation in action

If you've ever been to Daydream Island resort you know that the main building wraps around a beautiful 200m long, open-air aquarium called the Living Reef. But did you know that the team of marine biologists responsible for maintaining the Living Reef are also involved in a suite of Reef protection activities at Daydream Island and throughout the Whitsundays?

Behind the scenes Daydream Island Living Reef staff maintain a number of coral 'raceways', where coral is brought in from the Daydream Island marina, reared in the raceways and then planted into Lovers Cove, a snorkeling site on Daydream Island which was badly impacted by Cyclone Debbie in 2017.

Living Reef Manager Amelia Keynes says that tourism businesses have daily interaction and intimate knowledge of their sites, as she does of Lovers Cove. This makes them critical to engage in Reef conservation. "No-one knows the reef better than them," she says. "They've witnessed changes to the reef over the years and they are uniquely able to contribute to restoration efforts." The restoration work is essential for successful reef conservation and also provides them with a meaningful opportunity to give back to the environment that supports their livelihoods.

In addition to the restoration of Lovers Cove, the Living Reef team have been involved in a range of other reef resilience projects, such as the Reef Protection Initiative, Boats4Corals and Coralpalooza. They run educational experiences for school groups, including virtual tours, and even offer volunteering or work experience programs.

Daydream Island understands the importance of giving their guests more than a memorable holiday experience. Integrating tourism education with reef restoration projects provides visitors with a richer understanding of the issues impacting reef health. Experiencing the Reef firsthand fosters a connection between visitors and the Reef's inhabitants, which is important because, as Amelia says, "Connection is the power behind caring." This hands-on approach provides a rich holiday experience for visitors and encourages active participation in protecting and improving the Reef's health, "Projects like this give hope to the public. They don't feel like it's out of their hands."

Over the years, improvements to the reef in Lovers Cove have become more apparent, with visitors to the island providing increasingly positive feedback about corals and animals seen while enjoying the reef. With high survivorship rates of out-planted coral to Lovers Cove, caretakers for Daydream Island's Living Reef are working on refining outplanting techniques and increasing their focus on coral restoration activities in the future. Building on their existing knowledge is a priority for the Living Reef team, who actively learn from and share knowledge with others working in the same space.

Daydream Island's reef restoration program has provided a helping hand to local coral and sea-life populations and has positively influenced the lives of those who come into contact with them. Spending time with the team provides an infectious insight into the magic that is the living reef, both within and around Daydream Island. Exploring the sunlit open aquarium gives the viewer an opportunity to *experience it for themselves.*

Photo credits above and centre: Daydream Island Living Reef Team

DIVE IN:
How You Can Help
Protect the Reef

With its crystal-clear waters, vibrant coral reefs, and abundant marine life, the Whitsunday region is a true natural wonder.

Looking after the Reef is a collective effort. If you are interested in helping to protect your patch of the Great Barrier Reef, there are many ways for you to get involved. Whether it is volunteering in hands-on restoration projects or collecting citizen science data, there are multiple ways that all of us can directly contribute to the protection and sustainability of this precious marine environment.

Eye on the Reef

Supported by the Great Barrier Reef Marine Park Authority, the Eye on the Reef program invites volunteers to gather data to help inform management actions. Whether snorkeling, diving or boating, participants can use the free Eye on the Reef phone app to report their marine observations such as keystone species like the potato cod, invasive species like the Crown-of-thorns starfish, and other important sightings such as coral bleaching or whales. This data helps track changes in reef health and supports informed conservation strategies.

Whitsunday Seagrass Volunteers

Seagrasses are vital to the marine ecosystem, serving as habitat for many species of fish and providing food for dugongs and turtles. The Whitsunday Seagrass Volunteers group engages local people in monitoring these important habitats around Cannonvale, Hydeaway Bay and Bowen. Volunteers collect data on seagrass health which contributes to broader research and informs conservation and restoration efforts. Search “Whitsunday Seagrass Volunteers” on Facebook to join the group, express your interest in getting involved, and to keep up to date with the latest activities.

Eco Barge Clean Seas

Eco Barge Clean Seas is a community-led initiative focused on removing marine debris from the Whitsunday islands. Volunteers are integral to the program, and with their support the Eco Barge team have removed hundreds of thousands of kilograms of plastic from beaches and islands in the region. Volunteers are treated to a day out on the barge where they head to remote and little-visited island bays to remove rubbish, tackling the threat of plastic pollution to marine life. You can sign up to receive notification of upcoming barge trips, where you can enjoy the beautiful Whitsunday islands whilst giving back.

Happywhale Project

The Happywhale Project is dedicated to the collection of data related to whales, sharks and other keystone marine species. By tracking individuals through citizen science sightings, scientists are able to gain important insights into population dynamics. Volunteers collect data on whale behaviour, health, and interactions, contributing to research that aids in the conservation of these majestic creatures. A flagship project within Happywhale is engaging the community to get fluke photos, otherwise known as photos of a whale's tail. Each whale has a unique fluke! So photos can be utilised to identify and track individuals across the world.

Project Manta

Project Manta focuses on the research and conservation of manta rays along the Australian coast, including the Whitsundays. If you are lucky enough to get footage of a manta ray, submit it to project manta to help researchers track individual mantas and study their behaviour and movements. Much like whale flukes, the markings on the underside of manta rays are unique and can be used to identify individuals. This data is crucial for understanding manta ecology and informing conservation strategies to protect these gentle giants.

Photo credit: Libby Edge

Photo credit: Saskia von Fahland

Photo credit: Lily Buttigieg

PROTECTING THE REEF BY ENHANCING *the Catchment*

The journey of water from the mountains to the reef is a highly interconnected process, and one which has been significantly impacted over time. Modification of water catchment areas through agriculture, urban development, and other land uses has had profound impacts on the Great Barrier Reef. As water travels from the mountains it picks up sediments, nutrients, and pollutants, all of which eventually flow into the reef's waters. This means the health of the reef is intimately connected to what happens on the land, making catchment management a critical component in managing reef resilience.

Why Water Quality Matters for Reef Health

Declining water quality is one of the most significant threats to the Great Barrier Reef. Elevated levels of nutrients and sediments from land-based runoff can lead to algal blooms, which smother coral reefs, reduce light penetration, and disrupt the balance of marine ecosystems. Fertilisers and other chemicals in runoff pose additional risks, harming the delicate coral and seagrass ecosystems that are vital to the reef's health. Over time, the cumulative impact of these factors weakens the reef's resilience to other stressors, such as climate change and coral bleaching, making effective water quality management crucial for its long-term survival.

Monitoring Water Quality

In the Whitsundays, water quality is closely monitored to help understand the health of the catchment and its impact on the reef. The core of water quality monitoring involves measuring levels of these sediments, nutrients, and pollutants in the water. This data is essential for identifying problem areas and informing targeted management actions. Recent results for our region indicate that while progress continues, there are still significant challenges to address, particularly in reducing sediment and nutrient runoff.

Collaborative Efforts to Improve Water Quality

Efforts to enhance water quality in the Whitsundays involve a range of partners, including government agencies, environmental organisations, and local communities. These groups work together to address key issues such as sediment, nutrient, and chemical runoff. Through joint initiatives, they implement strategies to reduce the impact of land-based activities on water quality, which in turn benefits the Great Barrier Reef. By pooling their expertise and resources, these stakeholders are driving significant improvements and fostering a collaborative approach to environmental stewardship. The combined efforts are crucial in making tangible progress toward protecting the reef and its surrounding ecosystems.

CASE STUDY:

Streambank Stabilisation to Reduce Fine Sediments

Building on the collaborative efforts to improve water quality, streambank stabilisation is a notable example of how targeted actions are making a difference. This initiative focuses on stabilising eroding riverbanks by planting native vegetation and constructing protective barriers. These measures help to prevent soil erosion and the subsequent flow of fine sediments into waterways. By reducing erosion, the project not only improves water quality but also enhances the natural beauty and biodiversity of our river systems. This approach exemplifies how on-ground efforts complement broader collaborative strategies to protect the Great Barrier Reef.

CASE STUDY:

Partnering with Landholders to Improve Runoff Quality

Another critical area of focus is working with landholders to improve the water quality flowing from agricultural lands. Fertilisers, pesticides and chemicals can have negative impacts on the reef when they wash into rivers and eventually reach the ocean. Programs that support landholders to adopt more sustainable practices—such as precision agriculture and the use of organic fertilisers—are helping to reduce the levels of harmful chemicals in runoff. These partnerships are crucial in balancing the needs of agriculture with the imperative to protect the Great Barrier Reef.

The health of the Great Barrier Reef starts on land. By addressing water quality at its source and working collaboratively across sectors, we can ensure that this incredible natural wonder continues to thrive for generations to come.

WORKING TOGETHER FOR HEALTHY *Rivers and Reef*

Launched in 2014, the Mackay-Whitsunday-Isaac (MWI) Healthy Rivers to Reef Partnership has a shared vision; healthy rivers and Reef contribute to a prosperous region. The Partnership is a collaboration between community, Traditional Owners, farmers, fishers, industry, science, tourism and government who recognise more can be achieved by working together when it comes to waterway health for the future.

Photo credit: Marty Strecker

The Partnership's primary purpose is to produce an annual waterway health report card, collating data from a wide range of monitoring programs across the Mackay-Whitsunday-Isaac region. The Report Card includes condition data for freshwater, estuary and marine environments as well as social indicators like urban water management and human dimensions. The goal of this regionally specific monitoring is to help inform and advocate for investment in waterway projects and to identify data gaps.

With the Partnership celebrating 10 years in 2024, Partnership Chair Charlie Morgan said she was proud of the Partnership's history and was excited to build on a strong foundation.

"After a decade of delivery, we are proud to celebrate 10 years of data, 10 years of community, and 10 years of collaboration with likeminded organisations who think proactively about waterway health and regional sustainability," Ms Morgan said.

"We collate a huge range of data – more than $4 million worth annually – from data providers and Partners who operate in our region, or who are committed to learning more about our local waterways.

"We have 36 dedicated Partners in the community, and our collective work over the past decade is certainly something to be proud of.

"Ultimately, it has always been the vision of the Partnership to foster a culture of community to benefit our region's waterways, from rivers to Reef."

Improving knowledge of local water quality

Key Partnership achievements include establishing the *Southern Inshore Monitoring Program* for inshore waters between Cape Palmerston and Clairview, funded by Dalrymple Bay Coal Terminal Pty Ltd, and Dalrymple Bay Infrastructure. Prior to this program there was no available data for this zone, and by working together with industry partners, the Partnership has helped fill a vital knowledge gap. Similarly, in the Whitsundays, the Partnership coordinates *Project Blueprint* to address a known data gap at key Reef sites visited by tourism operators, and has helped strengthen the collection of waterway data with funding support from partners including BHP Mitsubishi Alliance (BMA), the Great Barrier Reef Foundation, and North Queensland Bulk Ports.

Did you know...

A LARGE RANGE OF DATA IS UTILISED TO COMPILE THE

ANNUAL HR2RP REPORT CARD,

APPROXIMATELY

$4 MILLION

WORTH, ON AN ANNUAL BASIS!

DATA COMES FROM *MORE THAN*

30

PROVIDERS AND **PROGRAMS,**

PROVIDING A COMPREHENSIVE REGIONAL WATERWAY PICTURE THAT CAN BE USED TO MAKE CHANGE WHERE IT'S NEEDED MOST.

Mackay State High School was the first school to participate in the Healthy Rivers to Reef STEM Innovator Schools program.

DBCT P/L Manager of Safety, Risk and Environment Ricci Churchill (centre) helping students with their STEM challenge at Whitsunday Anglican School.

Inspiring the next generation

In collaboration with STEM Punks Education, the Partnership is delivering a unique program to inspire students in the fields of science, technology, engineering, mathematics (STEM) and sustainability using local waterway data. Supported through the Queensland Government - Engaging Science Grants, the Healthy Rivers to Reef STEM Innovator Schools program engages students in Years 6 – 9 in hands-on, team-based activities using real world data to develop skills in 'design thinking' - a skill predicted to be critical in workplaces of the future. Further connecting students to their local community, the program gives students the opportunity to hear from inspiring STEM industry professionals.

Welcome to

KIDS CORNER!

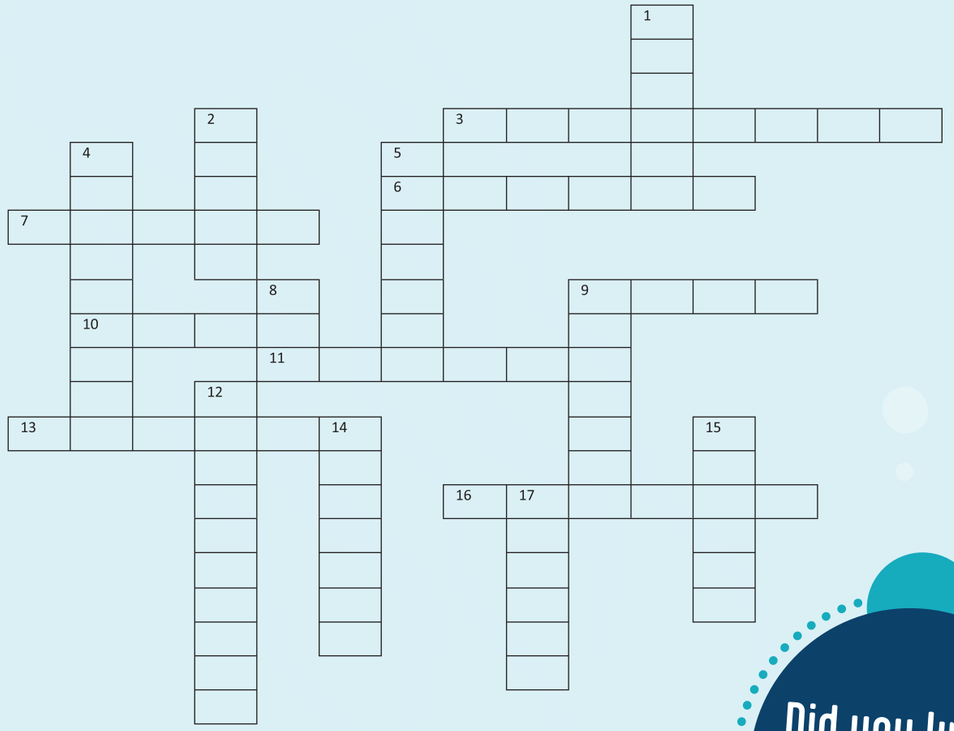
Get ready for an adventure as we explore the wonders of the Great Barrier Reef!

This special place is home to colourful fish, beautiful corals, and many other fascinating creatures.

The reef is more than a home for underwater animals; it helps keep our oceans healthy and provides food and jobs for people. So, let's explore, learn, and have fun while discovering how we can all help protect this incredible underwater world!

CROSSWORD PUZZLE

Work out the answers to the clues below to fill out the crossword.



Down

1. Some of the biggest mammals on Earth.
2. The regular rise and fall of the sea level.
4. What a shark has instead of bones.
5. The ocean east of Australia.
8. The Mackay Region is a _____ free zone.
9. Keep a feed, not a _____ full.
12. A term used to describe any man-made structures in the ocean.
14. A tool used to see and breathe underwater.
15. A weight attached to the hook or lure.
17. A person who fishes.

Across

3. An official, regulatory restriction on the number of fish you can take on a given day.
6. Coral Trout are _____ predators.
7. Fishing is prohibited in _____ zones.
9. FAD is short for _____ aggregating device.
10. A type of artificial fishing bait to attract fish.
11. All the gear used for fishing.
13. Marine _____ is the name for litter once it enters our waterways and ocean.
16. VMR stands for Volunteer _____ Rescue.

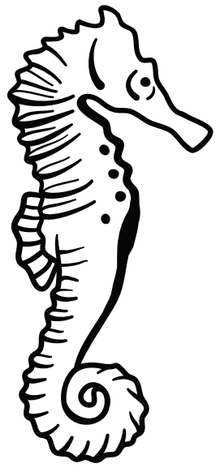
Did you know?

New Zealand would fit in the Great Barrier Reef Marine Park 1.3 times!

SPOT THE DIFFERENCE

**Look closely! There is one seahorse that is different from the others.
Can you spot the difference?**

1



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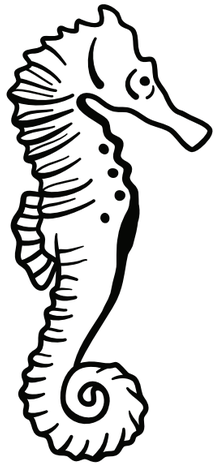

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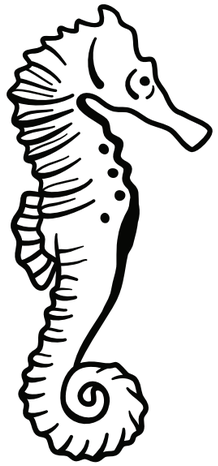

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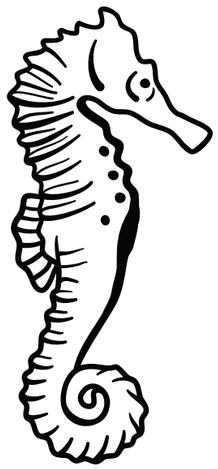

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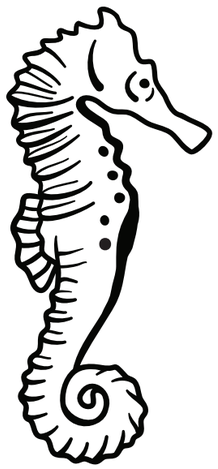

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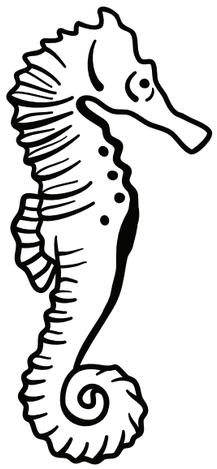


WHO AM I?

**Many species of fish inhabit the coastal waters of our region.
Match the names below to the correct fish species.**

Fingermark
Grass Emperor

1

Parrotfish
Barramundi

3

5

Coral Trout
Maori Wrasse

2

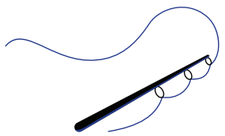
4

6

HOW LONG WILL IT TAKE?

Marine debris is the term used to describe rubbish once it enters our waterways and oceans. There are many different types of marine debris, some decompose quickly while others can takes centuries.

Match the marine debris item to the correct timeframe it takes to naturally decompose.



Fishing Line

3 Months

Aluminum Can

2 Months

Foam Buoy

600 years

Plastic Bottle

3-12 Months

Apple Core

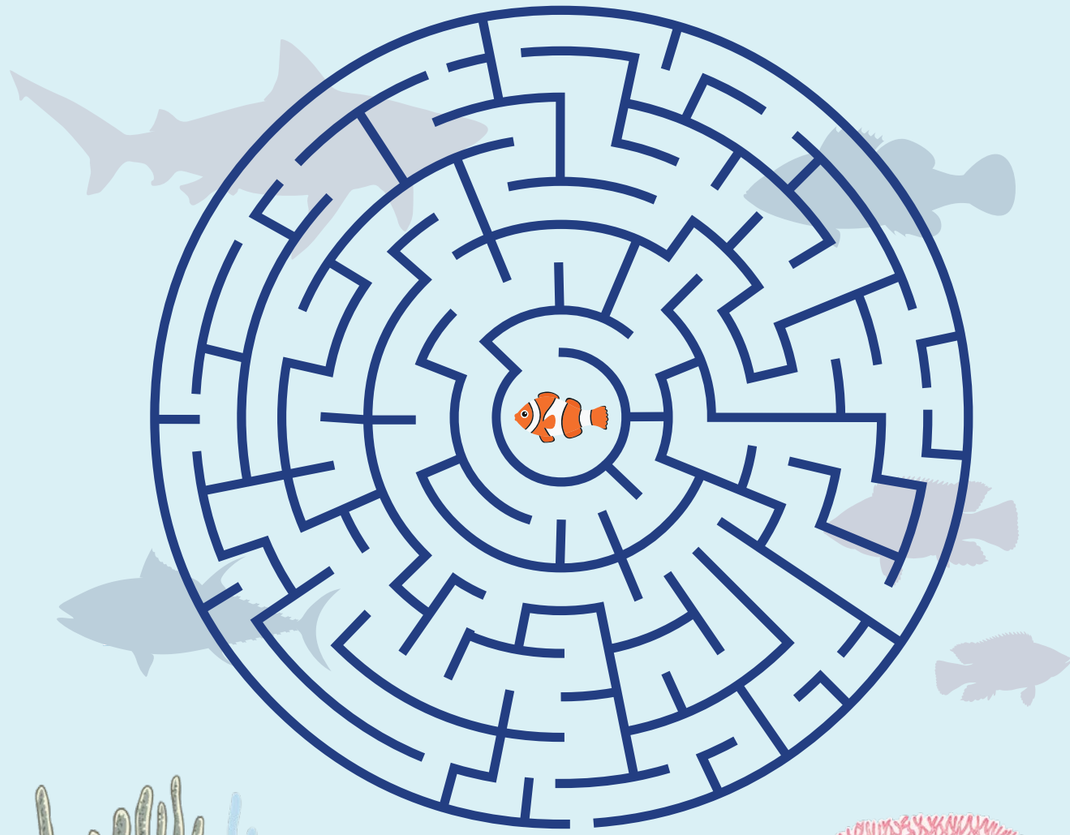
450 years

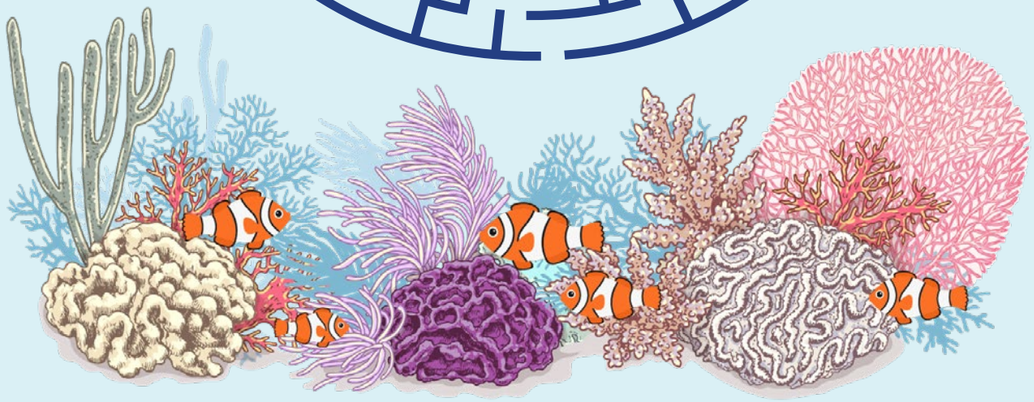
Rope

200 years

ESCAPE THE MAZE

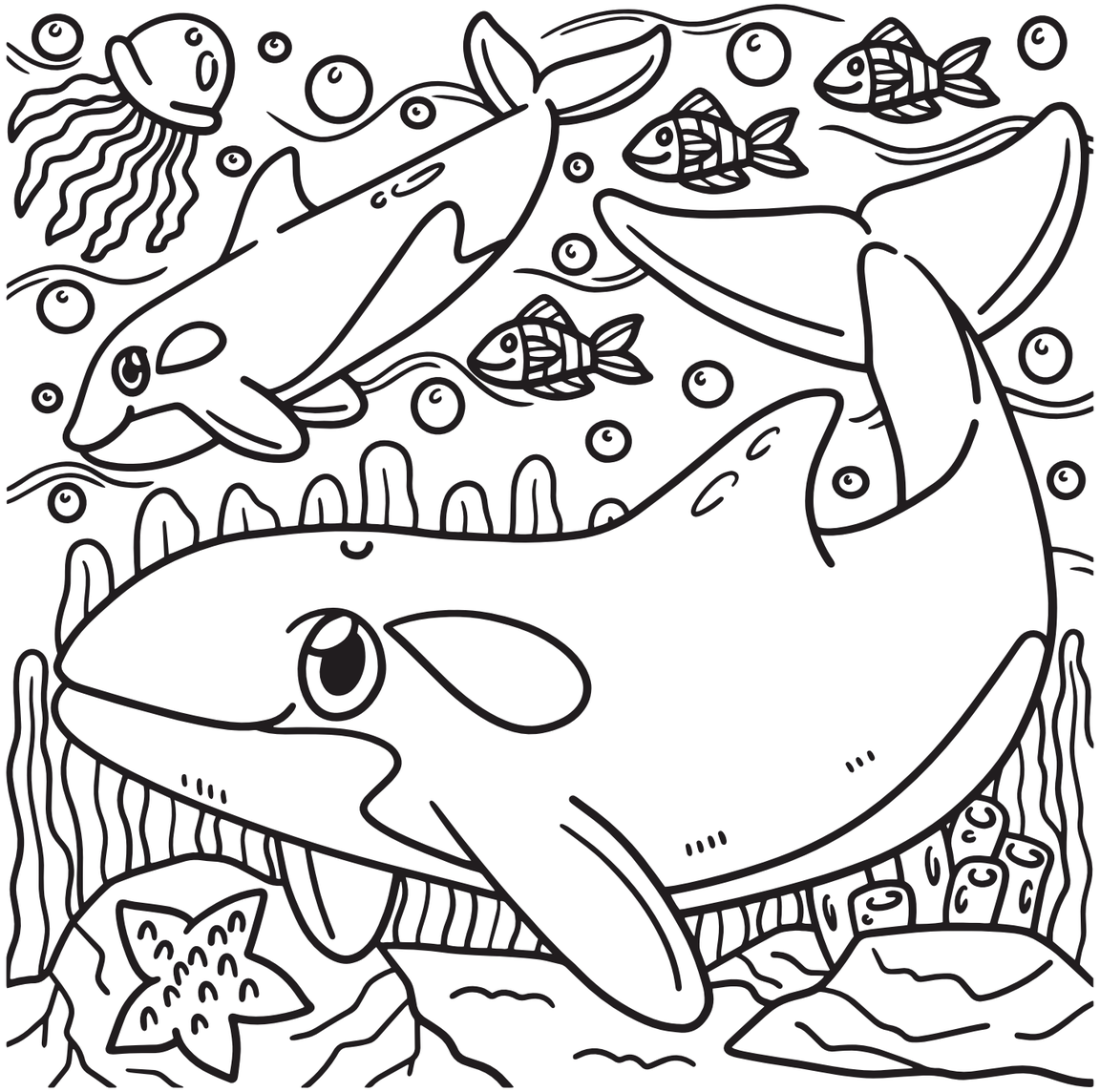
Using a pencil, help Nemo navigate back to the safety of the coral reef habitat and reunite with his family.





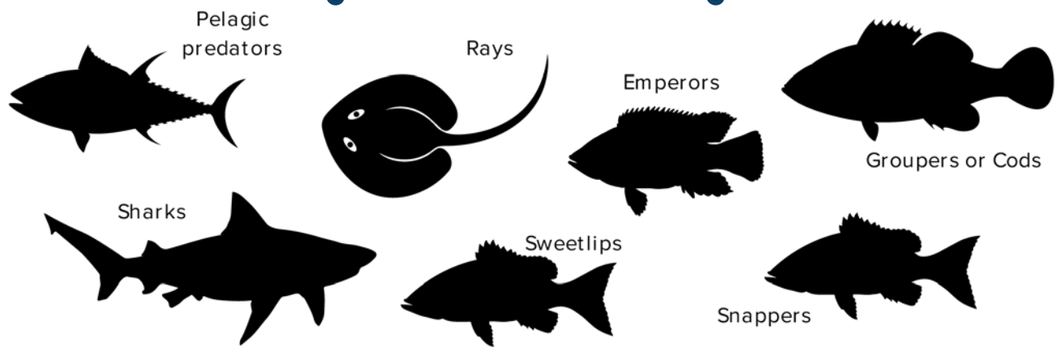
Clownfish and anemone share a symbiotic relationship, meaning they benefit from each other. The anemone provide important protection and shelter for clownfish, and anemone benefit from the nutrients in the form of waste from clownfish.

COLOUR THE UNDERWATER WORLD

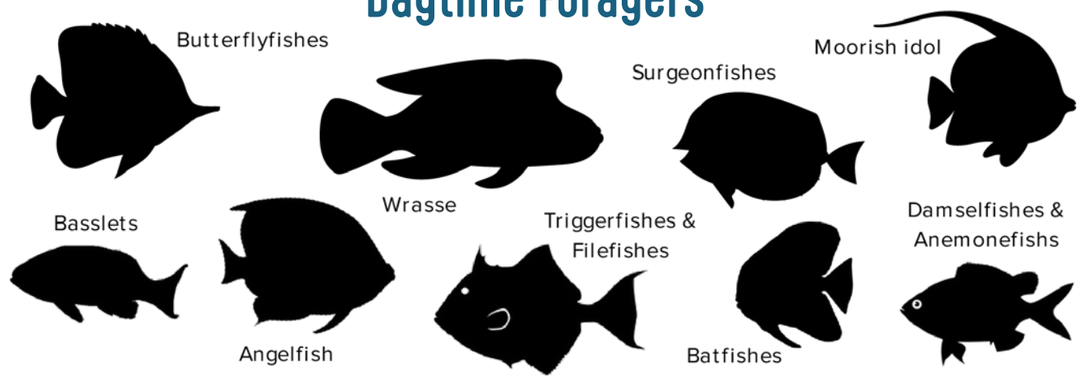


FISHES GUIDE

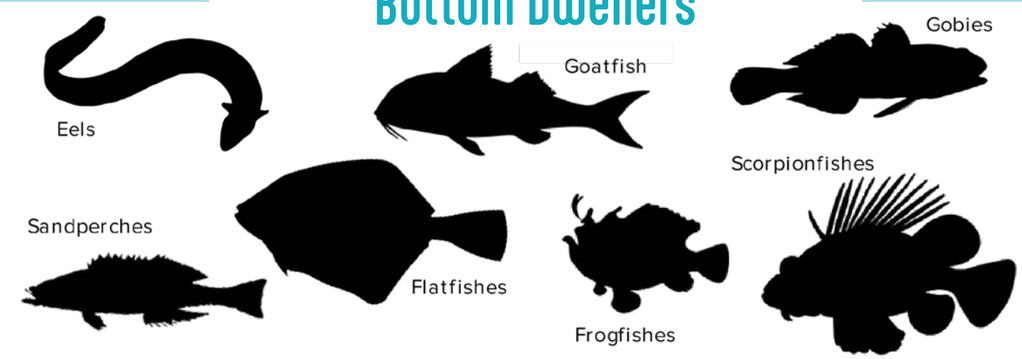
Large Predators & Foragers



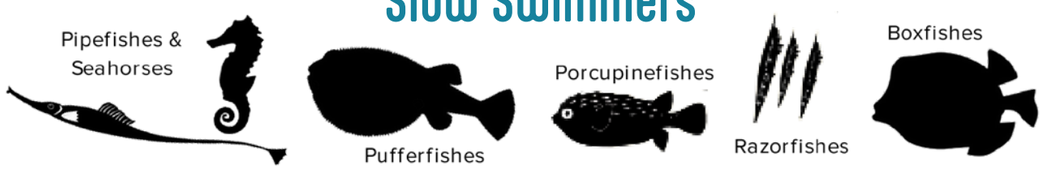
Daytime Foragers



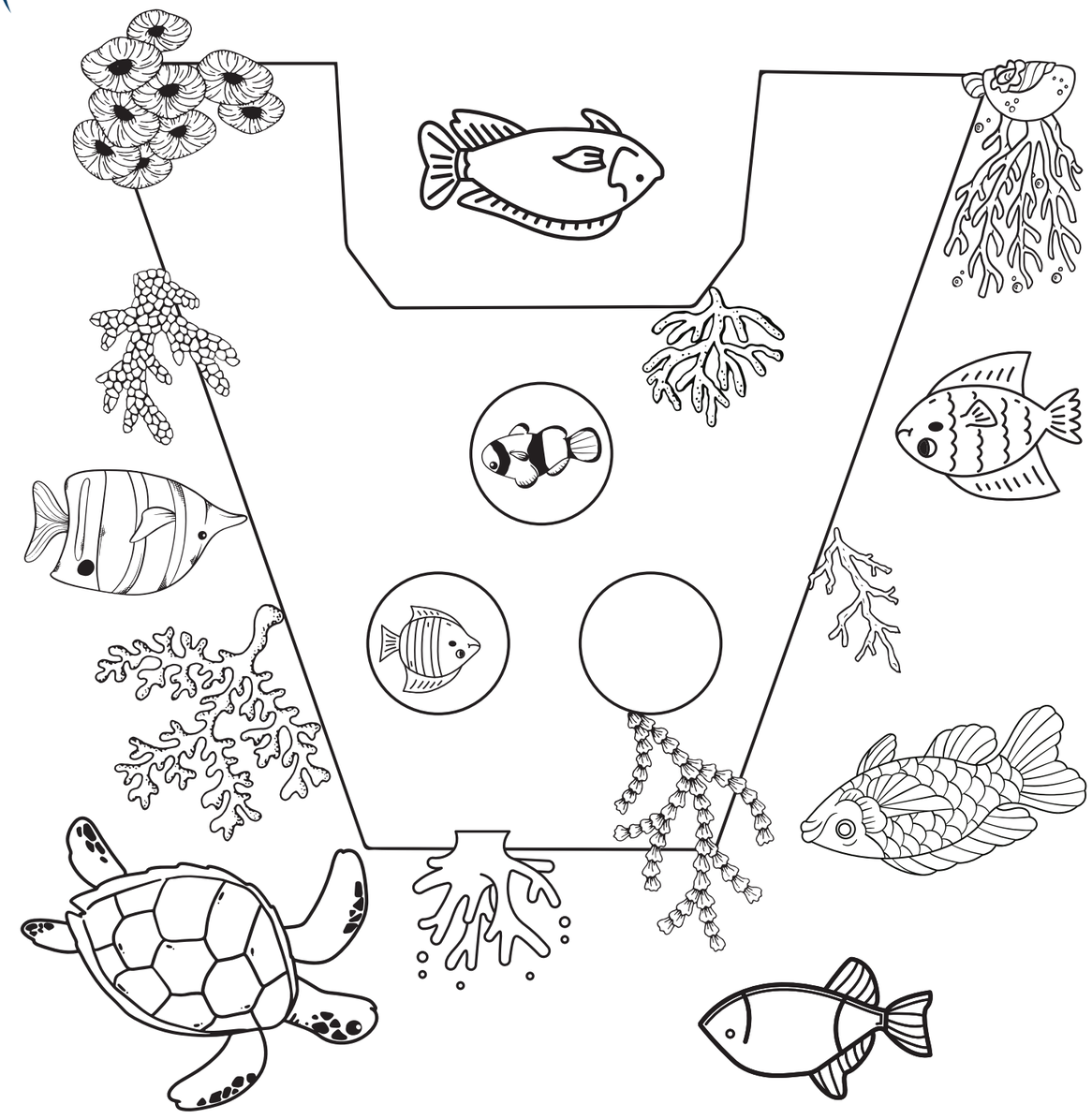
Bottom Dwellers



Slow Swimmers



COLOUR THE REEF RESTORATION SITE



ANSWER KEY

Page 41 - Reef Crossword

							[1]W							
			[2]T			[3]B	A	G	L	I	M	I	T	
	[4]C		I		[5]P				E					
	A		D		[6]A	M	B	U	S	H				
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	T		S		I									
	I			[8]N	F			[9]F	I	S	H			
	[10]L	U	R	E	I			R						
	A			[11]T	A	C	K	L	E					
	G		[12]A						E					
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			T		N				E		I			
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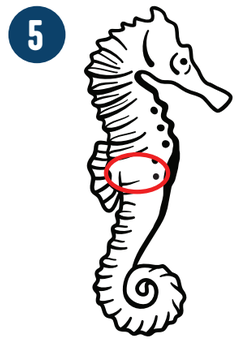
Page 42 - Spot the Difference



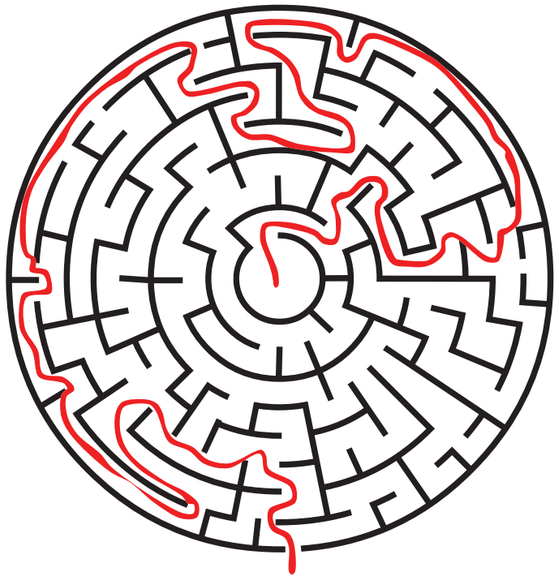
Page 43 - Who am I? (fish edition)

1. Coral Trout
2. Striped Bass
3. Barramundi
4. Grass Emperor
5. Parrotfish
6. Fingermark

Page 44 - How Long Will it Take?

- Fishing line - 600 years
- Aluminum can - 200 years
- Foam buoy - 3 months
- Plastic bottle - 450 years
- Apple core - 2 months
- Rope - 3-12 months

Page 45 - Escape the maze



REEF CATCHMENTS

Resilient ecosystems, engaged community

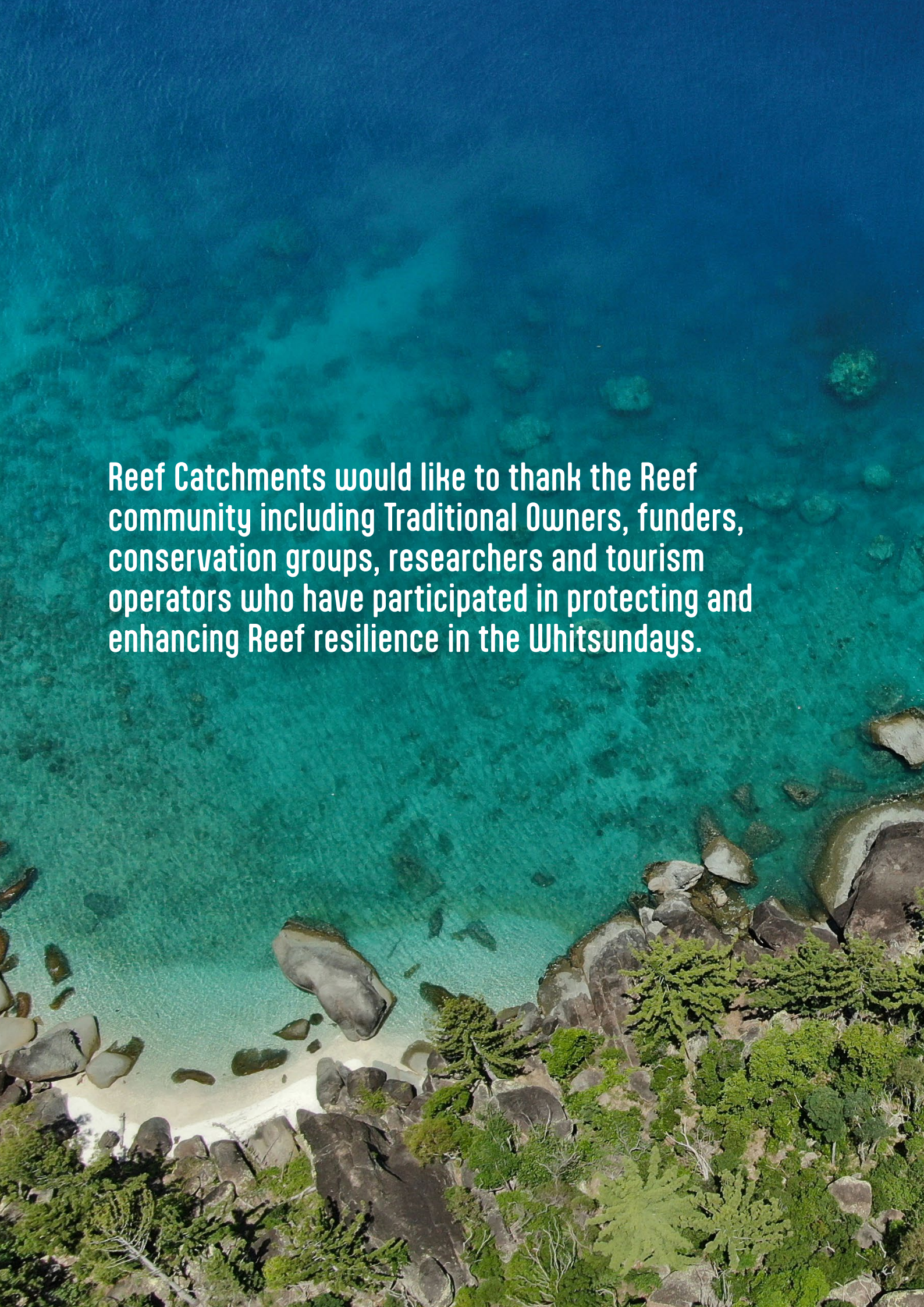
Reef Catchments is the Natural Resource Management organisation for the Mackay Whitsunday Isaac region. From the mountains to the sea, we work with the community to create long-term solutions that enhance, support and sustain our region's natural resources. Now and into the future we are all-in for you, the region and our natural resources.

@reefcatchments

Reef Catchments

Reef Catchments

reefcatchments.com.au



Reef Catchments would like to thank the Reef community including Traditional Owners, funders, conservation groups, researchers and tourism operators who have participated in protecting and enhancing Reef resilience in the Whitsundays.