

above & BELOW

STEWARDSHIP ACTIONS IN THE GLADSTONE REGION | 2026



Gladstone
Healthy Harbour
Partnership



Healthy Harbour, Healthy Future



table of CONTENTS

Above and Below is a collection of local Stewardship activities, demonstrating what has been achieved throughout 2025-2026 to contribute to the continuing good health of the Gladstone Harbour. These stories highlight the actions and initiatives undertaken by our partners to improve conditions both above and below the water.

GHHP Chair's Foreword	3
GHHP Regional Report Card Partnerships	5
CQUNIVERSITY COASTAL MARINE ECOSYSTEMS RESEARCH CENTRE Restoring life beneath the surface at Facing Island	7
PARTNER PROFILE: GLADSTONE AIRPORT CORPORATION	10
FBA Working together for CQ's Marine Turtles	11
GLADSTONE PORTS CORPORATION The race that defines a region: GPC B2G yacht race makes waves again	13
GLADSTONE PORTS CORPORATION GPC backs critical research to safeguard Capricorn Yellow Chat	16



PARTNER PROFILE: CQG CONSULTING	18	DEPARTMENT OF THE ENVIRONMENT, TOURISM, SCIENCE AND INNOVATION	29
GLADSTONE REGIONAL COUNCIL Friends of Conservation growing a healthier harbour	19	Grazing for change beyond our harbour	
GLADSTONE REGIONAL COUNCIL Gladstone Regional Council leads waste education to protect harbour health	21	DEPARTMENT OF THE ENVIRONMENT, TOURISM, SCIENCE AND INNOVATION	31
GLADSTONE REGIONAL COUNCIL Smarter water management for a healthier region	23	From seabirds to snails: monitoring Lady Musgrave Island	
AUSTRALIA PACIFIC LNG OPERATED BY CONOCOPHILLIPS, SANTOS GLNG & SHELL QGC A decade of science, collaboration and care for marine turtles	25	RIO TINTO	32
NRG GLADSTONE POWER STATION Celebrating 50 years of operation	27	From energy to water: Smarter solutions for the future of Gladstone Aluminium	
PARTNER PROFILE: WICET	28	SANTOS GLNG & CQUNIVERSITY COASTAL MARINE ECOSYSTEMS RESEARCH CENTRE	37
		The surprising power of seagrass: Why it's important for the sustainability of our oceans	
		OUR PARTNERS AND CONTRIBUTORS	39

chair's FOREWORD



A MESSAGE FROM THE GLADSTONE HEALTHY HARBOUR PARTNERSHIP CHAIR

As Independent Chair of the Gladstone Healthy Harbour Partnership (GHHP), I'm proud to introduce the 2026 edition of *Above and Below: Stewardship Actions in the Gladstone Region*.

Each year, GHHP's work is grounded in a commitment to understanding and communicating the condition of Gladstone Harbour. Our annual Report Card provides a comprehensive, evidence-based picture of environmental, social, cultural and economic health. It plays an important role in guiding decisions and encouraging shared responsibility across the region.

Alongside this, *Above and Below* offers another perspective. It highlights the work taking place beyond the data, bringing together the on-ground actions, partnerships and initiatives that contribute to the harbour's ongoing care and management.

This year's publication reflects the depth and diversity of that work. Across our Partnership, ranging from industry, research, Traditional Owners, community groups and government, there is a strong and growing commitment to practical stewardship. These collective efforts support healthier ecosystems, strengthen community connection, and build resilience for the future.

This publication is a reflection of collaboration. It shows what can be achieved when knowledge is shared, responsibilities are embraced, and people work together toward a common goal.

I extend my sincere thanks to all those involved, whether through monitoring, research, on-ground action or advocacy. Your commitment is essential to maintaining the integrity and sustainability of Gladstone Harbour.

By continuing to work together, we can ensure the harbour remains a vital economic asset and a healthy, valued environment for generations to come.

A handwritten signature in blue ink that reads "Iain Gordon".

Prof. Iain Gordon

GHHP CHAIR



what WE DO...

AS A PARTNERSHIP
GHHP INCORPORATES
GOVERNMENT, INDUSTRY,
RESEARCH GROUPS, FIRST
NATIONS AND COMMUNITY
WITH THE SHARED GOALS OF;



INDEPENDENTLY MONITORING and reporting on the continuing health of the harbour - environmentally, socially, economically and culturally.



IDENTIFYING OPPORTUNITIES FOR STEWARDSHIP, based on rigorous science and strong stakeholder engagement, to assist in future decisions and improve actions where necessary.



RELEASING an annual report card to communicate our findings to our partners and the wider Gladstone community.

READ OUR 2025 GLADSTONE HARBOUR REPORT CARD

GHHP's annual Report Card provides a science-based snapshot of how the harbour is performing across environmental, social, economic, and cultural values, helping the community, industry, and government understand long-term trends in harbour condition.

The report card measures a wide range of indicators, including water and sediment quality, fish health, liveability and economic performance, with each indicator receiving an overall grade from A (very good) to E (very poor).

Scan the QR code to read the full report and explore the 2025 results:



READ
NOW!



Regional Report CARD PARTNERSHIPS



STORY BY:
GLADSTONE HEALTHY HARBOUR PARTNERSHIP

Across the Great Barrier Reef catchment, five Regional Report Card Partnerships are working together to provide a clearer, locally informed picture of waterway health. These Partnerships, nested under the Reef 2050 Long-Term Sustainability Plan, are supported by the Australian and Queensland governments and more than 150 Partner organisations, reflecting a shared commitment to protecting waterways for future generations.

Each Partnership brings together a diverse mix of stakeholders, such as industry, Traditional Owners, community groups, farmers, fishers, scientists, tourism operators and government. While each region faces its own unique environmental challenges, the Partnerships are united by a common goal: to monitor and understand the health of their waterways through robust science and transparent reporting.

By combining local knowledge with scientific monitoring, Regional Report Card Partnerships provide accessible, trusted insights into environmental condition and trends. The Gladstone Harbour Report Card uniquely incorporates social, cultural and economic indicators alongside environmental measures. Other Partnerships are actively exploring how to integrate social and cultural values into future reporting, reflecting a growing recognition of the broader role waterways play in community wellbeing.

In May 2026, the Regional Collaboration Forum was hosted by the Gladstone Healthy Harbour Partnership, bringing together all five Partnerships alongside representatives from the Queensland Government and the Australian Government. The forum provided an opportunity to share knowledge, strengthen connections and showcase the work being undertaken across regions.

Attendees heard directly from regional organisations about stewardship initiatives and long-term harbour monitoring in Gladstone.

Site visits to Santos GLNG, Queensland Alumina Limited, and the CQUniversity's Coastal Marine Ecosystems Research Centre showcased the scale and strength of local environmental management, as well as the value of industry, research and community collaboration.

The forum highlighted the importance of partnerships in delivering meaningful outcomes for the Great Barrier Reef.

“

BY WORKING TOGETHER, SHARING DATA AND LEARNING FROM ONE ANOTHER, REGIONAL REPORT CARD PARTNERSHIPS ARE HELPING TO BUILD A MORE COMPREHENSIVE AND CONNECTED UNDERSTANDING OF WATERWAY HEALTH ACROSS THE GREAT BARRIER REEF CATCHMENT.

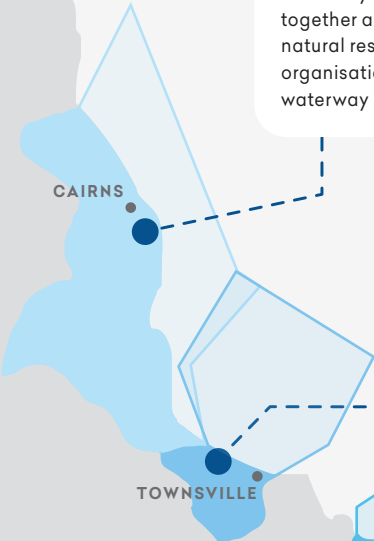


RIGHT: Regional Report Card Partnerships Collaboration Forum held in Gladstone.



WET TROPICS WATERWAYS PARTNERSHIP

Established in 2015, the Wet Tropics Waterways Partnership is guided by the vision of partnering for healthy tropical waterways and vibrant communities. The Partnership brings together all levels of government, industry peak bodies, natural resource managers, researchers and community organisations working collaboratively toward shared waterway health goals.



HEALTHY WATERS PARTNERSHIP FOR THE DRY TROPICS

The Healthy Waters Partnership for the Dry Tropics, formed in 2018, is guided by a vision of healthy waterways, Reef and a thriving Dry Tropics community. The Partnership uses collaborative approaches to integrate environmental, social, economic and cultural information, identify knowledge gaps, and support priority-setting for waterway management.



HEALTHY RIVERS TO REEF PARTNERSHIP

Launched in 2014, the Mackay-Whitsunday-Isaac Healthy Rivers to Reef Partnership shares a vision of healthy rivers and Reef supporting a prosperous region. It integrates the best available independent science with regional and Reef-wide monitoring programs to deliver regionally specific waterway health reporting, from freshwater to marine. Beyond reporting, Partners invest and collaborate on shared projects that connect science and stewardship.

QUEENSLAND



GLADSTONE HEALTHY HARBOUR PARTNERSHIP

Established in 2013, the Gladstone Healthy Harbour Partnership has a vision for a healthy, accessible and working harbour. The Partnership was formed to independently monitor and report on harbour health across environmental, social, economic and cultural dimensions, and to showcase the results to community and Partners through the annual Gladstone Harbour Report Card.



FITZROY PARTNERSHIP FOR RIVER HEALTH

Since 2012, the Fitzroy Partnership for River Health (FPRH) has focused on the largest east-draining basin into the Great Barrier Reef. FPRH, a collective of government, agriculture, resources, industry, research and community interests provides trusted independent scientific information, including emerging trends that supports informed stewardship and collaborative management across the Fitzroy Basin waterways.



Restoring life BENEATH THE SURFACE AT FACING ISLAND



STORY BY:
CQU UNIVERSITY COASTAL MARINE ECOSYSTEMS RESEARCH CENTRE

Just across the harbour from Gladstone, Facing Island quietly does one of the region's most important jobs.

Acting as a natural barrier, it protects the Port of Gladstone from ocean swells and supports a rich mix of nearby islands and reef habitats. Facing Island is home to one of the last small estuaries at the southern end of Shoal Bay, where a largely untouched catchment flows into the coast and out onto Manning Reef. Beneath the surface, however, there has been a gradual change over time.

Seagrass meadows and oyster reefs, once thriving along these shores, have slowly receded, leaving scattered remnants of what were once more extensive habitats in some areas.

Now, a new project is working to bring them back. Backed by the Great Barrier Reef Foundation (GBRF) and led by researchers from CQU's Coastal Marine Ecosystems Research Centre (CMERC), alongside partners CSIRO, Griffith University and OzFish Unlimited, the Shoal Bay Seascape Restoration project, working with Gladstone Ports Corporation, is taking a fresh approach to coastal recovery. This project is part of the larger Great Barrier Reef Foundation's Reef Islands Initiative, a program supported by funding from Queensland Government, the Australian Government's Reef Trust and industry partners.

Rather than restoring habitats in isolation, the team is focusing on how these habitats work together.

"Healthy coastlines aren't made up of just one habitat," CQU Associate Professor Carolyn Lundquist said.

"Seagrass, oyster reefs, mangroves and mudflats all play a role, and when they're connected, they support each other in really powerful ways."

This idea, known as "seascape restoration", is at the heart of the project.

Seagrass meadows, for example, provide critical habitat for marine life and help stabilise sediments. Oyster reefs, meanwhile, act as natural water filters and buffers against wave energy. Together, they create conditions that allow each other, and other species, to thrive.

These habitats collectively play a pivotal role in protecting the coastline itself. By slowing waves and holding sediments in place, these habitats reduce erosion and maintain shorelines over time.



This natural protection can lessen the impact of storms, reduce damage to coastal infrastructure and keep beaches and marine environments stable for the community to enjoy.

When these habitats decline, the impacts can be felt beyond the shoreline, from fewer fish and poorer water quality to coastlines that are more exposed to erosion and extreme weather over time.

Understanding how these habitats interact with one another is key to successfully restoring them. Rather than focusing on a single species or location, this project looks at the bigger picture – how seagrass, oyster reefs and other coastal habitats work together to create a resilient ecosystem.

This knowledge will guide smarter, more effective restoration efforts, not just at Facing Island, but across other coastal areas facing similar challenges.

At the proposed restoration site, Shoal Bay (Facing Island), seagrass meadows have gradually become less extensive over time, with little evidence of natural recovery, partly because seeds from other meadows do not easily reach this area.

Also, only small remnants of oyster reefs remain in this area, reflecting a legacy of past harvesting and coastal pressures. Importantly, these remaining oyster reefs in the Gladstone region are recognised as some of the best examples of this habitat left in Queensland, making their protection and restoration particularly significant. To change this, researchers are trialling new, practical restoration techniques.

In the early stages, this includes planting seagrass seeds and extending oyster reefs using structures filled with recycled shell material called Robust Oyster Baskets (ROBs), a simple but effective way to give marine life a place to settle and grow.

The team are also using drones, conducting underwater surveys and deploying water quality sensors to better understand how these ecosystems interact. This evidence-based approach, informed by science and ongoing monitoring, allows researchers to map habitats across seasons and track changes in water movement and sediment, helping identify the best conditions for restoration.

This science is critical, but the impact goes far beyond data.



RESTORING THESE HABITATS IS ABOUT MORE THAN BRINGING BACK WHAT WAS LOST, IT'S ABOUT PROTECTING THE FUTURE OF GLADSTONE HARBOUR.

By rebuilding these connected habitats, the project aims to improve water quality, strengthen natural coastal protection and create healthier nursery grounds for fish and other marine species.

Ultimately, it's about ecosystem resilience, and ensuring that this important part of the Gladstone Harbour can thrive into the future.



PAGE 7: Oyster reef [between She-Oak and Bushy Islands]. **PAGE 8 LEFT:** Heading back to CMERC after a successful day at Shoal Bay. **PAGE 8 RIGHT:** Surveying habitats in Shoal Bay.

And it's not just researchers playing a role. The project is creating opportunities for the Gladstone community to get involved, from seagrass flower collection events to hands-on oyster reef construction alongside local fishers. Also, Traditional Owners will help guide stewardship of these ecosystems for generations to come.

“Restoration works best when it’s delivered in partnership with the community,” A/Prof Lundquist said.

“

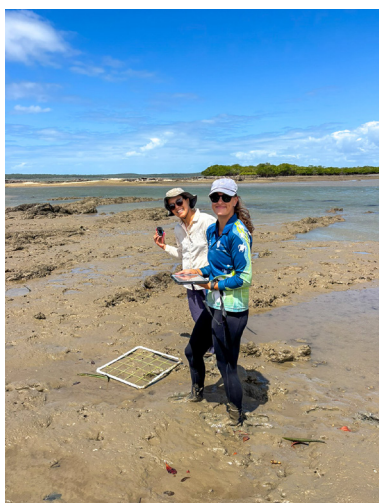
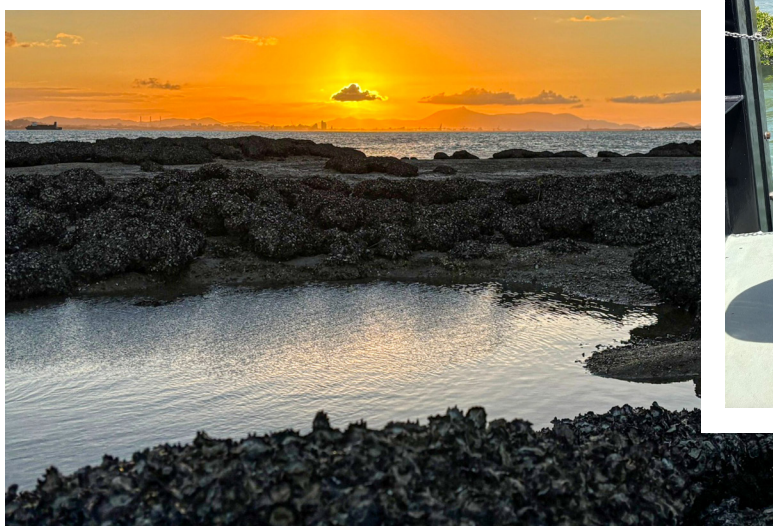
BY GETTING PEOPLE INVOLVED,
WE'RE NOT JUST REBUILDING
HABITATS, WE'RE BUILDING
KNOWLEDGE, CONNECTION AND
LONG-TERM CARE FOR THESE
PLACES

At Facing Island, what happens beneath the surface matters, not just for marine life, but for the health of the harbour, the reef and the community that depends on it.



get involved

Interested in participating in any upcoming community events? Contact us via email: CMERC-admin@cqu.edu.au



PAGE 9, CLOCKWISE FROM TOP LEFT: Sunset at Shoal Bay, with Gladstone port in the background, Deploying structures filled with recycled shell material, called Robust Oyster Baskets, Measuring oyster reef height and cover, GPSS measurements give us 3 dimensional GPS locations including tidal height, Images are taken to validate habitat mapping by drones.



PARTNER PROFILE



GLADSTONE AIRPORT CORPORATION

Gladstone Airport Corporation (GAC), led by Chief Executive Officer Mark Cachia, plays a key role in connecting the Gladstone Region with the rest of Australia. As the region's airport, our primary focus is supporting connectivity for local businesses, industry and the community.

In 2025, GE Aerospace, Qantas and GAC worked together to communicate changes to flight paths into and out of Gladstone. These improvements help reduce flight times and greenhouse gas emissions, supporting more efficient travel for passengers while contributing to sustainability goals.

Sustainability is an important focus for the airport. GAC has already installed more than 200 solar panels on the terminal roof as part of Stage 1 of our renewable energy program. The project will help reduce electricity consumption and operating costs, with Stage 2 planned for the end of FY26.

While airport operations have minimal direct impact on the marine environment, primarily through runoff into local waterways, GAC remains committed to protecting the harbour. The organisation actively manages and cleans drainage systems to ensure impacts remain minimal and is currently undertaking major drainage works to ensure stormwater continues to flow effectively and in the correct direction.

Being a partner of GHHP is important to GAC as it allows us to contribute to the protection and long-term health of the harbour that supports the region.

At GAC, we also recognise the importance of supporting the wellbeing of our team. Our staff participate in Awareness Wednesday, where we wear TradeMutt shirts to promote conversations around mental health and reduce stigma. The Management team has undertaken Mental Health First Aid training to further support a positive and healthy workplace.



Working together FOR CQ'S MARINE TURTLES



STORY BY:
FBA

Every marine turtle nesting and hatching season leaves its mark on the Curtis coast.

It can be seen in the tracks pressed into the sand, the nests disguised above the tide line and the tiny hatchlings that emerge and begin their journey to sea. But behind those moments is another story. One of community. People working together to protect something precious.

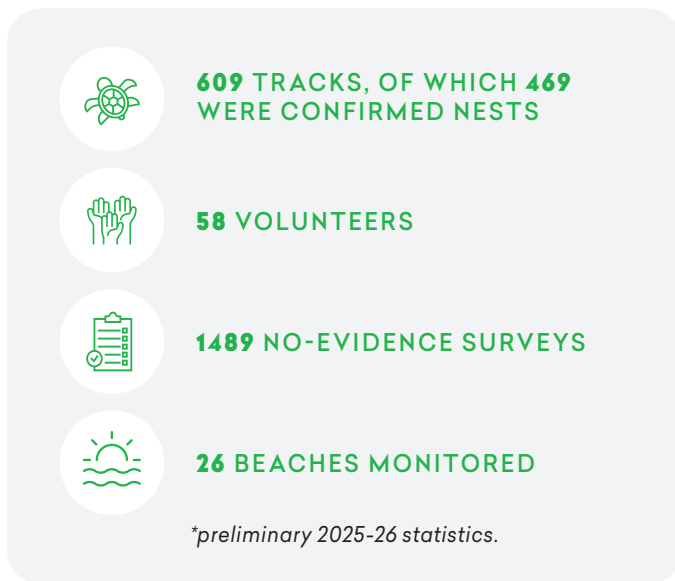
Since 2015, FBA's Team Turtle Central Queensland (Team Turtle CQ) has played an important role in monitoring and reducing threats to marine turtles along the Curtis and Capricorn coasts. Built on citizen science and local stewardship, the program brings volunteers onto beaches throughout nesting season to monitor turtle activity and gather the information needed to support long-term conservation.

The 2025-2026 season was especially significant, marking 10 years of Team Turtle CQ and a decade of community action for turtles in central Queensland.

Throughout the season, Team Turtle CQ volunteers patrol local beaches to record turtle tracks, nesting attempts, hatchling success and threats such as predators, four-wheel drive activity and light pollution. This information helps build a clearer picture of how marine turtles are using local beaches and what threats are impacting them.



This season across the broader Team Turtle CQ project area, including the Curtis Coast, Facing Island, the Keppel Islands, Byfield National Park and Stange Bay, volunteers recorded:



Among the volunteers helping tell that story is Alice Pakay, who has volunteered with Team Turtle CQ for the past four turtle seasons. “I love turtles. I think they are amazing creatures,” she said. “By volunteering with Team Turtle CQ, I feel I’m making a positive impact on the survival of turtles.”

Alice starts monitoring the northern beach at Facing Island around mid-October and in an extraordinary solo effort, then monitors beaches and nests up until April each year. Alice sees mostly flatback turtles, and the occasional green or loggerhead make their way from the water’s edge to nest.

The data Alice collects informs species management efforts as it is shared with the Queensland Turtle Conservation Program, contributing to state-wide database and with Gladstone Ports Corporation who support a marine turtle census annually in the South of Facing Island on Settlement Bay.

“**WITHOUT OUR VOLUNTEERS THERE WOULD BE NO DATA. WE WOULD HAVE NO IDEA IF WE WERE STILL GETTING TURTLES ON OUR BEACHES OR NOT. EVERY LOG OUR VOLUNTEERS DO HELP TELL A STORY OF WHAT HAPPENS ON EACH BEACH SO WE CAN SEE WHAT IS CHANGING FROM YEAR TO YEAR.**”

That impact is strengthened by the wider network of organisations working alongside FBA to support turtle conservation in the Gladstone region. Rio Tinto donated nest protection cages to help Team Turtle CQ safeguard vulnerable nests, while Gladstone Ports Corporation funded nesting census work on Facing Island, building knowledge of turtle activity in the area. Gladstone Regional Council has invested significant effort into public education regards marine turtles and positive human behaviours that can support their conservation, and organises a targeted fox control program across coastal areas, delivered by A.S. Dog Trapping in collaboration with industry; Boyne Smelters Limited and Queensland Alumina Ltd. These efforts combined with investment, local knowledge and on-ground action will help protect vulnerable marine turtle populations across the region.

Together, these collaborative efforts demonstrate what stewardship looks like in practice. Protecting marine turtles is about more than monitoring beaches. It is about caring for the health of coastal ecosystems, building community connection and giving threatened species a better chance into the future.

As Team Turtle CQ celebrates 10 years, the season just gone stands as a reminder that shared effort can leave a lasting mark, not only on the sand, but on the future of Gladstone’s turtles.



LEFT: Handover of BSL aluminium nest protection devices. **MIDDLE:** TTCQ Volunteer Alice Pakay collecting turtle nest data. **RIGHT:** Protected nest volunteer.



AUS
1001

OCCOR

WANTY

STRATAC

The race that defines a region: GPC B2G YACHT RACE MAKES WAVES AGAIN



STORY BY:
GLADSTONE PORTS CORPORATION

The Gladstone Ports Corporation Brisbane to Gladstone Yacht Race set sail for its 78th year, carrying with it nearly eight decades of tradition.

Each Good Friday, the fleet departs Moreton Bay off the Shorncliffe headland, marking the start of Queensland's premier Easter Weekend sporting event. Loved by sailors and spectators alike, it stands as one of Australia's most iconic ocean yacht races.

Competitors travel from across Queensland, New South Wales, Victoria, Tasmania and overseas to contest the historic Courier Mail Cup, one of Australia's oldest perpetual trophies. Over the years, the race has earned multiple accolades including official government recognition in Queensland's 150 year commemorative celebrations and a Queensland Tourism Award.

“

THE TRADITION BEGAN IN EASTER 1949 WHEN SEVEN VESSELS LINED UP FOR THE INAUGURAL RACE. ONLY TWO CARRIED RADIOS; THE REMAINING CREWS RELIED ON HOMING PIGEONS SUPPLIED BY BRISBANE'S HOMING PIGEON CLUB, RELEASING TWO BIRDS EACH DAY TO REPORT THEIR POSITION.

Today, the fleet follows a 308 nautical mile (570 kilometre) course from Shorncliffe through the Northwest Channel and along the coast to Gladstone. As the yachts cross the anticipated finish line, they are greeted by the buzzing foreshore of Gladstone Ports Corporation's (GPC)'s East Shores Parklands and the Easter in Gladstone festivities.

The race has delivered extraordinary feats, including Black Jack 100's 2022 record breaking corrected-time performance, completing the course in 16 hours, 13 minutes and 56 seconds setting an impressive average speed of 18.97 knots.

Of course, the race isn't always smooth sailing and has faced its share of challenges. In 1972, Cyclone Emily produced extreme weather and incredibly tough conditions including winds of up to 96 knots. Only five of the 25 starter yachts reached the finish line.

Now deeply woven into Gladstone's Easter traditions, the Gladstone Ports Corporation Brisbane to Gladstone Yacht Race stands as Australia's second largest ocean yacht race and a legacy that GPC CEO Andrew Johnson says the organisation is proud to support.

“This year marks my first Easter in Gladstone, and I'm proud to be part of an event that holds such significance for our State, and for the thousands of locals and visitors we'll welcome over the long weekend,” Mr Johnson said.

GPC has committed \$300,000 over five years to the Queensland Cruising Yacht Club (QCYC), ensuring this celebrated event continues to thrive for years to come.

“Our commitment to Growth, Prosperity and Community sits at the heart of this sponsorship,” Mr Johnson said.

“These values shine through in an event that brings people together, boosts regional tourism and showcases the very best of Central Queensland’s coast.”

When sailors cross the finish line, they are welcomed at GPC’s 5 Gold Anchor Marina, where crews help the sailors relax, refresh and explore everything the Gladstone region has to offer.

GPC’s award winning foreshore and parklands continue to serve as vibrant community spaces that enhance the celebration. From Auckland Hill Lookout to the East Shores, Spinnaker and Marina Parklands spectators can enjoy free, front row viewing of the much anticipated finish.

GPC’s longstanding support for the race includes extensive in-kind assistance, including complimentary berthing for all entrants, access to premium marina facilities, a 24-hour shuttle service, and berthing support for yachts entering the Marina.

Gladstone’s own yacht Restless set sail once again this year, skippered by John Ibell with crew members Kerry Millard, Matt Ibell, Evan Greenaway, Bradley Ashcroft and Mitchel Brown, with their sights set on the prestigious Gladstone Ports Corporation Brisbane to Gladstone Yacht Race title.



PAGE 13: Line Honours Winner, Wild Thing 100. **TOP:** Winner of IRC Courier Mail Cup, KERB. **BOTTOM:** Presentation Ceremony representatives QCYC Commodore David Hamilton, Kerrin Schallmeiner and David Osmond.



GPC backs critical research TO SAFEGUARD CAPRICORN YELLOW CHAT



STORY BY:
GLADSTONE PORTS CORPORATION

Gladstone Ports Corporation (GPC) has partnered with researchers from CQUniversity to conduct research into threats facing the Capricorn Yellow Chat.

The Capricorn Yellow Chat (one of three subspecies of Yellow Chat) is a small (~10 g), bright yellow bird that inhabits coastal marine plains. Males can be distinguished from females by the presence of a small black band across their chest and are considerably brighter in colour during the breeding season.

Capricorn Yellow Chats (*Epthianura crocea macgregor*) are found only in the Capricorn Coast region and were thought to be extinct prior to rediscovery of a small population in 1991. Now, the chats are listed as Critically Endangered, and it is estimated that only ~250 birds remain. Research and conservation efforts are therefore vital to protect this iconic bird.

Researchers have identified many threats facing the Capricorn Yellow Chat. Past research, led by CQUniversity researcher, Wayne Houston, has found significant impacts of rising sea levels on habitat used by the chats on Curtis Island. Rising sea levels on coastal marine plains lead to increasingly saline water bodies, which in turn impacts the vegetation and invertebrates that birds such as the Capricorn Yellow Chat rely on for breeding, cover and food.

Mr Houston's research concluded that, "if sea-level rise continues at its current rate, the Curtis Island marine plain will become unsuitable for Capricorn Yellow Chats in the next 60 years or less". There is therefore an urgent need for increased research and conservation efforts to protect the Capricorn Yellow Chat.

CQUniversity Postdoctoral Research Fellow, Dr Grace Blackburn is currently conducting research into the threats facing Capricorn Yellow Chats.

“This small bird faces many threats, including climate change impacts, predation by introduced species, and habitat alteration caused by invasive plants,” Dr Blackburn said.

“

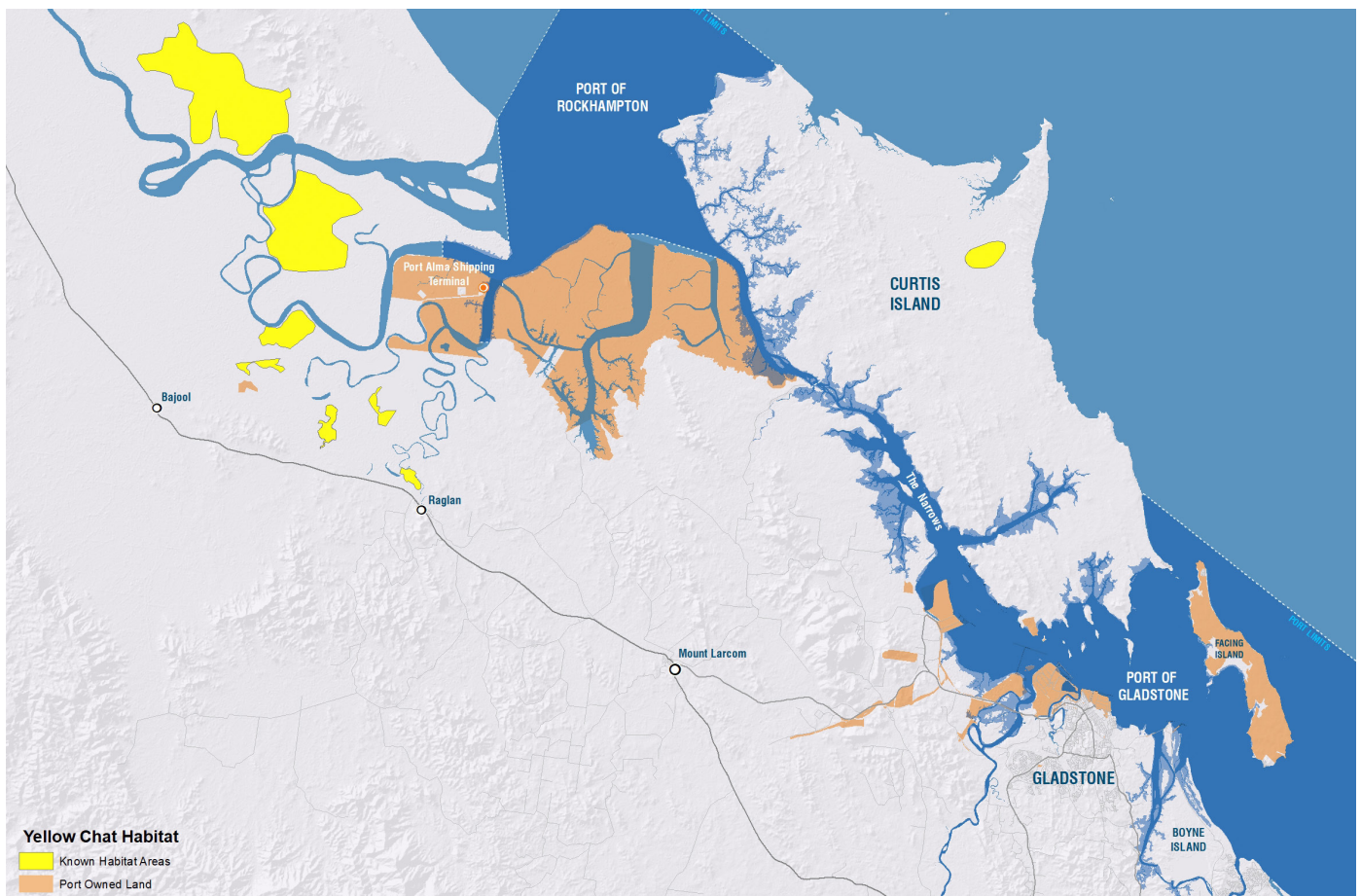
BY RESEARCHING AND QUANTIFYING THE IMPACTS OF THESE THREATS, WE AIM TO WORK WITH STAKEHOLDERS TO DEVELOP TARGETED MANAGEMENT STRATEGIES THAT WILL BENEFIT NOT ONLY THE CHATS, BUT ALSO MANY OF THE NATIVE SPECIES THAT RESIDE IN THESE HABITATS.

Such management strategies could include targeted control of feral animals, management of invasive weeds, and increasing the habitat security of chats through a conservation covenant.

This collaboration between GPC and CQUniversity highlights the need and value of viable coastal ecosystems and the human societies that depend on them. This nature positive project falls under a Memorandum of Understanding (MOU) established in 2023. This work offers an exciting opportunity to contribute to the recovery of this beautiful bird, alongside other important stakeholders including Queensland Parks and Wildlife Service and BirdLife Capricornia. This project builds on the conservation efforts detailed in the 2023 Capricorn Yellow Chat Recovery Action Plan.



for more details
Refer to the Capricorn Yellow Chat Project Fact Sheet, available via the QR code.



PAGE 16: Female Capricorn Yellow Chat. Credit Bob Black, CQUniversity.
ABOVE: Map showing Yellow Chat habitats within the region.



LEFT: Male Capricorn Yellow Chat. Credit Wayne Houston, CQUniversity. **RIGHT:** Female Capricorn Yellow Chat. Credit Wayne Houston, CQUniversity.



PARTNER PROFILE



CQG CONSULTING

Established in 2003, CQG Consulting (CQG) is a Queensland owned and operated business offering planning and development, environmental, sustainability and engineering services to local, national and International clients. With offices in Gladstone, Rockhampton, Townsville, Mackay, and Brisbane, CQG has a diverse team of accredited and qualified staff across a range of disciplines with hands-on experience in delivering practical and sustainable solutions to clients. We have the largest team of environmental professionals in regional Queensland working across several sectors.

CQG's staff are passionate about protecting and enhancing our people, the environment, and communities in which we operate. As such, we have committed to reducing our greenhouse gas emissions. Our commitment to environment, social and governance performance is reflected in our values and policies.

CQG has been a GHHP Partner since 2014. Being a GHHP Partner strengthens our ability to lead with purpose, influence meaningful change, and contribute to a healthier, more resilient future for the Gladstone Harbour. We recognise that long-term well-being is interconnected with environmental, economic, cultural, and social sustainability. GHHP's collaborative framework enables us to engage with forward-thinking partners, leverage collective insights, and drive scalable impact.



Friends of Conservation

GROWING A HEALTHIER HARBOUR



STORY BY:
GLADSTONE REGIONAL COUNCIL

Every week, a committed group of community volunteers gathers at a local Council nursery—quietly undertaking work that has a big impact across the Gladstone region. Known as the Friends of Conservation, this dedicated team spends countless hours propagating native plant species that help restore local environments and support a healthier Gladstone Harbour.

Their hands-on efforts strengthen local ecosystems, rebuild natural habitats and demonstrate what community-led stewardship looks like in action.

What begins as a tray of seedlings in a nursery, ultimately becomes thriving vegetation that stabilises landscapes, filters runoff, shelters wildlife and supports the connected ecosystems that feed into the harbour.

At the heart of the Friends of Conservation's work is the propagation of local native species—plants uniquely adapted to the climate, soil and ecological conditions of Central Queensland. Seeds or vegetative material is responsibly harvested from local environments then nurtured in the nursery to until they reach a suitable planting size.



ABOVE: The volunteers work diligently in the nursery each week propagating native plants for revegetation projects across the Gladstone region, **RIGHT:** Friends of Conservation volunteers revegetating the foredune community at Tannum Sands main beach.

Volunteers contribute to this process in many ways, from plant material collection, propagation, potting, watering, weeding, and preparing plants for field projects. Their work not only reduces project costs but significantly expands Council's capacity to undertake environmental restoration across the region.

The volunteers also get hands-on in the field, returning their tenderly grown plants back into the landscape where they contribute to local biodiversity and ecosystem services. The dedicated volunteers together with Council's Conservation Field team planted over 4,000 native plants in 2025 across a diverse range of ecosystems.



Some of the key project sites include coastal foreshores at Tannum Sands main beach and Canoe Point, and riparian corridors along Tigalee Creek in Gladstone.

At 86 years young, long-term Friends of Conservation volunteer, Neville Gersch, has enjoyed working in the nursery since 2018. His poem 'When Old Men Plant Trees' reflects the commitment, community spirit and sense of purpose shared by volunteers who give their time each week.

As habitats are restored, healthy vegetation supports a wide range of birds, insects, reptiles and mammals, strengthening the land-based biodiversity that underpins the broader ecological networks linking forests, wetlands and the harbour itself.

“

AS VOLUNTEERS, WE ACHIEVE GREAT SATISFACTION FROM RE-ESTABLISHING VEGETATION IN OTHERWISE DEGRADED AREAS, ESPECIALLY THE END-TO-END PROCESS OF SEED COLLECTION, PROPAGATION, RAISING AND THEN PLANTING OUT INTO THE FIELD.

WHEN OLD MEN PLANT TREES

A POEM BY VOLUNTEER, NEVILLE GERSCH

*A society's health, ancient Greeks once said
Was marked by their old men who then were led
To the planting of trees beneath the shade of which
In their lifetime they never would sit.
And that's what we do as volunteers
Mainly Old Men with some younger peers.*

*Out in the bush as we begin our field days
Learning what's there through vegetation surveys
Led by Monique who our work oversees
And Anjelica too as we collect seeds.
Then back to the Nursery with cuttings and fruits
To carefully sow and to hope they take root.
Nurtured with care and fed with their meds.
When the time's right they come out of their beds
And into their pots so that they can grow
Strong enough so into the field they can go.*

*With picks and shovels in the field for the day
Digging good soil, soft sand, or rock-solid clay.
No matter the soil, it's the water that is key
Which reminds us also that it's time for coffee.
While conversation runs free in our company of friends
We know that conservation work never ends.
Side excursions also sometimes come our way
Always learning, there is no dull day.
Which is why we look forward to future weeks
Because it all helps old men to plant trees!*

Additionally, well-vegetated landscapes are better equipped to cope with extreme heat, intense storms and shifting rainfall patterns—factors that directly influence coastal conditions and play a critical role in maintaining the long-term health and resilience of Gladstone Harbour.

The work of the Friends of Conservation volunteers shows how meaningful environmental change often starts with small, consistent actions. Each seedling propagated and each plant placed into the ground contributes to a stronger, healthier environment and a more resilient harbour.



Gladstone Regional Council LEADS WASTE EDUCATION TO PROTECT HARBOUR HEALTH



STORY BY:
GLADSTONE REGIONAL COUNCIL

Gladstone Regional Council (GRC) is committed to the Gladstone Healthy Harbour Partnership through the delivery of targeted waste education and landfill diversion initiatives aimed at protecting the health of the harbour and surrounding ecosystems. Over the past year, Council strengthened this approach through the Recycle Right behaviour change program, designed to improve recycling habits, reduce contamination, and prevent hazardous materials from entering kerbside bins.

Delivered between December 2024 and October 2025, the program formed part of the Queensland Government's *Let's Get It Sorted* campaign and reached thousands of residents across the region. The engagement strategy was multifaceted, which included school programs, community events, audits, facility upgrades, social media outreach and clear, high visibility communications to simplify recycling and encourage safer waste practices.



Audit findings informed improvements to waste operations for more effective approaches for landfill diversion. Household batteries - identified as a significant contamination issue – saw the installation of safe disposal battery bins at facilities across the region. “Wishcycling” - items incorrectly placed in kerbside bins, was addressed through free drop off options for reusable materials. More than 26,000 Recycling Bin Stickers were also delivered and distributed at events to residents, organisations and institutions to improve sorting at source.

Community engagement recorded participation in 25 community events enabling direct interaction with more than 2,200 residents. While partnerships with 17 schools helped embed sustainability through initiatives like The Bin Wrap project, Game of Throws and instructive resources like the R.E.C.Y.C.L.E. song and educational videos.

Further support included pantry cards, newsletters, colouring in sheets and programs like Recycle Mate, The Great UnWaste.

Through clear messaging, infrastructure improvements and evidence-based strategies, Council continues to prioritise landfill diversion while reducing risks to harbour health caused by litter and pollution. Future efforts will focus on enhancing recovery, education, expanding specialised drop off options and preparing the community for the rollout of the Garden Organics service in July 2026.

LEFT PAGE: New Waste Trucks featuring waste education and our mascot Rollanda Recycle. **TOP:** Gladstone State High students who participated in the Game of Throws Project. **LEFT:** Gladstone region Councillors championing the Let’s Get It Sorted recycling bin sticker campaign. **RIGHT:** Waste Education Bin Wraps by Yarwun State School on display at Yarwun Transfer Station with local artist Jen Holstein.



Smart water MANAGEMENT FOR A HEALTHIER REGION



STORY BY:
GLADSTONE REGIONAL
COUNCIL

As part of its commitment to smart asset management and sustainable water use, Gladstone Regional Council has been progressively installing Advanced Water Meters across the region since 2023. This multiyear project has already delivered more than 15,000 upgraded meters - representing around 60% of the network, with installations scheduled to continue until November 2026. Once completed, the entire region will benefit from more efficient, accurate, and environmentally responsible water management.

Advanced Water Meters use secure wireless communications and long-life batteries to record and transmit water consumption data at regular intervals, unlike traditional meters that require manual reads and access to the physical meter. Advanced meters provide a continuous flow of near real-time information that both Council and residents can access, improving transparency, accuracy and reduces the need for manual reads.

Advanced Water Meters give residents the kind of data needed to become active participants in water conservation. Through the MyWater Portal, residents can monitor their water consumption hourly, daily or weekly and develop strategies to reduce water usage. The increased visibility empowers households to adjust routines, invest in efficient appliances and form habits that reduce overall consumption. Potential leaks can also be detected early by setting up leak alerts, allowing residents to fix issues promptly and lowering household bills.

“

THE REGION IS ALREADY EXPERIENCING MEASURABLE BENEFITS FROM THIS PROJECT. FOLLOWING THE ROLLOUT OF STAGE ONE IN THE SOUTHERN PARTS OF THE REGION, WATER CONSUMPTION DECREASED BY APPROXIMATELY 30%.

This significantly decreases the pressure on water resources and infrastructure and will have direct benefits to the health of Gladstone Harbour. Efficient water management supports sustainable use of freshwater resources, increasing drought resilience and supporting healthier catchments and waterways.

It also reduces demand and enables efficiencies on supply and pumping infrastructure, reducing energy use and carbon emissions.

By embracing Advanced Water Meters, the Gladstone Region is well positioned to enhance water security, empower residents, reduce operational impacts, and support the continued health and vitality of Gladstone Harbour.



LEFT PAGE: Advanced water meter using secure wireless technology and long-life batteries for reliable operation. **TOP:** Advanced meters give Council and residents ongoing access to near real-time information. **BOTTOM:** Sustainable water management supports the long-term health and resilience of local waterways and the Gladstone Harbour.

A decade of SCIENCE, COLLABORATION AND CARE FOR MARINE TURTLES



STORY BY:
AUSTRALIA PACIFIC LNG OPERATED BY
CONOCOPHILLIPS, SANTOS GLNG, SHELL QGC

Australia Pacific LNG operated by ConocoPhillips, Shell QGC, and Santos GLNG have reached an important milestone with the completion of a ten year marine turtle monitoring program in Gladstone.

Monitoring conducted through the Long-Term Turtle Management Plan has grown into one of Australia's most comprehensive long-term studies of flatback and green turtles within an industrialised port environment.

FLATBACK TURTLE NESTING

Objective:
Develop control charts and predictive demographic models of flatback turtles nesting on Curtis Island and Avoid Island to determine any changes in the long-term trend.

Monitoring locations:

- Avoid Island
- Curtis Island
- Wild Duck Island

Requirements:
Monitoring of nesting turtles for four weeks across the season for a minimum of five years. Additionally, a full season census around Year 5. A standard census at Curtis Island and Wild Duck Island in Year 10.

Progress:

10 Years of monitoring

10 years of monitoring was completed on Curtis Island, and nine years at Avoid Island (exceeding the minimum of five years). Full season census monitoring was conducted on Curtis Island and Avoid Island in 2016-17. Desktop modelling of all the rookeries in the Gladstone region was completed in 2020 and 2025. Several years of additional monitoring was funded at Wild Duck and Peak Islands.

Key findings and outcomes:

- Southend Beach at Curtis Island functioned as an effective rookery during the past decade, with high nesting success (60%), hatching success (75%) and emergence success (75%), and low levels of predation.
- There was no change in performance of the Curtis Island rookery in response to the establishment of the LNG facilities.
- The number of nesting flatback turtles at Southend Beach Curtis Island fluctuates widely (up to two standard deviations) around the baseline mean of 55 nesters.
- There are consistent patterns in the number of female flatback nesters at Curtis Island and Avoid Island (control site) from year to year.
- Regional factors that affect the quality of flatback turtle foraging habitats in the Great Barrier Reef lagoon are likely to be the key drivers of nester numbers at rookeries from year to year.
- The female flatback nesting population at Curtis Island is estimated to be stable and comprises 140 turtles, with each individual migrating to nest at Southend Beach Curtis Island every third year on average.
- The occurrence of rainfall and heat wave events throughout the nesting season influences the temperature of nesting beach sand, which influences the sex ratio of flatback hatchlings.
- Flatback nesting populations at Wild Duck Island and Avoid Island are also assessed to be stable, with Peak Island the only rookery in the region considered to be in a state of decline.

Key research collaborators

eco logical AUSTRALIA
A TOTAL SOLUTION PROVIDER

SKY GLOW ASSESSMENT

Objective:
Provide data on the night-time sky glow of the Gladstone region, with a view to assessing an increase caused by the establishment of the LNG facilities. Assist with the interpretation of flatback nesting and hatching dispersal data.

Night-time sky glow

Night-time sky glow increased during and immediately following construction of the LNG facilities, and other nearby Port projects. A gradual reduction in sky glow has since been observed. Light emissions from the LNG facilities have a low proportion of blue light, to which turtles are most sensitive. Large ships anchored offshore (not LNG industry) are a key source of light affecting the nesting beaches.

Sky glow locations:

- Southend North and Southend Lagoon (Curtis Island)
- Ocean Beach and Settlement Beach (Facing Island)

Requirements:
Complete sky glow assessments every two years during the nesting and hatching seasons, for 10 years.

Progress:

Key findings and outcomes:

- The Gladstone region's turtle nesting beaches are affected by artificial light from widespread industrial and residential sources.
- Flatback turtle nesting beaches at Curtis Island and Facing Island experienced an increase in night-time sky glow brightness between 2012 and 2016-17, following construction of the LNG facilities and other industrial and residential developments in the region.
- Sky glow from the LNG facilities has been gradually declining since 2016-17.
- Settlement Beach at Facing Island was the monitoring site with the brightest sky, with Southend (Lagoon) on Curtis Island and Ocean Beach on Facing Island the next brightest.
- The orange glow of the LNG facilities is assessed to be of lower risk to marine turtles than the white glow of the broader Port Curtis region.
- Lights from an offshore ship anchorage are visible from the nesting beaches and provide another source of light pollution potentially affecting marine turtles. Most ships at anchor are not associated with the LNG industry.
- Local weather conditions, including cloud cover and sea mist significantly amplify the brightness of artificial light, creating challenges for comparing monitoring results across multiple years.

Key research collaborators

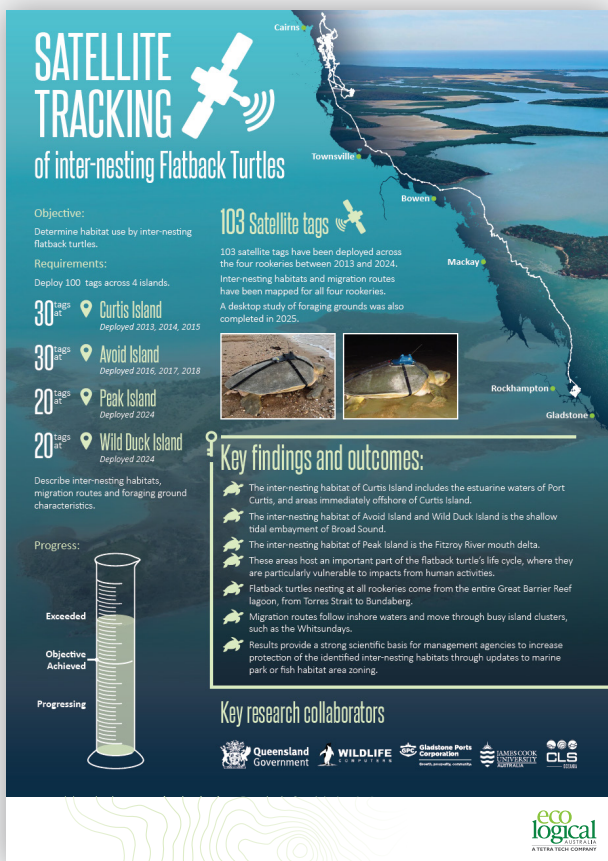
eco logical AUSTRALIA
A TOTAL SOLUTION PROVIDER

Over a decade, more than 25 marine turtle specialists worked together to better understand turtle nesting, movement, health, and habitat use.

The findings tell a positive story.

Turtle populations remain stable and resilient, showing how major industry and marine wildlife can coexist when decisions are guided by science.

“THIS PROGRAM SHOWS WHAT’S POSSIBLE WHEN SCIENCE, COLLABORATION AND LONG TERM COMMITMENT COME TOGETHER,” SAID DR NICOLAS PILCHER, INTERNATIONAL MARINE TURTLE SPECIALIST, AND INDEPENDENT REVIEWER OF THE LONG-TERM TURTLE MANAGEMENT PLAN AND ANNUAL REPORTS.



“It has created a lasting legacy for turtle conservation.”

The achievement was recognised at the 2025 Australian Energy Producers Excellence Awards, where the LNG proponents received both the prestigious Chair’s Award and the Environment Project Excellence Award.

Australian Energy Producers Chief Executive Samantha McCulloch said the project set a new benchmark for industry led environmental stewardship and long term collaboration.

The legacy of this work will guide future marine conservation efforts for years to come.

BELOW - TOP: The program won the Chair’s Award and Environment Project Excellence Award at the 2025 Australian Energy Producers Excellence Awards.
BELOW - BOTTOM: Flatback turtle tracking.



Celebrating 50 YEARS OF OPERATION



STORY BY:
NRG GLADSTONE POWER STATION

2026 represents 50 years of operation for Gladstone Power Station (GPS), Queensland's largest single power station.



THIS IS A SIGNIFICANT MILESTONE, A PROUD ACHIEVEMENT, AND A CREDIT TO EVERYONE WHO HAS BEEN PART OF OUR OPERATIONS OVER THIS TIME.

We provide reliable electricity, not only for the significant large local industries, but also for the National Energy Market.

As well as our three stacks being an iconic visual aspect of Gladstone's landscape, GPS has been a significant contributor to the city's economic prosperity and an important part of its social fabric providing generations of employment.

Being a salt water cooled power station and located on the bank of the Calliope River, GPS is acutely aware of the interconnection of land based industry with the adjacent waterways, including Gladstone Harbour.



ABOVE: GPS – As much a part of Gladstone as the great weather and beautiful waterways.

We manage our operations to ensure environmental impacts are minimised, and all employees have a role in this.

GPS is proud to be one of the founding partners of the Gladstone Healthy Harbour Partnership and is a long standing member of the Port Curtis Integrated Monitoring Program.

2026 also marks our 36th consecutive year participating in Clean Up Australia Day/Great Northern Cleanup. This makes GPS the longest involved business in Australia!

As the electricity market evolves the role of GPS may well change, but notwithstanding this, while we are operating we will continue to do so in the most sustainable way possible and place the highest regard on our local communities and the environment.



PARTNER PROFILE



WIGGINS ISLAND COAL EXPORT TERMINAL (WICET)

WICET is a world-class coal Terminal privately funded by a consortium of coal producers that supports Queensland's resources sector as a sustainable contributor towards economic prosperity. Operations commenced in 2015 with Stage 1 currently having the capacity to ship up to 27 million tonnes per annum. We employ a small team of local, permanent employees to operate the Terminal in a manner that is respectful to the local community and the environment, and we are committed to reducing our environmental footprint and impact on our neighbours.

Our mission is to safely handle every tonne with pride and cost focus to support the success of our customer.

WICET has been a Partner of GHHP since 2014. WICET's values of Sustainability, Integrity, Accountability, Respect and Achievement which underpin our mission aligns with GHHP's purpose, role and focus and the collaborative nature of the partner organisations to support assessment and management of the harbour.



ABOVE: WICET.

Grazing for change

BEYOND OUR HARBOUR



STORY BY:
DEPARTMENT OF THE ENVIRONMENT, TOURISM, SCIENCE
AND INNOVATION

With the Fitzroy as the largest Reef region draining into the Great Barrier Reef and where grazing dominates the landscape, how our graziers manage their land can have a significant impact on our waterways, coastal areas and our harbour.

Fortunately, environmental stewardship is top of mind alongside business productivity for many producers in the Fitzroy.

With support from programs like the Queensland Government's Grazing Resilience and Sustainable Solutions and Grazing Practice Change Programs which operate across the entire Reef catchment, graziers are switching up their practices.

Both programs offer tailored support from local industry experts focusing on improving ground cover, pasture quality and land condition, helping to boost farm productivity while reducing soil loss to waterways.

Graziers Patrick and Melina Clancy, owners of Seven Hills Brangus and participants of the PioneerPlus project under the Grazing Practice Change Program are definite converts.

"How we've managed our paddocks over the non-growing season has been an eye opener," explains Mel.



Working with experienced coaches from Resource Consulting Services, Patrick and Melina have moved from having designated winter grazing paddocks, to rotating cattle through paddocks, and while there isn't as much quantity of grass as previous, the quality is much better.

In total around 300 Fitzroy graziers have been involved in both programs since 2023, covering more than 800,000 hectares of grazing land.

“
IT'S ESTIMATED THAT CLOSE TO 5,500 TONNES OF SEDIMENT EACH YEAR HAS BEEN KEPT ON FARM AND OUT OF OUR WATERWAYS.

To give you a better picture, that's around 130 semi-trailers' worth of valuable soil stopped from reaching our Reef. Now that's grazing for change!

The Grazing Practice Change Program and Grazing Resilience and Sustainable Solutions program are funded through the Queensland Government's Queensland Reef Water Quality Program.

PAGE 29 - LEFT & RIGHT: Grass, grass, grass! Patrick and Melina Clancy of Seven Hills discussing paddock rotations during their on-property visit from RCS coaches Katlin Tilly and Raymond Stacey. **PAGE 30 - LEFT:** Graziers attending a shed workshop during a field day at Seven Hills Brangus (Photo Credit: Resource Consulting Services). **PAGE 30 - RIGHT:** RCS coaches David McLean and Katlin Tilly with graziers Patrick and Melina Clancy (Photo Credit: Resource Consulting Services).



learn more

About the Queensland Government's Queensland Reef Water Quality Program



From seabirds to snails:

MONITORING LADY MUSGRAVE ISLAND



STORY BY:
DEPARTMENT OF THE ENVIRONMENT, TOURISM, SCIENCE
AND INNOVATION

Sitting off the coast of Gladstone and deep in Taribelang Bunda Country, Lady Musgrave Island is one of the most culturally and ecologically significant sites on the southern Great Barrier Reef.

It's also the site of one of the eleven Traditional Owner-led projects funded under the Queensland Government's Reef Assist Traditional Owner Grants Program.

The grants program is supporting Traditional Owner organisations like the Taribelang Aboriginal Corporation build business capacity and capability while providing vital employment and training opportunities for First Nations people.

The Taribelang project supports and upskills disengaged youth bringing them back on Country as 'ranger trainees' to undertake research and monitoring on Lady Musgrave Island and Coral Cay Lagoon.

Since the project started in early 2025, seven staff have been employed part-time to monitor turtles and seabirds, as well as coral predators, crown-of-thorns starfish and *Drupella* snails (coral predators).

By the time Taribelang wraps up in June, the project team is expected to conduct up to 20 monitoring exercises.

The Reef Assist Traditional Owner Grants Program is part of the \$34 million Reef Assist program funded through the Queensland Government's Queensland Reef Water Quality Program.



Learn more

About the Queensland Government's Reef Assist Traditional Owner Grants Program



ABOVE: Lady Musgrave Island.



From energy to water:

SMARTER SOLUTIONS FOR THE FUTURE OF GLADSTONE ALUMINIUM

RioTinto
Gladstone Aluminium

STORY BY:
RIO TINTO | YARWUN REFINERY, BOYNE SMELTERS LIMITED,
QUEENSLAND ALUMINA LIMITED

Gladstone is a major hub for aluminium in Australia. Across Boyne Smelters Limited (BSL), Yarwun Refinery and Queensland Alumina Limited (QAL), Rio Tinto employs around 3,000 people and provides stable, skilled work that supports regional prosperity.

Part of the Gladstone community for over 60 years, Rio Tinto is committed to investing in a strong local future.

BSL REPOWERING: AUSTRALIA'S LARGEST INDUSTRIAL DECARBONISATION PROJECT

In March 2026 Rio Tinto teamed up with Queensland and Commonwealth Governments on a landmark partnership to secure a long-term future for Boyne smelter.

The agreement backs the future of aluminium smelting in Queensland and builds on power purchase agreements (PPAs) signed by Rio Tinto to bring \$7.5 billion in new renewable energy and storage into the state.

Under the deal, the Queensland and Commonwealth Governments will invest a combined A\$2 billion over 10 years to 2040, supporting the transition to long-term competitive power for the smelter – helping support manufacturing jobs in Central Queensland for years to come.

QUEENSLAND RENEWABLES PORTFOLIO

In Queensland, to support BSL repowering, Rio Tinto has committed to buy more than 2.8GW of new renewable energy and more than 600MW of storage capacity from five projects since January 2024:

- European Energy: Upper Calliope solar project – 1.1GW
- Windlab: Bungaban wind project – 1.1GW
- Edify Energy: Smoky Creek & Guthrie’s Gap Solar Power Station solar and battery - 540MW / 2160MWh
- Lightsource bp: Lower Wonga solar and battery project - 112MW / 324MWh



“

TODAY, UP TO 80% OF THE TREATED EFFLUENT FROM THE GLADSTONE WASTEWATER TREATMENT PLANT IS REDIRECTED INTO QAL VIA A PIPELINE MEASURING ALMOST 9KMS, WHICH FEEDS DIRECTLY INTO THE WASHING STAGE OF THE ALUMINA REFINING PROCESS.

REPURPOSING WASTEWATER AT QAL

Queensland Alumina Limited (QAL) is leveraging a longstanding local partnership to support responsible natural resource management.

As part of its process, QAL uses water to refine smelter-grade alumina, used to produce aluminium by local and international smelters. Since 2002, the refinery has partnered with Gladstone Regional Council on a water re-use project that decreases industrial reliance on freshwater by repurposing Gladstone’s treated effluent supply in QAL operations.

A combination of treated effluent and dam water separate liquids and mud solids in the washer circuit, known as clarification, while also recovering other valuable materials for reuse in other areas of its process.

Today, up to 80% of the treated effluent from the Gladstone wastewater treatment plant is redirected into QAL via a pipeline measuring almost nine kilometres, which feeds directly into the washing stage of the alumina refining process. The project has developed further since its inception, with portions of wastewater from Tannum Sands and Boyne Island Wastewater Treatment Plants now also directed to QAL. Altogether, this equates to around 1,000 Olympic-sized swimming pools each year.







820VE10120C
HYDROGEN STORAGE VESSEL

820VE10120B
HYDROGEN STORAGE VESSEL

820VE1010A
HYDROGEN STORAGE VESSEL

Swagelok
Built by Swagelok Certified Installation
Technicians. Swagelok
Part Number: 820V10120C
820V10120B
820V1010A
Model Code: 820V

Rio Tinto

WORLD-FIRST IN YARWUN'S SIGHTS

Rio Tinto is getting on with the job of reducing emissions in its business with a world-first pilot aiming to produce alumina using hydrogen in place of natural gas at Yarwun refinery.

The Yarwun team aims to replace natural gas in the calcination process, showing the real-world potential of hydrogen to transform industrial processes and reduce emissions at scale.

The pilot consists of A 2.5 MW on-site electrolyser – owned and operated by Sumitomo Corporation – which supplies hydrogen to storage vessels at Yarwun. One of the refinery's four calciners has also been retrofitted to operate with hydrogen burners.

It's still early days for green hydrogen in Australia, but if we applied this technology at full scale at Yarwun, green hydrogen could reduce emissions by up to 500,000 tonnes per year - the equivalent of removing about 109,000 internal combustion engine vehicles from the road.

The project is a partnership between Sumitomo Corporation, the Australia Government and Rio Tinto.

“

... IF WE APPLIED THIS TECHNOLOGY AT FULL SCALE AT YARWUN, GREEN HYDROGEN COULD REDUCE EMISSIONS BY UP TO 500,000 TONNES PER YEAR - THE EQUIVALENT OF REMOVING ABOUT 109,000 INTERNAL COMBUSTION ENGINE VEHICLES FROM THE ROAD.

PAGE 32: BSL, QAL and Yarwun team members take a break at QAL lookout. **PAGE 33:** QAL (aerial view). **PAGE 34:** BSL aluminium billets ready for customers. **LEFT:** Hydrogen calcination team at work (Yarwun). **BELOW:** Hydrogen storage (Yarwun).



The surprising story of seagrass:

WHY IT'S IMPORTANT FOR THE SUSTAINABILITY OF OUR OCEANS

Santos
GLNG



STORY BY:

SANTOS GLNG & CQUNIVERSITY COASTAL MARINE ECOSYSTEMS RESEARCH CENTRE

Seagrass is a well-known food source for animals like dugong and turtles, but did you know that it also plays a powerful role in the health of the Great Barrier Reef?

Seagrass meadows act as dense underwater forests, slowing down the flow of water to trap sediment and absorb nutrients for growth. By improving water quality and clarity, seagrass helps the growth of coral, which relies on sunlight.

Seagrass has other surprising powers. Their underwater meadows can capture carbon more efficiently than some tropical rainforests, and they also provide safe habitat for juvenile marine life, like crabs and fish.

The Gladstone Region has significant areas of seagrass meadows but CQUniversity's Coastal Marine Ecosystems Research Centre (CMERC) says they're in decline across the globe.

CMERC Director Professor Emma Jackson said support from Santos GLNG has enabled her team to host seagrass flower community collection days to harvest seeds, restore local meadows and progress research to improve sustainability.

SEAGRASS: DID YOU KNOW?



THERE ARE ABOUT **60 DESCRIBED SPECIES OF SEAGRASS WORLDWIDE** – THEY GROW ON EVERY CONTINENT EXCEPT ANTARCTICA.



THEY ARE THE ONLY FLOWERING PLANTS THAT CAN **LIVE UNDERWATER**.



A SINGLE ADULT DUGONG EATS UP TO **28 KILOGRAMS OF SEAGRASS DAILY**.



JUST **ONE SQUARE METRE** OF SEAGRASS CAN GENERATE **10 LITRES OF OXYGEN** PER DAY THROUGH PHOTOSYNTHESIS.

“During these days, seagrass flowers are collected by volunteers to obtain seeds for experiments aimed at optimising seed-based restoration approaches, and management of stocks in CMERC’s SeaGrow Seagrass Nurseries,” Prof. Jackson said.

“These community collection days also assist CMERC researchers in restoration works in Gladstone Harbour and promote awareness of the value of seagrass meadows in the local region.

“We are appreciative of the commitment Santos GLNG has shown in entering into a three-year partnership with our centre to support our work. Their support means we can offer additional collection days free of charge to community members.”

Santos GLNG Chief Executive Officer Stephen Harty said Santos GLNG was proud to support the environmental initiative.

“

IT’S FANTASTIC TO SEE THE COMMUNITY GETTING INVOLVED AND LEARNING ABOUT SOME OF THE THINGS WE CAN DO TO SUPPORT THE SUSTAINABILITY OF SEAGRASS MEADOWS AND ITS IMPORTANCE IN FUTURE MARINE HEALTH,” MR HARTY SAID.

“We’ve been part of the Gladstone Region community for more than 15 years and are committed to working with our partners to develop sustainable solutions for our unique coastal and marine environments.”

CMERC’s seagrass flower community collection days are part of CMERC’s SeaGrow Research Program, funded by the Great Barrier Reef Foundation and in collaboration with partners.

2026 SEAGRASS FLOWER COMMUNITY COLLECTION DAYS SPONSORED BY SANTOS GLNG

27

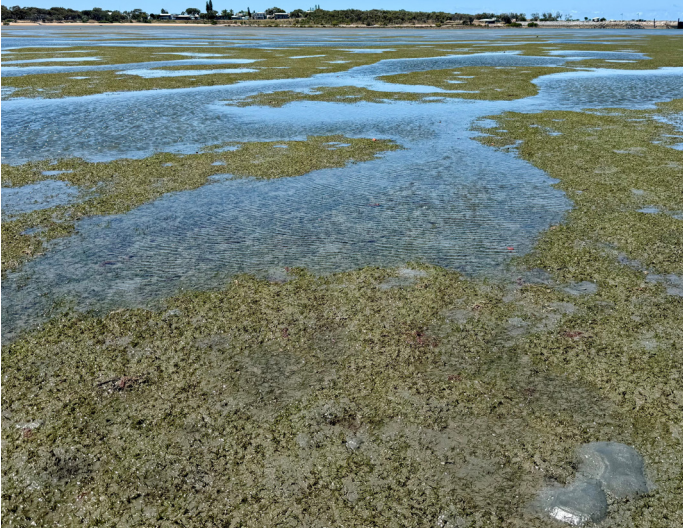
AUGUST 27
(EXCLUSIVE TO GHHP
MEMBERS)

26

SEPTEMBER 26

24

OCTOBER 24



LEFT: Curtis Island Seagrass Meadows. RIGHT: Volunteers assist at one of last year’s Community Seagrass Flower Collection Days.

our partners and CONTRIBUTORS

Above and Below: Stewardship Actions in the Gladstone Region was made possible with the assistance of the following partners:



ABOVE AND BELOW VIDEO SERIES

Want to go behind the scenes of some of these stewardship projects? Watch our *Above and Below* video series.







Gladstone
Healthy Harbour
Partnership

po@ghhp.org.au | www.ghhp.org.au
PO Box 1319, Gladstone, Queensland, 4680

