

PROTECTING WETLANDS FOR THE FUTURE INSPIRING THE NEXT GENERATION OF MANGROVE CHAMPIONS



THE NEED

Mangroves and tidal wetlands are critical ecosystems that support, protect and enhance the Great Barrier Reef World Heritage Area. But, they are under significant threat due to climate change, land clearing and other human impacts.

Protecting Wetlands for the Future is a unique program enabling Queensland students and teachers to inform Great Barrier Reef (GBR) tidal wetland protection through citizen science. Trained in the proven and highly successful MangroveWatch methodologies, student and teachers completed mangrove and saltmarsh condition assessments and biomass measurements across four GBR regions; Cairns, Mackay, North Keppel Island and Gladstone.

AT A GLANCE

- 531 students in the field
- 86 teacher engagement points
- 41 ecological surveys conducted
- 17 schools participated in the program
- 9 training workshops delivered
- 6 Lesson Plans prepared by Cool Australia

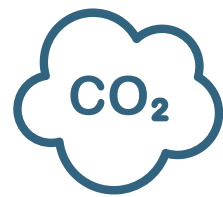


This program uses the MangroveWatch methodology, developed by Dr Norm Duke and Jock Mackenzie with MangroveWatch Ltd.



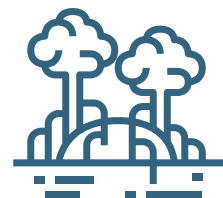
MANGROVE ENGAGEMENT TO MANGROVE PROTECTION

THROUGH THIS PROGRAM, SCHOOLS HAVE BECOME PART OF CRITICAL RESEARCH THAT SUPPORTS ON-GROUND TIDAL WETLAND MANAGEMENT ACTIONS



Informed the Australian National Greenhouse Accounts blue-carbon modelling

Contributed Mangrove standing stock biomass data collected through this program. The National Greenhouse Accounts will support prioritisation of blue carbon investment opportunities for industry to offset carbon emissions through blue carbon restoration and conservation.



Wet Tropics Healthy Waterways Report Cards

Mangrove condition assessment data from the Cairns region used to inform Mangrove Indicator development

Mackay Regional Council

Data from the Pioneer River used to help inform waterfront management actions



Gladstone Ports Corporation Ecosystem Research and Monitoring Program (ERMP)

Mangrove forest condition assessment (S-VAM) from the Boyne River incorporated into the Gladstone Harbour long-term mangrove monitoring program.

BLUE CARBON: A CLIMATE ACTION TOOL

Blue carbon is the carbon stored in coastal and marine ecosystems, including mangrove and saltmarsh environments. Mangroves store over 5 times more carbon than other forests and trap up to 50 times faster.

EQUIPPING OUR TEACHERS TO TRAIN MANGROVE MONITORING CHAMPIONS

The Protecting Wetlands for the Future program developed a MangroveWatch based citizen science program tailored to the Queensland high school curriculum.

Teacher training workshops were delivered in partnership with four regional educational institution delivery partners: Holloways Beach Environmental Education Centre, Mackay Christian College, North Keppel Island , Environmental Education Centre and Boyne Island Environmental Education Centre and local schools.

Over two days of in-the-field training, teachers honed their skills in scientific design, data collection and analysis and put into practice:

- Mangrove condition assessment monitoring using the S-VAM shoreline video assessment method
- Mangrove forest structure assessment using the Rapid Long Plot method
- Saltmarsh condition assessment using the Saltmarsh SAVER method



"Overall feedback is excellent and student groups are working with the excel sheets to understand carbon storage and other factors better and to help them develop their own studies."

Terri Mulqueen

Holloways Beach Environmental Education Centre



"The workshops presented to NKIEEC were both educational and enjoyable. The knowledge gained and the excellent lesson plans provided have made our lessons more engaging for visiting students. We are obtaining more information of our mangrove system as a result of the fantastic workshop and ongoing support. Thank you!"



Eric Cech

Teacher, North Keppel Island Environment Education Centre (NKIEEC).

BRINGING MANGROVE MONITORING LESSONS FROM THE FIELD TO THE CLASSROOM

To support teachers transition their learnings into the classroom, an education package, tailored to the Queensland high-school science curriculum was prepared.

Lesson plans prepared by Cool Australia and training videos are available for free download



LESSON PLANS



TRAINING VIDEOS

The Environmental Education Centres and Schools put this learning into practice by training our next generation of mangrove champions. Students were immersed in the muddy tidal wetland environment as they learnt and completed mangrove and saltmarsh monitoring.

The positive feedback from students shows that getting involved in tidal wetland citizen science can be educational and fun!

"Mangrove transects were way more fun than snorkeling surveys."



Student

Pimpama State Secondary College.



Protecting Wetlands for the Future program is a shining example of how citizen science programs can be tailored to curriculum and embedded in the education program

ALIGNMENT WITH THE REEF 2050 PLAN

Mitigate Climate Change: Data from this project is informing the National Greenhouse Accounts. Helping the Australian Government meet Nationally Determined Contributions under the Paris Agreement by informing blue carbon investment via the National Greenhouse Accounts

Mitigate Climate Change: Communicating the implications of climate change for tidal wetlands and supporting Reef communities adopt local stewardship behaviours.

Support Adaptation of Reef Communities and Industries to a Changing Climate: Supporting local councils to strengthen their climate adaptation planning and empowering people to be part of the solution to addressing climate change through mangrove conservation via scientific data collection and knowledge sharing

Increase adoption of responsible use and community conservation efforts: Promoting behaviour change in recreational users of coastal ecosystems to reduce impacts on habitats.

Empower and partner with industry and community: Collaborate with Reef users on citizen science initiatives and increase co-design, co-delivery and related locally-driven methodologies to foster local ownership and embed partnership in Reef protection and management.

Undertake strategic research planning: Fostered science/management partnerships and research leadership focusing on priority management needs.

"Participation in the Mangrove Watch program has enabled me to be a lot more confident in presenting mangrove information to my students, exciting them about the importance of ecosystems and giving me practical skills to take the students into mangrove areas to collect mangrove data and analyse it."

Warren Hodgson
Trinity College

SDG ALIGNMENT



Want to know more? Get in touch with us via email and our website.

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