



COASTCARE E-NEWS

Working together to care for our coastal marine environments



In action: above, an expedition to the Northumberland Islands to monitor marine turtles and collect marine debris aboard *Siska* (Dec 2020).

[Find out more about Coastcare](#)

Hello from the Coasts & Biodiversity Team!



Happy 2021 and welcome to this summer edition of Coastcare e-News.

A warm welcome to the Coasts and Biodiversity team's newest member Tyson Lovett-Murray. Tyson will be working towards the management of threatened ecological communities and community engagement.

As we race towards autumn it's an opportune time to highlight some free community Coastcare events you may like to mark in your calendar:

*Saturday 27th March 2021-Native revegetation: Far Beach, Mackay.

*Saturday 29th May 2021-Plant maintenance: Far Beach, Mackay.

*Two Kids Coastcare school holiday activities are also planned for April in both Mackay and Cannonvale.

Come along, make a difference, enjoy some fun, and learn along the way with like minded others.

Invitations to register on Eventbrite are sent out via the Coasts and Communities mailing list several weeks before the events, so if you haven't already [click here](#) to subscribe to be kept informed.



Photo: Mackay Islands aerial survey

Flying the turtle nests

Reef Catchments recently surveyed our islands and beaches from the Whitsundays to Stanage Bay for nesting turtle tracks that had been made the previous night. The team even went as far east as Bushy Island. This survey



Photo: Incoming tide on Pine Peak Island

Blooming algae

The warming sunny conditions of our region provide conditions suitable for the growth of blue green algal blooms which you may see as a slick across the ocean and can result in an unpleasant odour as the bloom dies off.

was only possible through partnerships with the Queensland Turtle Conservation Project, Mackay and District Turtle Watch Association, and Fitzroy Basin Association.

Green turtles (*Chelonia mydas*) and flatback turtles (*Natator depressus*) nest on our beaches, and while the green turtle has a global distribution, the flatback turtle only nests in Australia.

This project is funded by the Australian Government Department of Agriculture, Water and the Environment Reef Trust, and delivered through the National Landcare Program Regional Land Partnerships agreement.

The survey will be used to prioritise beaches for habitat protection. This is important for marine turtles which have numerous threats, including light pollution, coastal development and climate change.

A massive thank you to the people and organisations that made this survey possible, particularly the turtle watch volunteers who waved at the plane during their sunrise beach walks and also provided valuable information.

[Click for more information about Mackay's turtles.](#)



Photo: South Percy Island

Islands, turtles and plastic

Reef Catchments and Mackay and District Turtle Watch members recently made the long journey to Pine Peak and the Percy Islands on the yacht *Siska*. The team were there to collect data about the islands' nesting turtles, but also collected bags and bags of plastic marine debris.

The Percy Islands are scenic – ochre soils meet golden beaches and turquoise waters, and paths through lush

Algal cells such as *Trichodesmium* are more commonly known as sea sawdust, whale sperm, whale food or sea scum and are often confused with coral spawning.

Trichodesmium cells aggregate into long strings or clumps. As the cells age, they become positively buoyant and rise to the surface of the ocean creating a slick, sometimes so large it can be seen from space. Slicks can be colourful such as the purple photosynthetic pigment (phycoerythrin) in the photo from Pine Peak Island taken 10 December 2020 with an incoming half tide.

UV radiation breaks down the slicks and when washed ashore can cause the "fishy" odour for a few days. However, we should be very respectful of these tiny algal cells as they are natural component of the ecosystem.

[Click for more information about Trichodesmium](#)



Photo: Caltrop on Pine Peak Island
Coastal weed #15: Caltrop-Goats head

Tribulus terrestris

Caltrop is an annual herb that spreads along the ground up to two metres from the taproot.

This weed originated from southern Europe and northern Africa and while its yellow daisy-like flowers may be attractive, its 2-4 pronged burr is quite painful when trod on. The burs can even puncture a bicycle tyre. Other methods of dispersal include vehicles, machinery, animals and wind. Caltrop's green shoots are often first to appear after rain which is alluring to livestock and has been linked to nitrate poisoning, sheep staggers and photosensitisation. Caltrop is found all over Australia and on many of the islands off Mackay such as Scawfell Island and Pine Peak Island

green forests lead to breathtaking scenery. Unfortunately, there is a kaleidoscope of colours on the beaches that shouldn't be there: marine debris. The team collected plastic in many forms such as marine rope, toothbrushes, bottles, bottle tops, thousands of tiny fragments, shoes, containers, pipe, and even a mannequin's arm. The team was exhausted but satisfied they had done their bit for our oceans, going over and above their usual commitment to "take three for the sea".

There are small ways we can do our part, such as reducing our own plastic use and participating in beach clean ups.

[Learn more about marine plastic.](#)



Photo: African big headed ants on Bushy Island

African big-headed ants

In December, Reef Catchments sent an entomologist out to Bushy Island on board a Queensland Parks and Wildlife Service boat. There, Dr Pauline Lenancker and QPWS staff surveyed the whole Island looking for African big-headed ants.

ABHA are listed as one of the [World's Worst 100 Invasive Species](#), right alongside the [yellow crazy ant](#), which were found in the Whitsundays a few years ago. Both species of ant form very dense colonies and are therefore able to outcompete native species of ant and other invertebrates, in some cases severely upsetting the food chain. Unfortunately ABHA were found to be all over Bushy Island, but fortunately Reef Catchments has funding through the Australian Government Department of

(photo). The best way to control the spread of Caltrop is to limit seed production and dispersal.

[More information about Caltrop](#)

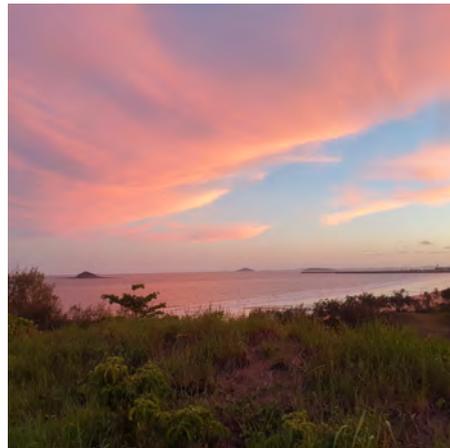


Photo: Sunset over North Harbour Beach

How do we care for our coastal zone?

As you explore our beautiful coastal zone, you may notice the diverse range of natural features the area presents. This includes sandy beaches, rocky headlands, extensive intertidal flats, and substantial areas of coastal wetlands. However, climate change, population growth, recreational use and coastal development threaten these natural features. Reef Catchments, alongside several partnership organisations and regional councils, are dedicated to ensuring the best outcomes for the Mackay Whitsunday Isaac coastal environment. In attempt to tackle negative impacts, nineteen coastal management plans spanning the Mackay Regional Council jurisdiction have been developed in consultation with the community. These projects involve a variety of on-ground activities such as weed management, revegetation, coastal fencing, rubbish removal and maintenance activities.

[Click for more information](#)

Agriculture, Water and the Environment Reef Trust, which is delivered through the National Landcare Program Regional Land Partnerships agreement project, to eradicate the ants from the Island. It will be a two and a half year mission, but we are very lucky to have CSIRO and [Australia's very own Ant Man](#) to guide our efforts.

In the photo above, African big-headed ants are attracted to a lure on Bushy Island. Big headed shoulder ants are pointed out alongside the more averagely proportioned worker ants

[Click for more information](#)



Photo: Pine Peak Island – habitat for nesting turtles.

Beach buffering capacity

Beaches are the buffer between the waves and land.

Erosion is a major concern for coastal managers. Coastal erosion refers to the natural process of the movement of sand from one location to another and is the product of the coast constantly adjusting to waves and tides at any given moment in time. Globally, coastal buffering capacity is decreasing with human activities and climate change impacts are set to continue the decline. The process by which a system keeps itself in balance is known as a negative feedback (or self-adjusting system). However, as storm intensity and sea levels are predicted to rise more and more, we are already seeing the destabilising effects of positive feedback. The casuarina tree in the photo shows the sand has washed away leaving the roots exposed and the island more



Photo: Seagrass fibres trapping plastics.

Marta Veny (University of Barcelona)

'Neptune balls'

[Seagrass](#) provides many ecosystem services such as oxygen production, improved water quality, carbon sink, nursery habitat, dampening storm surges and lessening beach erosion. Scientists in the Mediterranean have added to this impressive list. Swaying in the shallows, some seagrass traps, sieves and bundles plastic pollution into oval shaped bundles of fibre called Neptune balls. Which have been estimated to sieve approximately 867 million pieces of plastic from the ocean every year.

Neptune balls form at the base of seagrass leaves which are shredded by movement but still attached to the rhizomes (stems). Over time, the damaged seagrass forms stiff fibres that roll into an oval orb, trapping plastics in the process.

The Neptune balls are purged from the marine environment when they become beached. However, it is not yet clear if the plastic pollution adversely impacts seagrass.

[Learn more about Neptune balls](#)



Photo: Wellbeing relies on healthy ecosystems.

vulnerable to seawater inundation. The beach becomes hotter and turtle hatchlings are either predominantly female or male in their nest. You can help build buffering capacity by protecting coastal vegetation.

[Learn more about our coasts](#)



Year 4 students from Slade Point Primary School

Photo: Ali Yates

Talking turtles at school

Ali Yates is a member of Mackay and District Turtle Watch and a teacher's aide at Slade Point Primary. Ali was asked to deliver a presentation about marine turtles to the year 4 students. Several students were surprised to learn that these beautiful creatures nested on their nearby beaches. The students asked many questions and were very keen to learn anything and everything about caring for the long-term welfare of the turtles.

Ali spoke of the threats to marine turtles including light pollution, marine debris, boat strikes, threats from humans and other predators. She also made a book of her turtle encounters and showed the students a very popular video of "Bob" a rehabilitated turtle that was released on their very own Lamberts Beach. The enthusiasm and interest from the children helped them to earn great results in their assessment. As a follow up to this lesson, Ali handed the teachers some activity sheets that Fay Griffin (founding member of Mackay and District Turtle Watch) provided. Ali says the children still come up to her in the playground and ask questions about the turtles. Their interest is heart-warming. Ali said the experience was every bit as enjoyable for her as it was for the students and greatly appreciated the opportunity within the community

Bright spots

Australia's national science agency CSIRO, suggests identifying coastal 'bright spots' to repair and re-establish marine ecosystems globally can boost biodiversity, local economies, human wellbeing and adaptive responses to climate change.

Coastal ecosystems help to remove carbon dioxide from the atmosphere and protect and stabilise shorelines. CSIRO's Dr Megan Saunders says "Coastal ecosystems across the globe have declined by up to 85 per cent in recent decades". Identifying bright spots that have delivered successful coastal and marine restoration in the past allows us to apply this knowledge to help save marine environments elsewhere that are struggling to recover from degradation. Some really innovative examples of marine restoration are occurring on the Great Barrier for example CSIRO is [harvesting coral larvae to boost large-scale coral restoration efforts](#). Restoring coastal marine ecosystems to good health is important for responding to threats to the marine environment for instance, overfishing, land use change and coastal development.

[Click here to learn more](#)

where she grew up and with children that she knows so well as a teachers' aide.

[Click here to learn about turtles in the Mackay region](#)



The Coasts and Communities Program is a joint initiative of Isaac, Whitsunday and Mackay Regional Councils and Reef Catchments with support from the Australian Government's National Landcare Program.

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