

MARINE ANIMAL STRANDINGS VOLUNTEER NETWORK

QPWS Great Barrier Reef and Marine Parks Region

NEWSLETTER DECEMBER 2019



Season's Greetings



Welcome to another edition of the Strandings Volunteer Network Newsletter. It's a big bumper issue showcasing some of the amazing work that's been undertaken in the last 12 months by our community volunteers and rehabilitation centres. Wishing you all a magical Christmas and a happy new year. Alicia Moisel (QPWS GBR&MP Region Strandings Coordinator).

There's a new number for reporting strandings!

1300 130 372



DES

What's Inside?

- New number for reporting strandings
- Turtle nesting season
- Rehab gab
- Strandings training updates
- Marine turtle first aid guide coming soon
- Research turtles released
- Sea turtle necropsy lecture series
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- In the spotlight

The QLD Government Wildlife Hotline (1300 130 372) is now the primary mechanism for reporting marine animal strandings in QLD.

Marine animal strandings reported to the RSPCA 1300ANIMAL number are currently being diverted to the Wildlife Hotline.

The change is an initiative of the QPWS Wildlife Operations unit in response to a number of identified issues. The Wildlife Hotline is staffed 24/7 by Wildlife Officers with the knowledge and training to ensure strandings calls are dealt with effectively and efficiently.

The community is now encouraged to start reporting strandings to the Wildlife Hotline.

For now, strandings calls made to 1300ANIMAL will be forwarded to the Wildlife Hotline, however this will be phased out over the coming months.

The QLD Government now want to promote this change, which will have an impact on community education brochures, signs and other communications materials. Any new materials that are developed should include the Wildlife Hotline number i.e.

'To report marine animal strandings call the QLD Government Wildlife Hotline on 1300 130 372'.

The gradual transition to the new number is designed to allow time for the community to become familiar with the new reporting procedures, and to minimise issues regarding communications materials. If there is confusion the RSPCA number will still be a workaround for the foreseeable future.

If you experience any issues with the management of the hotline, please advise the QPWS Great Barrier Reef and Marine Parks Region Strandings Coordinator Alicia Moisel so any problems can be raised with the Wildlife Operations team (alicia.moisel@des.qld.gov.au).

It is important to note that the new number is for reporting marine animal strandings only, and all other reports of dead, sick, injured or orphaned wildlife are still reported to 1300ANIMAL.



TURTLE NESTING SEASON

The DES Wildlife Hotline is starting to receive calls about turtles coming ashore to nest and trained strandings volunteers may be requested to assist with monitoring.

Here are some protocols and key messages to help with monitoring and the management of onlookers.

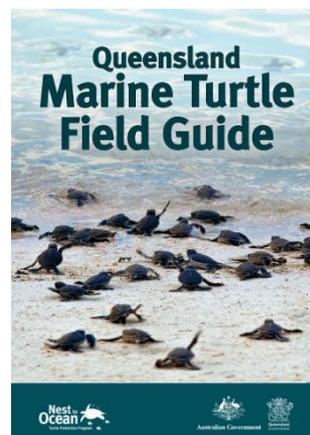
What you will need:

- High-vis vest, recording sheet, pen, measuring tape, food, water, phone, torch/head-spot, PPE.

What you should do:

Safety first!!! Be careful, if you get too close to the head a turtle can (and have been known to) bite you!

- Notify the DES Wildlife Hotline (1300 130 372) and/or your group strandings coordinator that you will be attending and abide by any instructions.
- Wear a high-vis vest so that you are clearly recognisable as a turtle monitoring person.
- Advise bystanders that you are a QPWS volunteer and undertaking monitoring.
- If needed, ask bystanders to stand back, switch off lighting and minimise disturbance. Some key messages are provided in the column to the right.
- Identify and record species. Take a photo (no flash).
- If you don't have a camera, measure the track width: from tip of the front flippers, at several places along the track (best to do in firm sand i.e. below high tide).
- Look for any tags on the turtle (check trailing edge of left and right front flippers).
- Look for any damage or injuries to the turtle.
- Allow the turtle to nest undisturbed.
- Record the curved carapace length when the turtle has finished laying her eggs.
- Try and determine if the turtle actually laid eggs. Digging a body pit does not necessarily mean that the turtle laid. If you didn't see for yourself, ask bystanders if they saw any eggs.
- Record the location of the nest. Take some GPS coordinates, take a photo (including surrounding land marks), and provide a detailed location description.
- Mark the nest (if possible place a large stick/s 1m behind the nest).
- Record the data and submit it to GBRR-Strandings@des.qld.gov.au



KEY MESSAGES

On land, turtles are very vulnerable and if startled, a female may return to the sea before her eggs can be successfully laid.

Keep disturbance to a minimum. Keep still and quiet and stay well clear (at least 2m). Remain behind turtles as they dig and lay their eggs – do not stand in front or where they can see you. Turn off all lights.

Once she has finished laying, restrict flash photography to a minimum. Only take photographs from behind the turtle and keep torchlight away from her face as the light may disorient her.

Please be patient while the turtle performs her nesting ritual. It can take several hours. Her crawl ashore and preparation of her nest can take up to an hour. Laying eggs takes 10-30 minutes.

The QLD Marine Turtle Field Guide is a great resource that includes species and track identification keys, and basic beach monitoring guidelines.

Download a copy from the DES Website:

<https://environment.des.qld.gov.au/wildlife/animals/discover-wildlife/turtle-ring-wildlife/turtle-watching#toc-1>

The recovery and release of these magical sea turtles wouldn't be possible without the dedication of our rehabilitation centres and their volunteer support. If you would like to get involved, please contact your closest centre today.

REHAB GAB

Cairns Turtle Rehabilitation Centre



Midori the beautiful green sea turtle was found with tumours and plastic blocking its digestive system. After two and a half years at Cairns Turtle Rehabilitation Centre Midori was released off Moore Reef in the Northern GBR. Midori's release was broadcast live on BBC's Blue Planet - you can watch the video at <https://www.facebook.com/bbcearth/videos/blue-planet-live-turtle-rescue/2224261807794267>. Midori was fitted with a satellite tracker to record valuable information that contributes to our understanding of marine turtles. You can follow Midori's journey on the Reef Tracks website: <https://citizensgbr.org/explore/reef-tracks>



Quoin Island Turtle Rehabilitation Centre



Billy Bob the hawksbill sea turtle was found in poor health at Heron Island by researchers. After a couple of months at the Quoin Island Turtle Rehab Centre Billy Bob was released back where it was found. It was an 'epic logistical arrangement' to transport Billy Bob from the Rehab Centre back to Gladstone on the mainland, then out to Heron Island via the Heron Islander Fast Cat, and finally out to the reef on a dive boat. I'm sure Billy Bob is grateful for the 80km it didn't have to swim through boat traffic to find its way home.



Hawksbill facts

The hawksbill is listed as Critically Endangered on the IUCN Red List of Threatened Species following an 80% population decline in the last century.

Because of their sponge diet, their flesh is potentially harmful to humans. Sponges contain toxic chemical compounds which can accumulate in the turtle's tissues and if consumed by humans may cause serious illness. Hawksbills face many threats including the illegal trade of their beautiful carapace, prized for a wide variety of tortoiseshell products across the globe.

Reef HQ Turtle Hospital



@reefhqaquarium

Arthur was found floating close to the shore by beach goers at Arthur Bay on Magnetic Island. Arthur was missing a flipper, emaciated and very weak on arrival, but a little over 4 months later he/she made a full recovery and was released, thanks to the great work of Steve Menzies and the team at the Reef HQ Turtle Hospital.



Australia Zoo Wildlife Hospital



@WildlifeWarriorsWorldwide

Mitch the flatback sea turtle was spotted abnormally floating on the surface of the water near Mud Island. A kind stranger brought Mitch to the Australia Zoo Wildlife Hospital for treatment.

Age: Juvenile

Weight: 3.91kg

Assessment: A swim test showed Mitch was floating and the barnacles and sun damage that had obscured his shell, indicated that he had been for some time. Further investigation with an endoscope revealed the floating was caused by an infection in the intestines, resulting in a build-up of gas and his gut not functioning properly. Mitch also had an old wound on his carapace, possibly from a propeller strike.

Treatment: The veterinary team began Mitch on medication to fight the infection and reduce the gas in his shell cavity. He was placed in the Intensive Care Unit pools to be monitored closely throughout his initial treatment, before being transferred to the large rehabilitation pool for swim practice.



Future: Two months later, Mitch was swimming and diving perfectly, and was able to return home to the ocean.

Mitch is only the seventh flatback sea turtle, out of over 1,300 sea turtles to be admitted to the Australia Zoo Wildlife Hospital since 2006. Listed as a vulnerable species, the population of flatback sea turtles is slowly decreasing, and being able to catch a glimpse of Mitch and help him return to good health, is a rare and extremely special experience for the whole team.

Bob Hawksbill was saved by spear fisherman Corey Bennett at Elliott Heads in June. The juvenile turtle had ingested a fishing hook and the trailing line was wrapped around the reef. It was lucky that Corey found Bob before he drowned.

In a collaborative effort between Corey and Sea Turtle Alliance Volunteers, Bob was taken to Mon Repos for a quick data assessment by QPWS, and then shipped out to the Australia Zoo Wildlife Hospital.

X-rays revealed that the hook was quite far down Bob's throat and had gone through the trachea. While the hook was able to be removed, an abscess and subsequent infection caused the turtle to pass away after a few weeks in care. Bob was an otherwise beautiful, healthy turtle.

A big thank you to everyone involved! Despite the sad outcome, all animals, especially endangered species like this hawksbill turtle, are always worth trying to save.

By Rebecca Coulumbe, Mon Repos Ranger



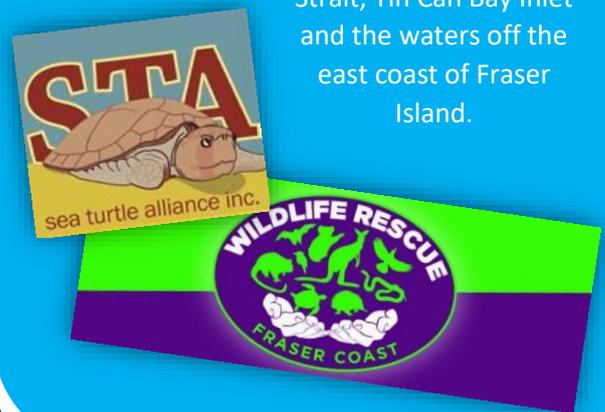
QPWS



@seaturtlealliance
@wildliferescuefrasercoast

The Sea Turtle Alliance and Wildlife Rescue Fraser Coast have now joined our network of strandings response volunteers in the Great Sandy Marine Park. The Great Sandy Marine Park extends from Baffle Creek in the north to Double Island Point in the south. It includes Hervey Bay, Great Sandy

Strait, Tin Can Bay Inlet and the waters off the east coast of Fraser Island.



Whitsunday Turtle Rescue Centre



@ecobarge.cleansas



Hazel is a sub-adult green turtle

found in the tidal area in front of Cane Cockies Beach, Shute Harbour on 13th July 2019. She was found entangled in fishing line and lures and had a severed front right flipper from the entanglement.

After a magnificent recovery, Hazel was released back into the Whitsunday waters on 9th October 2019.

A preliminary search of the StrandNet database for 2019 returns 26 records of turtles that have been impacted by entanglements in various sources of fishing lines/hooks, crab pots, float lines and nets in QLD waters. Human related causes accounted for approximately 24% of all 2019 sightings, including these entanglements and impacts from vessels. 42% of reported strandings were a result of unknown causes, so the number of human caused impacts may be even higher.

(This is preliminary data and the numbers may be subject to change as additional information and reports are received. Reports that have not yet been verified by staff as being accurate are not included).

Sea World Rescue and Research



@SeaWorldResearchRescue
Conservation

White Bait is a little post-hatchling loggerhead that was found at Flinders Beach on North Stradbroke Island entangled in fishing net.

The netting had caused severe damage to his/her front left flipper and it had to be partially amputated by the Sea World vet.

White Bait is doing really well and has grown over 10% in just 3 weeks. The Sea World team look forward to releasing him/her in the very near future!



Marine Turtle First Aid Guide

Sea World are in the final stages of developing a Marine Turtle First Aid Guide.

The First Aid Guide will help first responders to make an initial assessment of the health and condition of marine turtles, decide the appropriate course of action, and apply general first aid procedures.



DISCOVERY COAST
ENVIRONMENT GROUP

The Discovery Coast Environment Group (DCEG) tailored their own Marine Animal Strandings Responder training for Agnes Water volunteers recently. Amber Walker, DCEG Coordinator, worked closely with QPWS to develop the training to ensure that it meets QPWS standards. Amber ran the volunteers through the online strandings training as a group, including a final assessment and issuing of certificates (check out those happy faces 😊). The day also included a practical component where volunteers learnt how to identify species, take measurements and collect quality data for a Strandings Form.

The training also included a marine mammal component. DCEG have assisted QPWS with a number of dolphin strandings over the last couple of years, providing critical support and resources in a location where QPWS resources and capacity to respond are low.

QPWS commends DCEG for their on-going efforts with marine animal strandings response, and for taking this initiative to deliver their own training. If your group is within the GBR and interested in doing something similar, please contact Alicia Moisel at QPWS to help get you started!

alicia.moisel@des.qld.gov.au



@wearedceg



Research turtles released




@JCU Turtle Health
Research

This adorable little fella and 11 of its siblings now swim free in the wild after spending their first years of life being cared for by the JCU Turtle Health Research team.

They were collected as hatchlings from Heron Island in 2017 from an afternoon nest emergence and saved from an almost certain death. Visible to daylight predators they were an easy target for hungry seagulls, fish and sharks.

During their time at JCU the turtles supplied information for 23 separate studies and made a significant contribution to our knowledge and understanding of their immunity, genetics, behaviour and welfare.

The turtles were released at John Brewer Reef in an operation overseen by Dr Ian Bell from the QPWS Threatened Species Unit. Dr Ellen Ariel leads the team of turtle health researchers at JCU and was also there to say goodbye to the babies.

What a deeply rewarding experience for all involved.



The release was made possible thanks to a partnership between the QPWS/GBRMPA Reef Joint Field Management Program and JCU.

"Such experiences, where it is important to rely on each other and to hand over turtles and information from one agency to the other, makes for long lasting, solid working relationships in this region" - Dr Ellen Ariel, James Cook University.



NOAA Fisheries web-based lecture series on sea turtle necropsy.

A series of five lectures on sea turtle necropsy has been developed by the US National Oceanic and Atmospheric Administration, and are available to view at the [NOAA Fisheries Office of Protected Resources web page](https://www.fisheries.noaa.gov/national/marine-life-distress/online-sea-turtle-necropsy-lecture-series).

<https://www.fisheries.noaa.gov/national/marine-life-distress/online-sea-turtle-necropsy-lecture-series>

The series was developed in response to requests by resources agency staff and stranding network participants for online instructional materials related to necropsy. The content is intended for use by veterinarians and non-veterinarians engaged in conservation, stranding, and rehabilitation programs. Included in these materials are an overview of the importance of necropsy as related to sea turtles, basic procedures, and helpful practices.

Strandings Training Moreton Bay Marine Park

Volunteers in the Moreton Bay Marine Park region participated in a strandings training workshop held at the Manly Marine Parks Operations Base recently.

QPWS staff, including local Rangers Natalie Sands and Wayne Matthews, were joined by Siobhan Houlihan from Sea World and Hannah Fox from Australia Zoo to provide volunteers with an overview of the QPWS Marine Animal Strandings Program, some practical skills in data collection, and some advice on first aid, handling and transport of sick and injured marine turtles.

Now that they've been trained up, the Moreton Bay Marine Parks team looks forward to engaging the following groups to assist with turtle strandings response across the Moreton Bay region.



“Classic Wayne - always getting carried away!”.

*Ocean Crusaders
Bribie Island Environmental
Protection Association
Redcliffe Environmental Forum
Coochiemudlo Island Volunteers
Environmental Divers
+ some individual volunteers*

Go Slow for Those Below

Go Slow Zones in the Moreton Bay and Great Sandy Marine Parks place restrictions on vessels to reduce the risk of boats striking marine turtles and dugongs in important shallow feeding and resting areas.



Discarded crab pots pose a significant threat to marine turtles.

In a joint operation between Queensland Parks and Wildlife Service Rangers and Queensland Boating and Fisheries Patrol Officers, 92 ghost and unmarked crab pots were removed from Pumicestone Passage in the Moreton Bay Marine Park recently.

Raine Island Recovery Project

Results show that sand re-profiling works on Raine Island have led to higher nesting success. One third of clutches laid by satellite tagged turtles in the 2017-18 season were in the sand re-profiled area. These turtles were more likely to lay if they came ashore in the re-profiled area than if they came ashore elsewhere on the island.

Check out the **RAINE ISLAND RECOVERY PROJECT WEBSITE** for some amazing videos of the project in action, including turtle hatchlings emerging, time-lapse of adult female turtles arriving to nest, the sand re-profiling works being undertaken, bird research using drones, and Raine Island with none-other than

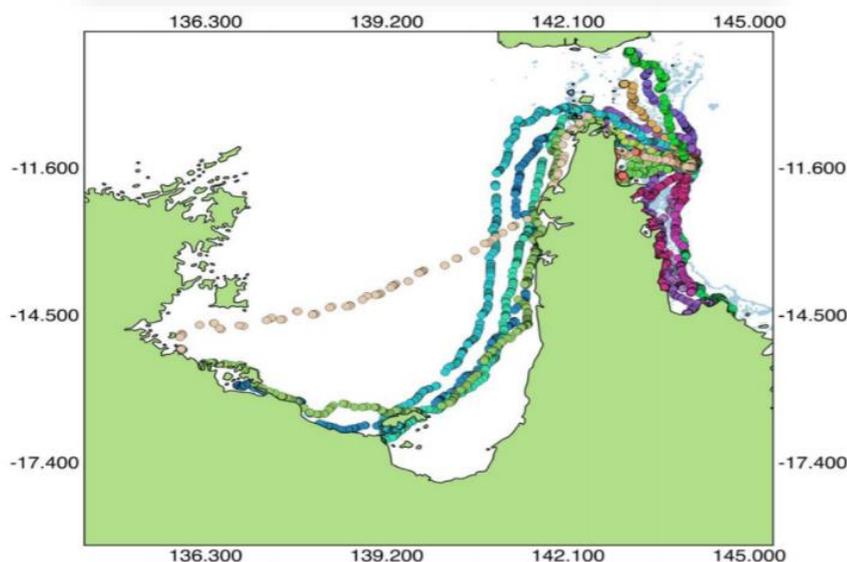
THE Sir David Attenborough!

<https://parks.des.qld.gov.au/raineisland/>

Forty nesting female green turtles were equipped with satellite tags over two nesting seasons at Raine Island. Deploying the tags over two seasons meant data was collected in a medium-density season (2017-18), where 20,000 turtles were aggregated at Raine in early December, and a really low-density season (2018-19) where only 1,580 turtles were aggregated around Raine in early December.

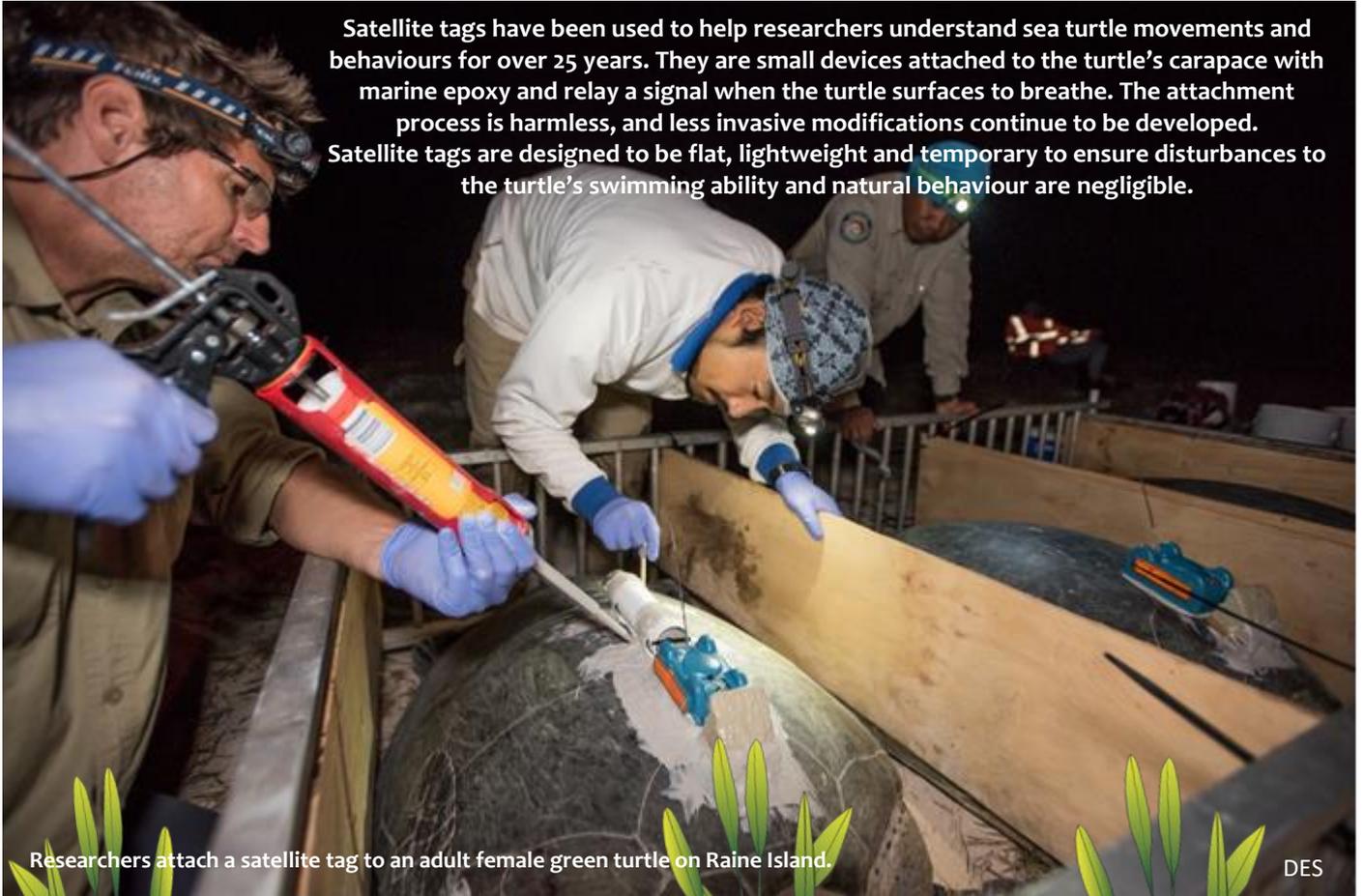
Satellite tagging showed that turtle interaction impacted on nesting success. The more crowded the nesting beach, as in the 2017-18 season, the more likely they will be disturbed. Turtles had to come ashore several nights in a row before laying successfully. During the 2018-19 season, turtles needed fewer attempts to lay clutches of eggs likely due to not being disturbed by other nesting turtles.

As you can see on the map to the right, once finished laying all turtles swam back to their feeding grounds within the Great Barrier Reef, Torres Strait, Papua New Guinea, Gulf of Carpentaria – and even into the Northern Territory, 1500km away from Raine Island.



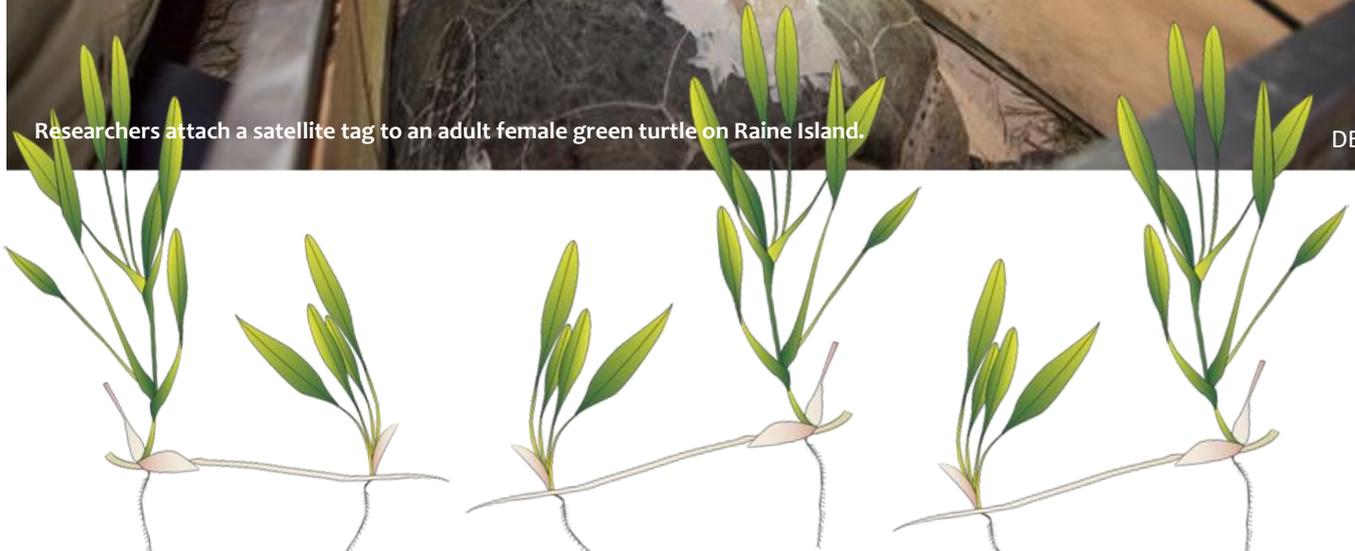
The Raine Island Recovery Project is a five-year, \$7.95 million collaboration between the Queensland Government, the Great Barrier Reef Marine Park Authority, the Wuthathi Nation and the Meriam Nation (Ugar, Mer, Erub) Traditional Owners, Great Barrier Reef Foundation and BHP.

Satellite tags have been used to help researchers understand sea turtle movements and behaviours for over 25 years. They are small devices attached to the turtle's carapace with marine epoxy and relay a signal when the turtle surfaces to breathe. The attachment process is harmless, and less invasive modifications continue to be developed. Satellite tags are designed to be flat, lightweight and temporary to ensure disturbances to the turtle's swimming ability and natural behaviour are negligible.



Researchers attach a satellite tag to an adult female green turtle on Raine Island.

DES



February Flooding Events

The flooding events that affected northern QLD in February saw freshwater flood plumes extend from river mouths to mid-shelf reefs in some locations, and the impacts of siltation and reduced light penetration on inshore ecosystem health remains unclear.

In April the James Cook University (JCU) Seagrass Ecology team undertook some aerial surveys of the intertidal seagrass meadows between Cape Cleveland and Cape Upstart in the Townsville area, one of the regions hardest hit by the floods. The survey results showed no major impacts to intertidal seagrasses in the area. Seagrass was found in relatively good condition in areas it occurred prior to the floods and dugong feeding trails were also observed.

However, recent monitoring of turtles in Cockle Bay, Magnetic Island by the JCU Turtle Health Research and QPWS Aquatic Species teams found that the species of sea grass that turtles prefer to eat has now either gone or is in poor condition and turtles are now feeding primarily on algae. A number of turtles also appear to be below average weight.

To date, there has been no significant increase in strandings reported in the area, but the jury is still out on the impacts on turtle health and habitat.

Research Review

Microplastic ingestion ubiquitous in marine turtles



M. Duncan, Emily & C. Broderick, Annette & Fuller, Wayne & Galloway, Tamara & Godfrey, Matthew & Hamann, Mark & J. Limpus, Colin & Lindeque, Penelope & G. Mayes, Andrew & Ormeyer, Lucy & Santillo, David & Snape, Robin & Godley, Brendan. (2018). Microplastic ingestion ubiquitous in marine turtles. *Global Change Biology*. 10.1111/gcb.14519.

This study looked at the presence of microplastics in 102 marine turtles across three ocean basins (Mediterranean, Atlantic and Pacific). **Synthetic particles including microplastics (<5mm) were found in every turtle that was sampled, which included individuals from all seven species of marine turtle.**

Most particles were fibrous in nature, and in lesser quantities were fragments and microplastics. Fibres and fragments were found in all three ocean basins, while microplastics were only found in the Pacific. This could potentially be due to the foraging ecology of turtles in the Pacific, where turtles in the post hatchling stage are surface dwelling and overlap spatially with surface floating microplastics.

There are a number of potential sources of the synthetic fibres, including degraded synthetic fabrics, tyres, cigarette filters, rope and fishing nets. Speculations on ingestion pathways include exposure to polluted seawater and sediments, transfer from contaminated prey/forage items (e.g. seaweeds, sponges), and transfer from contaminated prey (e.g. filter feeding invertebrates).

The impacts of these synthetic particles is unknown. Unlike macroplastic ingestion, they do not lead to gut blockage or obstruction. **The study concluded that future work should focus on whether microplastics may be affecting aquatic organisms more subtly,** for example, amplifying exposure to associated contaminants (heavy metals, persistent organic pollutants and polychlorinated biphenyls) and pathogens, or by acting at cellular or subcellular level. **Until more is known, microplastic ingestion is unlikely to present a significant conservation problem at current levels and is less of a concern than fisheries bycatch, the ingestion of macroplastics or entanglement in marine debris.**

Flatback hatchling carapace notching

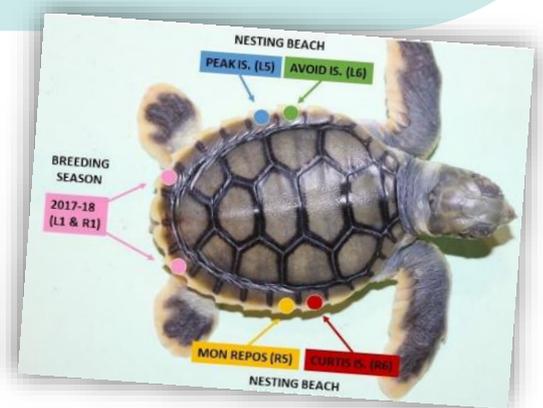
Colin J. Limpus, Janine Ferguson, Nancy N. FitzSimmons, Duncan J. Limpus & John M. Sergeev. (2019). *Recommending the Tagging of Flatback Turtle, Natator depressus, Hatchlings Using Carapace Notching*, Queensland Department of Environment and Science. *Marine Turtle Newsletter No. 157*, p.1-4.

In the 2017-18 summer, the Department of Environment and Science (DES) recommenced the tagging of flatback turtle hatchlings using carapace notching.

This project extends the carapace notching study of 1973 -1982, in which flatback, green and loggerhead turtle hatchlings were notched at Mon Repos. Adult turtles that had been notched during that study are still being recaptured today, providing information including age at first breeding, natal philopatry and survivorship to first breeding.

Notching involves using an adjustable leather punch to clip circular holes in the marginal scutes of the carapace, coded to breeding year cohorts for the beach at which they hatched.

A total of 4,801 flatback hatchlings were notched and released during the 2017-18 breeding season. In the short term, it is anticipated that recaptures will provide insights into the dispersal and age structure of immature flatback turtles that forage on plankton in inshore surface waters of the central and southern Great Barrier Reef. In the longer term (decades) recaptures will continue to provide quantified measures of philopatry of individuals to the beach where hatched, age at first breeding and survivorship from hatchling to breeding adult.



Philopatry (phil-o-pat-ry): the tendency of an animal to remain in or return to the area of its birth.

In the spotlight

Johanna Karam



Jo has a background working for Non-Government Organisations including Oxfam Australia, the Western Cape Turtle Threat Abatement Alliance, and the Sea Turtle Foundation (STF).

In her position as General Manager for STF, Jo led the charge for strandings response in the Townsville Region. Jo worked very closely with the QPWS Strandings Coordinator for the GBR, and was instrumental in training volunteers, fielding calls from the hotline, coordinating volunteer response, and reporting data for the StrandNet database.

Unfortunately, STF's General Manager position is no longer funded, and we hope that Jo can continue working in the field of marine turtle conservation where she has already made such a significant contribution.



Pictured here from left to right are Natalie Kastner (Great Sandy Marine Park), Alicia Moisel (Great Barrier Reef Marine Park) and Natalie Sands (Moreton Bay Marine Park) who co-presented on the QPWS marine animal strandings program, emphasising how the importance of quality data collection from the field, from treatment and husbandry records, and from necropsy and pathology results can contribute to the conservation of marine turtles, and how traditional owners, community volunteers, rehabilitators and researchers all play a vital role.

Turtle Health and Rehabilitation Symposium

In September representatives from the three QLD Marine Parks attended the Turtle Health and Rehabilitation Symposium at Sea World on the Gold Coast.

The Symposium brought together students, community groups and professionals from across the country to talk about best practice, current research and professional tips for the diagnosis, treatment and rehabilitation of turtles.

