

AUSTRALIA & NEW CALEDONIA CORAL SEA NEWSLETTER

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DECLARATION OF INTENTIONS BETWEEN FRANCE - NEW CALEDONIA AND AUSTRALIA FOR THE SUSTAINABLE MANAGEMENT OF THE CORAL SEA

The *Declaration*, signed in 2010, confirms the intention for Australia and France-New Caledonia to work collaboratively to:

- strengthen the scientific framework for collaboration on the conservation and management of the Coral Sea and its environs;
- establish long term collaboration between the bodies and institutions responsible for the management of ocean, reef and lagoon areas of the Coral Sea; and
- strengthen regional capacity building efforts to ensure a comprehensive trans-boundary approach to the conservation of biological diversity of the Coral Sea, including natural resources, in a cooperative and complementary manner.

This newsletter will be published periodically to provide an update on the progression of activities under the *Declaration*.

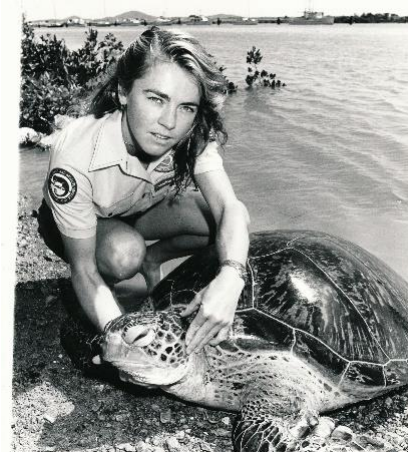
AUSTRALIA

RANGERS CELEBRATE 40 YEARS PROTECTING THE GREAT BARRIER REEF

Saving vulnerable turtles and seabirds, restoring tourism infrastructure after cyclones, monitoring crown-of-thorns starfish outbreaks and ensuring zoning rules are followed just some of the Reef protection activities undertaken by the Great Barrier Reef Joint Field Management Program, which celebrated its 40th anniversary in June 2019.

Since 1979, rangers and marine managers from the Australian and Queensland governments have joined forces to protect the iconic and vast Great Barrier Reef World Heritage Area with the creation of a single field management program.

Four decades later, the two levels of government continue to work closely in this unique partnership, guided by the [Great Barrier Reef Intergovernmental Agreement](#), to protect our reefs and islands that are home to iconic plants, animals, habitats and rich cultural heritage.



© Commonwealth of Australia (Reef Joint Field Management Program)

Felicity Savage was the first female ranger.

Through this joint program, marine park rangers and staff from the Great Barrier Reef Marine Park Authority and the Queensland Parks and Wildlife Service work together to deliver practical on-ground activities that mitigate threats and build Reef resilience. The program is supported by a growing network of partnerships with other government agencies, research institutions, industry, community groups, and Indigenous Land and Sea Rangers.

The Reef Joint Field Management Program won the Gold Award for the 2019 Prime Minister's Awards for Excellence in Public Sector Management recognising its approach to tackle threats to the Reef; delivering unwavering on-ground outcomes and fostering strong relationships.



© Raine Island, Commonwealth of Australia (Great Barrier Reef Marine Park Authority)

Caring for turtles on Raine Island – supporting the world's largest green turtle nesting population and an important seabird rookery.

CORAL SEA MARINE PARK REEF HEALTH PROJECT



© Reef fish and coral – Daniela Ceccarelli

In early 2020, research trips were undertaken as part of our three-year project to assess coral bleaching, fish and invertebrates and associated reef health in the Coral Sea Marine Park.

Over the past three years, James Cook University researchers surveyed 120 sites and over 64 km of reef habitat across 20 reefs in the Marine Park spanning 13 degrees of latitude (~1,800 km) from Boot Reef in the north (9.9°S) to Cato Reef in the south (23.2°S). This represents the most extensive assessment of coral reef health and marine biodiversity ever undertaken in the Marine Park.

These surveys included several reefs for which there had been very limited prior research or monitoring, namely Ashmore and Boot Reefs in the north and Mellish Reef in the east.

The final report for this research will be available on the Parks Australia website in the coming weeks.

TURTLE TRACKS



© Turtle released with satellite tag – W.Zamai

In mid-2018 Parks Australia purchased 8 satellite tags to attach to nesting turtles on the southern islands within the Coral Sea Marine Park to get better information on where the foraging grounds are for green turtles.

However, due to an exceptionally low breeding season, we held onto the tags and tried again in late 2019 on islands in the central area. Along with our colleagues from Queensland Parks and Wildlife Service, we travelled to the Coral Sea islands to attach the tags and conduct a conventional tagging project.

Chelonia mydas: CA8377
PTT ID = 133767

NE Herald Island nesting
Deployed: 30 Nov
Departed inter-nesting: 12 Jan
Arrived foraging area: 14 Feb

PREVIOUS HISTORY:
Nil



Satellite tracking of movements by turtle CA8377

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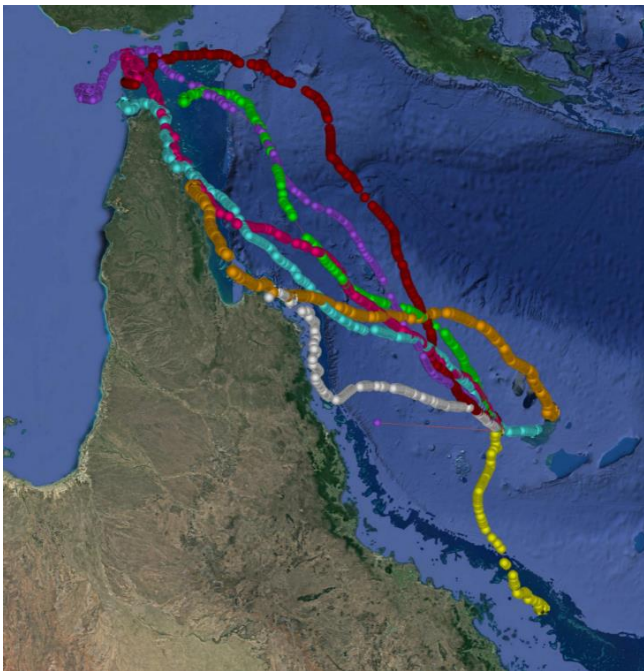
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387 individual green turtles were encountered nesting over a period of 9 day/nights.

These turtles were checked for identifying tags and 108 tissue samples were taken to further advance our understanding of the genetic stock structure within the western Pacific.

The eight satellite tags were attached and monitored over the next six months to get a stronger and more detailed understanding of foraging behavior. The foraging range of the turtles tracked this year lies within the total foraging range for the Coral Sea green turtle genetic stock previously identified from flipper tag recoveries.



Satellite derived turtle migration tracks

CORAL SEA MARINE PARK ADVISORY COMMITTEE

Parks Australia has hosted three Coral Sea Marine Park Advisory Committee meetings (in June and November 2019, and May 2020).

Committee members discussed management of the Coral Sea Marine Park. We received advice on regional needs and opportunities and strengthened our regional relationships.

Areas of interest included biosecurity, Indigenous engagement, island and reef health monitoring, and marine debris assessments and removal. Meet the committee members and read about what was discussed at:

parksaustralia.gov.au/marine/management/partnerships/coral-sea-advisory-committee/

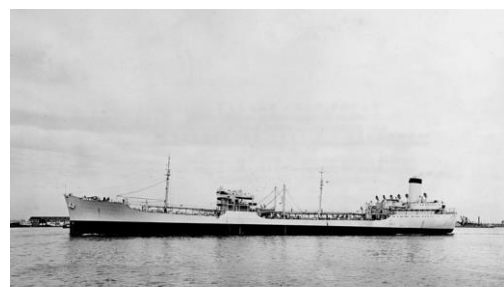
BE PEST FREE IN THE CORAL SEA

Parks Australia has produced the Be Pest Free in the Coral Sea biosecurity information sheet:

<https://parksaustralia.gov.au/marine/pub/be-pest-free-in-the-coral-sea.pdf>

The information sheet provides information to people visiting the Coral Sea Marine Park about the importance of stopping pests, such as ants and rodents, from being introduced onto islands. If you visit the remote islands in the Coral Sea Marine Park you need to consider your impact and ways to protect the seabirds, turtles and plants that make up these amazing but vulnerable island ecosystems.

THE FINAL RESTING PLACE OF THE USS NEOSHO DISCOVERED



© The USS Neosho launched in 1939, US Navy

In August 2019, Australian researchers solved an 80-year old mystery by discovering the *USS Neosho* wreck. The vessel has lain untouched in more than 3000 metres of water since it was scuttled in 1942 during the Battle of the Coral Sea. On a CSIRO RV *Investigator* voyage, a team from James Cook

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University led by Dr Robin Beaman used state-of-the-art sonar technology to create 3D images of the seafloor and locate the wreck. Memorial wreaths were laid in commemoration of the crew that lost their lives.

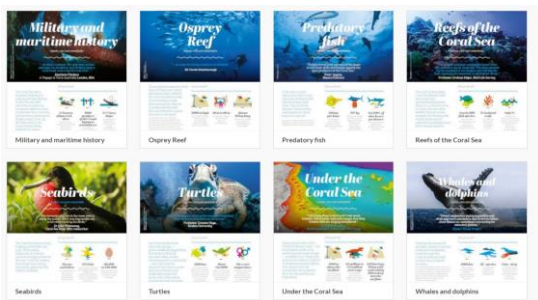
The Coral Sea Marine Park contains over 45 known historic shipwrecks. Data from this discovery will help protect and help Parks Australia better manage the important heritage values of the park. Read more about the Park's maritime and military history at: <https://parksaustralia.gov.au/marine/parks/coral-sea/explore/military-and-maritime-history/>

THE CORAL SEA MARINE PARK STORY

The Coral Sea Marine Park offers some of the world's most incredible marine experiences, from diving the spectacular drop-offs at Bougainville Reef to hooking black marlin and spotting humpbacks and their calves during their winter month's migration.

Promoting high-quality recreation and tourism experiences in our marine parks is a key part of our management approach and delivers important social and economic benefits. Visiting an Australian Marine Park is a special opportunity and Parks Australia is interested in working alongside tourism operators to provide interesting park-related facts and stories that can be shared with visitors.

We now have a Coral Sea Marine Park story sheet series. Download the Coral Sea story sheets at: <https://parksaustralia.gov.au/marine/management/resources/>



A LIFETIME OF CORAL SEA ADVENTURES

Captain Peter Sayre has been lucky enough to spend a lifetime exploring the islands and reefs in the Coral Sea Marine Park. In 2019, Peter released "Australia's Coral Sea Islands and Marine Park" which captures some of those adventures along with interesting information about the Park's nature and maritime history, hot tips on the best anchorages and dive sites, maps and stunning photos. Learn more at: <https://coralseaexplorers.com/my-story>



© Mellish Reef in the Coral Sea, Hugo Harrison

RELEASE OF THE GREAT BARRIER REEF OUTLOOK REPORT 2019

Like coral reefs around the world, the Great Barrier Reef is under increasing pressure. Climate change remains the greatest threat to the Great Barrier Reef as highlighted in a report released by Australia's lead management agency for the Reef.

The Great Barrier Reef Marine Park Authority's 2019 [Outlook Report](#) - the third in a series of report published every five years - provides an overview of the condition of the Reef's ecosystem and heritage values, use, influencing factors, management effectiveness, resilience, and risks to its future.

The other main threats to the Reef are associated with coastal development, land-based run-off, and

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threats from direct human use of the Reef (such as illegal fishing).



The report finds the overall future long-term outlook for the Reef's ecosystem is very poor, and the future outlook for its heritage values is poor; but optimism remains that with local, national and global action on the greatest threats this outlook can be improved.

The Reef is a large, diverse and spectacular ecosystem, and its condition varies geographically. The Reef has shown the ability to recover from impacts if disturbance-free periods are long enough. For more information on the report contact outlook.2019@gbmpa.gov.au

CURRENT AND FUTURE INITIATIVES TO IMPROVE THE LONG-TERM OUTLOOK

The Reef is one of the best managed marine ecosystems in the world. The Australian and Queensland governments are making significant investments under a comprehensive plan to protect the Reef, the [Reef 2050 Long-Term Sustainability Plan](#).



In 2020, the Plan is undergoing its first five-yearly review, which included a draft plan released for

public consultation. This is to ensure the updated Plan contains the right priorities and actions to support the health and resilience of the Great Barrier Reef. The Great Barrier Reef Marine Park Authority (Marine Park Authority) is a key delivery partner of the Plan, delivering world-class management to improve the health of the Reef.

The Marine Park Authority is committed to delivering strong, effective and responsive marine park management to improve the long-term outlook for the Reef and the communities which depend on it. The Marine Park Authority's [Reef Blueprint for Resilience](#) addresses key threats, which includes delivering on-ground actions to enhance resilience, and fostering partnerships for action and innovation.

Further information is available on the Marine Park Authority's website: www.gbmpa.gov.au

NEW-CALEDONIA

MAJOR NESTING GREEN TURTLE SITES IN THE NATURAL PARK OF THE CORAL SEA

The D'Entrecasteaux atolls, a UNESCO World Heritage site classified as a natural reserve since 2013 and the Chesterfield reefs, classified as a natural reserve since 2018, have been confirmed as sites of priority interest for the nesting of the green turtle worldwide! This means these natural reserves are a topic of particular interest at meetings of the France Sea Turtle Group (GTMF).



© Baby Green turtle just born, DAM-NC

After analyzing all the data collected over the past decade by Maritime Affairs, the analysis revealed

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incredible figures in 2018. According to the authors of the analysis, Marc Girondot, statistician, and Jacques Fretey, turtle specialist, the number of female green turtles nesting sites at d'Entrecasteaux has been estimated at 28,000 each year! This extremely important information was shared with the members of the GTMF during the 3rd GTMF symposium, held in November 2018 in La Rochelle, France.

NO ONE SITE LIKE D'ENTRECASTEAUX ATOLLS

Numerical comparisons between nesting sites worldwide are tricky due to the multiple tracking methods. However, it was noted that no green turtle nesting site in other French overseas territory quantitatively approaches, the sites of the Natural Park of the Coral Sea: the d'Entrecasteaux atolls and the Chesterfield! That means that New Caledonia, manager of the protected area have an important responsibility.

The conclusions of this meeting, led by the natural heritage service of the Museum of Natural History (MNHN) in Paris, on behalf of the Ministry of Sustainable Development, highlighted "*the importance of discovering the exceptional nesting sites in the Natural Park of the Coral Sea. A rare, important and hopeful discovery.*"

Tracks of green turtles are counted each year on the islets Huon, Fabre and Le Leizour located just north of the Natural Park of the Coral Sea, after the Belep Islands, to provide information about their population.



© Green turtles come to lay in the Natural Park of the Coral Sea, DAM-NC

A RELIABLE MONITORING INDICATOR

Monitoring of green turtle tracks created by the Pacific Community (SPC) for New Caledonia for 10 years, and now generalized on the other sites of the Natural Park, has been recognized by the scientist experts, as the most reliable population indicator. Data is annually acquired in December by the Service of Fisheries and Marine Environment of Maritime Affairs in d'Entrecasteaux atolls since 2007 and Chesterfield since 2017. All these data are essential for monitoring the health status of green turtle populations in the Pacific region; and for the GTMF for future conservation and valorizing actions tailored firstly to fit the specificities of each nesting site, before extending the rational to different regions of the French Overseas Territory.

A REGIONAL SHARK MARKING PROGRAM



© Shark marking program in the Natural park of the coral sea, DAM-NC

Thanks to funding from the Areas Beyond National Jurisdiction program (ABNJ) and the European Union, the Western and Central Pacific Fisheries Commission (WCPFC) ordered a regional study on shark mortality during offshore fishing. The study led by Pacific Community (SPC) aims to estimate the survival rate of sharks after catch. To achieve this, a regional shark tagging program (shortfin mako and silky sharks) was implemented in 2017 with four countries: New Zealand, Fiji Islands, Marshall Islands and New Caledonia. Sharks accidentally caught during fishing operations are marked with a tag equipped with the Pop-up system, which makes it possible to check whether the shark has survived the release process or not. This program is a new data source which, once analyzed, should enable us to better estimate the

impact of offshore fishing activities about shark survival and guide management measures for their conservation.



© Pop-up system, fishery observers program, DAM-NC

MARKING OPERATIONS IN THE NATURAL PARK

The survival of these sharks, stressed by their capture, is a question that greatly interests New Caledonia, which has prohibited shark fishing since 2013. During offshore fishing activities in the Natural Park of the Coral Sea, 94% of the sharks caught are released alive. Aboard New Caledonian longlining vessels, fishery observers collect some data on sharks accidentally caught and then transmit these elements to managers. But, when it comes to having a more refined and long term view of the situation, more data are necessary. It's why New Caledonia has therefore agreed that tagging operations will be carried out from July 2018 onwards.

This regional tagging program focuses exclusively on the most frequently caught sharks: shortfin mako, and silky sharks. The ambition? Mark one hundred sharks of each species. In the Natural Park of the Coral Sea, only the shortfin mako shark is targeted because the silky shark is rather found around the Fiji and Marshall Islands. In 2018, a dozen shortfin mako sharks were tagged by fishery observers and longline vessels captains. The tagging operations will be completed at the end of March 2019. The data collected were analyzed, and the results are detailed in the report here: <https://www.wcpfc.int/node/42977>.

GETTING TO KNOW THE NATURAL PARK OF THE CORAL SEA'S SEAMOUNTS



© Laurent Vigliola-IRD, Seamounts project, nautile, 128 metres.

Imagine an underwater mountain covered with coral forests, sponges, and anemones, acting simultaneously as a shelter against currents, a breeding ground, a rest area and a food larder for multiple species... You are getting a glimpse at a seamount. Scientists consider them as an oasis of life at the heart of the ocean's deep-sea ecosystem. Usually with volcanic origins or resulting from movements of tectonic plates, these structures rising from the depths of the seas, without touching the surface, remain a significant mystery for science.

AN ENDLESS SCIENTIFIC SUBJECT

Despite the fact that about forty years of research have been undertaken in the Pacific South West by several French and Australian Institutes (IRD, MNHN, CSIRO, the National Museum of Victoria) and that 8 000 species have been discovered (estimated at 15 000-20 000), a third of which are probably endemic. We also know that seamounts are used by major migrating species (sharks, marine mammals...) as well as in the breeding of humpback whales. At the bottom of seamounts, *Gymnocrinus richeri*, which we thought was extinct, can be found alongside architect species like cold corals. Seamounts ensure that the ocean and its biodiversity remain in good health and continue to attract the attention of the international scientific community.

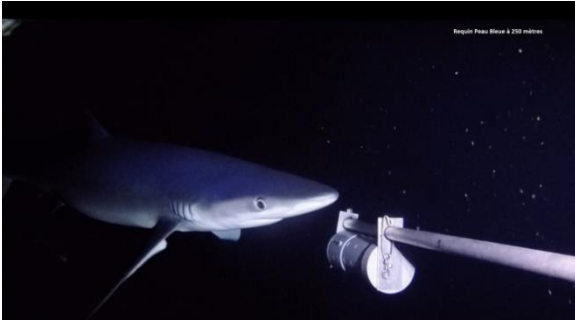
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THE SEAMOUNTS CAMPAIGN TO UNCOVER THE PARK'S DEPTHS

Because they are difficult to access, all the seamounts situated within the Natural Park of the Coral Sea have not been discovered yet and the role they play is not well known. Therefore Laurent Vigliola, a researcher from the IRD, and its partners (France's National Research Agency, the University of Montpellier, the Spygen Laboratory and the New Caledonian company Bluecham) launched the *Seamounts* scientific project, which found its origins in their belief that seamounts are shelters and act as connection areas between the fauna living at shallow depths, and the ones in the pelagic and the deep-sea environments.



© Laurent Vigliola-IRD, *Seamounts* project, blue shark, 250 metres

Initial research missions occurred in April and June 2019; and two more in August and October 2020. The research objectives are to better understand, measure, index and finally model the existing biodiversity using modern techniques such as environmental DNA (collection and filtering of water), stereo-cameras, echo-sounders and genetic sample analyses. The writing of a new scientific history of seamounts in the Natural Park of the Coral Sea has just begun...