



# KIMBERLEY MARINE

RESEARCH STATION • CYGNET BAY

MAY - JUNE 2019



Photo of the month! A giant clam (*Tridacna sp.*) seen in the reef off the front beach at Cygnet bay. Photo: Josh Briggs

## IN THIS EDITION...

A lot has been happening at Cygnet Bay and KMRS in the last 2 months. In this issue of the KMRS newsletter, you will find information on the new biofouling masters researcher from UWA, the pearl meat harvest, an exciting new project in the works, Cygnet Bay coral health, an update on the April spat delivery and exciting accommodation developments!

## STAFF NEWS

Hello to our new interns Josh and Cristian!

Josh is undertaking his internship with KMRS whilst completing the final semester of his undergraduate degree in Marine Science and Conservation Biology at the University of Western Australia. He is enjoying learning a wide variety of research skills, spending valuable time out on the water, and has a strange affinity for chipping shell when called upon.

Cristian, as part of his Masters research, will also be participating in an internship with KMRS. His knowledge of species identification is already proving invaluable and adds another element to our sampling days.

Goodbye - (kind of)

Meg will be finishing up her internship in the first week of July, where she will be moving into a tourism role on the farm.



New interns Josh Briggs and Cristian Tejada.

Photos: Meg Vaisey



# NEWS FROM THE RESEARCH STATION

## Masters Research – Biofouling

KMRS is proud to host Cristian, a Masters student from Peru who is currently studying at the University of Western Australia. He is undertaking some fascinating research at the pearl farm on biofouling. Biofouling consists of all the organisms that grow on the pearl oyster floating farms. This growth possesses several problems for the industry since these organisms can grow and outcompete the pearl oysters for food or make the lines sink due to the extra weight in addition to a large amounts of time spent removing it. Cristian is aiming to find what organisms comprise this biofouling and how much they grow during the dry season. Cristian's research will also help



An Octocoral found on the lines by Cristian.

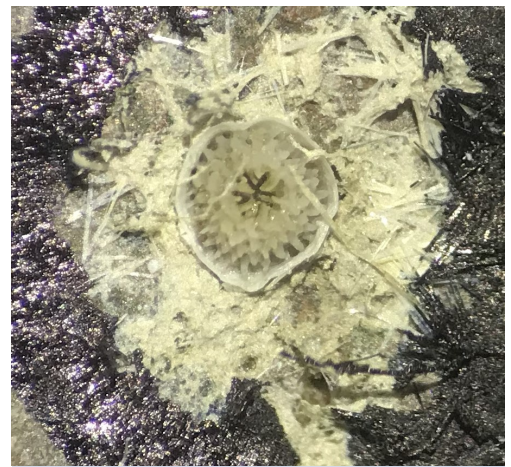
identify if invasive species are present as these species can be potentially dangerous for the pearl oysters and overall ecosystem. Cristian's research will help pearl operators better understand when and how to clean the biofouling in order to maximise productivity. We wish Cristian all the best for his research, and we look forward to working closely with him throughout his time at Cygnet Bay.

## Coral monitoring

Our coral monitoring project continually assesses the health of the intertidal corals in Cygnet Bay. We are pleased to share that Cygnet Bay seems to have escaped a 2019 bleaching event, and we haven't seen coral health deteriorate. Below are images of a branching coral on our transect, taken 1 year apart. You can see the coral has grown significantly during the period and is a perfect example of the intertidal 'super corals' we see in the Kimberley!



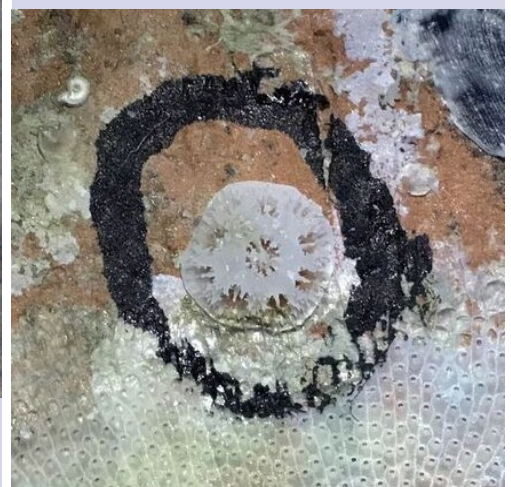
Comparison of the same Acropora coral taken 1 year apart along one of our intertidal transects. Left: June 2018 Right: June 2019.



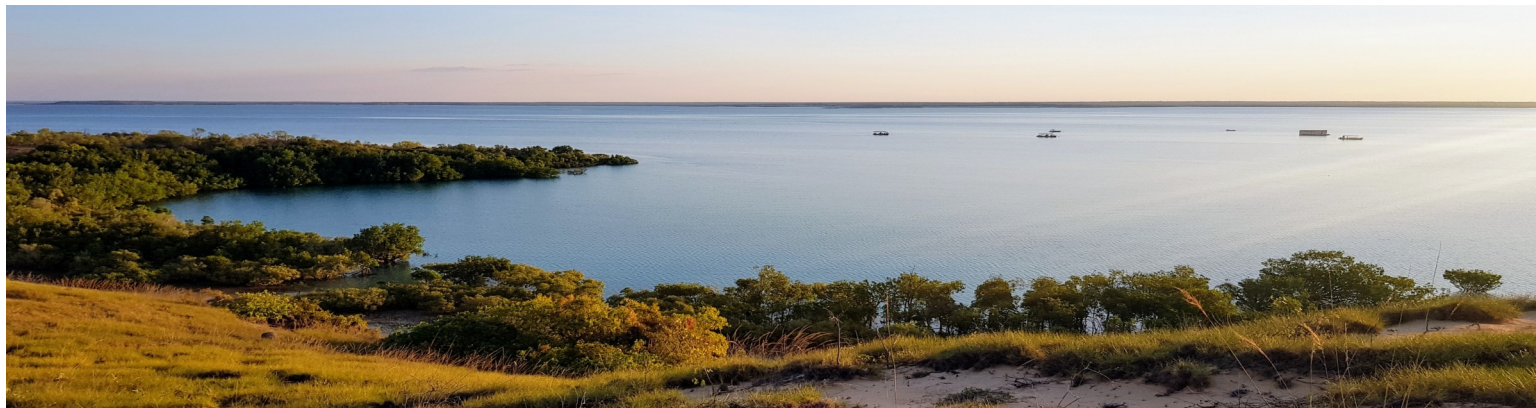
## Coral recruitment

We retrieved the first set of coral recruitment tiles in late May which were deployed in February. Coral tiles are deployed one month in advance of the coral spawning period and are then retrieved two months after the spawning period to observe juvenile corals, known as polyps. The analysis of the tiles saw *Pocillipora* (pictured below), *Acropora* (pictured above) and *Porites* coral polyps had recruited to all of the four sample sites located around Cygnet Bay. It is fantastic to see a range of coral species continuing to settle in Cygnet Bay.

Photos: Meg Vaisey







Overlooking the cleaning boats from near Shenton's Bluff.

Photo: Josh Briggs

## New project in the works...

We are currently in the initial phases of kick-starting an exciting new project: A citizen science based, Cygnet Bay dolphin catalogue. This project is in collaboration with researcher Alexander Brown who conducted his PhD on the coastal dolphins of North-west Australia. His research found there are 3 species of dolphin commonly found within Cygnet Bay: Australian snubfin, Australian humpback and Indo-Pacific bottlenose. The project aims to build on Alex's existing Cygnet Bay catalogue by utilising ID photographs taken on board our Cygnet Bay Pearl Farm boat tours by members of the public and staff. We aim to get this project up and running within the next month, so look forward to the next newsletter which will hopefully contain some dolphin photos which have been successfully matched to dolphins within the existing catalogue.

## CRC sampling

The Cooperative Research Centres project sampling period is currently at 28 weeks. There has been a health event occurring since March, and our fortnightly sampling has revealed considerable oysters displaying poor health and a spike in mortality. This health event has coincided with a dramatic 5°C drop in sea-surface temperature. This health event is a key 'challenge' the oysters must face, although it is hard to see happening. It is a vital step in collecting information to share with our University partners and to have a more resilient and productive farm oyster stock. Analysis of our samples will help the CRC project in understanding why this health event occurs and how we can overcome it. However, there are many oysters prevailing, which is great news for the gene pool and the industry!



Meg measuring the size of oyster spat during CRC.

Photo: Ben Delfs

## AROUND THE FARM



Pearl meat before being harvested from the shell. Photo: Laurelle Jones

## Pearl meat harvest

Pearl farm staff completed another meat harvest in late May. Pearl meat is a rare commodity and retails for \$100 per kg in Australia. In Asia, dried pearl meat retails for around \$400 per kg.

Pearl meat is available for purchase from the Cygnet Bay restaurant and the Broome boutique. Alternatively, the Cygnet Bay restaurant features pearl meat throughout the menu, or you could attend one of the long-table dinner events. Learn more [here](#)!

## Oyster spat

The oyster spat delivered and deployed onto the lines in April, have thrived over the first 2 months on the farm. Now sized approximately 2-3 mm, the spat will be ready to be moved into pocket panels around October.

The spat kept in the KMRS hatchery tanks are now sized approximately 2-5mm and we can see them! We are continuing to monitor the health and success of both the hatchery tanks and the farm stock over the coming months!



Staff enjoying a sunset on Shell island. Photo: Laurelle Jones

## Other news

In late May, the managing director of Cygnet Bay Pearl Farm, James Brown, hosted the WA Fisheries minister, Dave Kelly, as well as representatives from DPIRD, Maxima Pearling Co., Willie Creek Pearls, Autore Pearling and the Pearl Producers Association. Hosted at Cygnet Bay Pearl Farm, the VIP guests observed pearling operations including meat harvest, KMRS oyster spat sampling and line cleaning.

## FOLLOW US...

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Kimberley Marine Research Station



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Cleaning shell after the pearl meat has been harvested. Photo: Laurelle Jones

## News from Cygnet Bay

Cygnet Bay is getting busier by the day in the lead up to the July school holidays. Marine tours have been extremely popular with many sold out. Some tours have been lucky enough to see false killer whales, dugongs, manta rays and with the annual humpback whale migration beginning to reach the northern waters, we look forward to hearing about whale sightings!

In accommodation, lots of work has been going into new campgrounds and upgrades of the eco-safari tents. The eco-safari tents have now been finished and opened for July school holiday bookings in Cygnet Bay's accommodation! The Cygnet Bay restaurant has been open for à la carte breakfast, lunch and dinner since late April. The restaurant also hosted its second long-table dinner of the season on the 14th of June - a fantastic night showcasing Cygnet Bay Pearls and our pearl meat. The next long table dinner will be held on July 5th!

An encore screening of the 2018 Mud and Saltwater Film Festival was hosted at the farm on the 29th of June, a fantastic turn out of visitors and locals, and was enjoyed immensely by all.

The Western Australian Indigenous Tourism Operators Council (WAITOC) and Tourism Western Australia have been up at the farm filming Cygnet Bay Pearl Farm's cultural, marine sea safari and pearl farm discovery tours. Keep an eye out for Cygnet Bay on these platforms in the coming weeks!



Look forward to the next KMRS newsletter which will include a summary of our annual beach plastic survey, the second round of coral recruitment tiles and a progress report on Cristian's biofouling research!