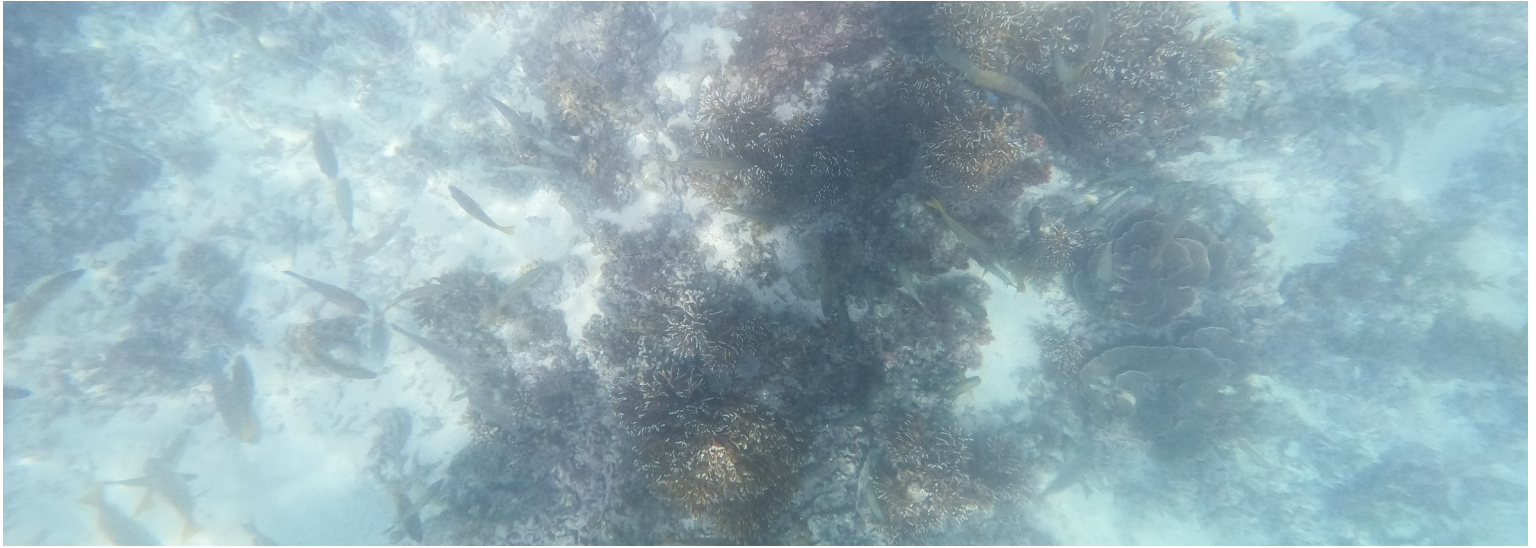


MARCH-APRIL 2022



Coral and fish diversity around Sunday island! Photo: Alexandra Owen

IN THIS EDITION...

The farm is getting busier with the start of the dry season bringing an influx of visitors just in time to see the final result of the renovations around Cygnet Bay Pearl Farm.

The focus of research at KMRS recently has been a Coral Bleaching Investigation, with KMRS teaming up with the Bardi Jawi Rangers to complete a coral bleaching survey around Cygnet Bay and the Sunday Islands.

In April we had a minimum temperature of a chilly 20 degrees Celsius overnight, and welcomed in some easterly winds typical of the dry season, signaling the end of the wet season. These changing conditions have made for some great days to be out doing field work.

In April we also said goodbye to our Intern Gaby, we wish her well on her next endeavor!



A special encounter in our near-shore waters around Cygnet Bay!

Photo: Callum Alkemade

NEWS FROM THE RESEARCH STATION

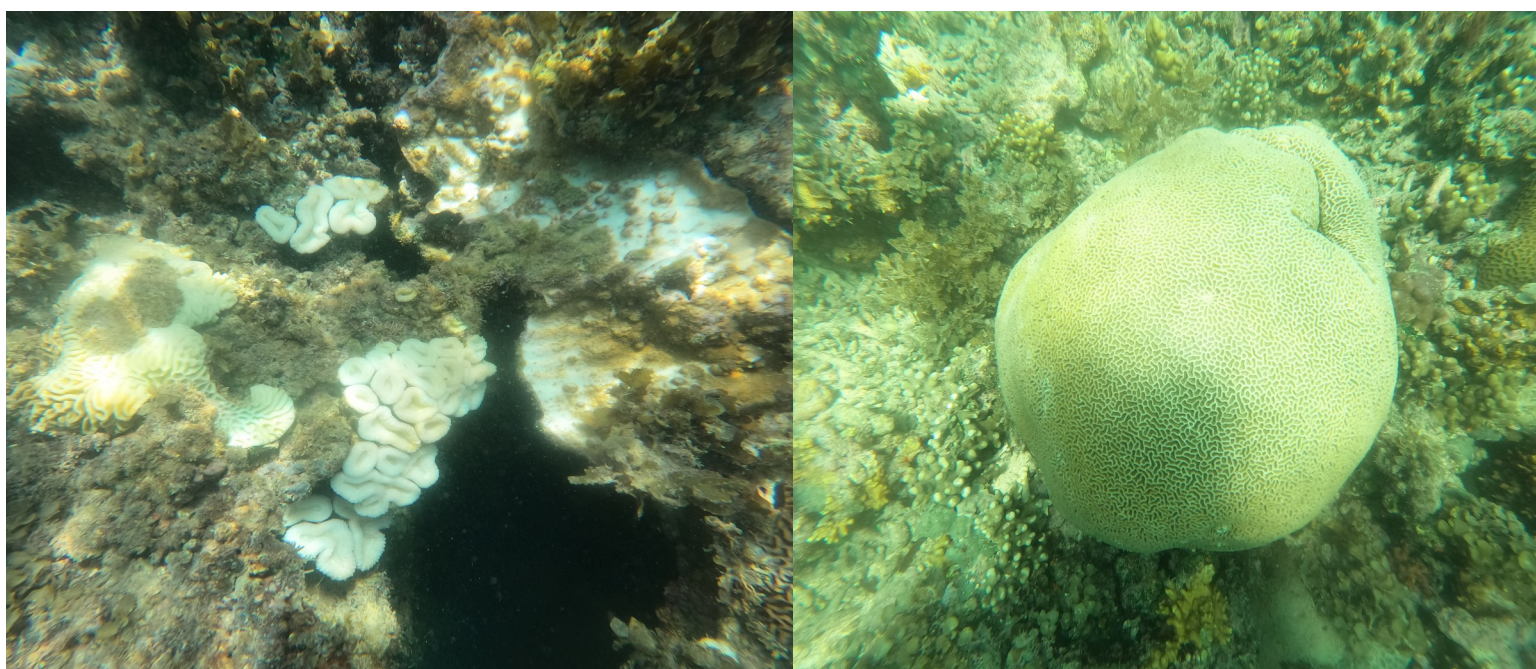
Coral Bleaching Investigations...

Recently KMRS teamed up with the local Bardi Jawi Rangers and Oorany Rangers in an expedition to investigate coral bleaching on the Dampier Peninsula. With the support and local knowledge of the rangers we were able to explore sites such as Sunday Island, Bianna Island and South Taloon Island. We also explored inshore areas around Cygnet Bay including Shenton Bluff, Bird Rock, Shell Island and Catamaran Bay.

Low to moderate bleaching of some corals was discovered, although most sites had less than 10% of corals bleached. The majority of the bleached corals observed were only partially bleached, although in some places we did see completely bleached coral— like in the image below taken at Bianna Island. We have also been lucky to receive support from the Australian Institute of Marine Sciences (AIMS) with this investigation— helping us better understand our footage as this is a relatively new topic for KMRS.

A similar investigation was done in 2020, of which this investigation followed on from. Some of the sites surveyed in these investigations overlap with ongoing monitoring sites used for coral recruitment. This is helping us develop a better understanding of how disturbances such as increases in water temperatures affect the coral at different sites within and around Cygnet Bay, as well as how the environmental conditions at each site help drive these changes.

As part of this expedition, the research team and the rangers had the opportunity to snorkel on some pristine Kimberley reefs and explore some incredible remote locations thanks to the Bardi Jawi Rangers! We look forward to future surveys and expanding our coral monitoring procedures.



Two photos taken as part of our Coral Bleaching Investigation. Left: Bleached corals (*Paragoniastrea australensis*, Lobophyllia, and an encrusting type coral) amongst healthy corals and macroalgae, at Bianna Island. Right: A healthy *Goniastrea favulus* coral colony at Sunday island. Photos: Alexandra Owen

AROUND THE FARM

Special Encounter ...

Two of our tourism skippers Callum and Glen had a rare but wonderful surprise on a marine tour in late April, as did guests on board who were joined by a pod of around 20 Cetaceans. The KMRS team believe these individuals are Pygmy Killer Whales (*Feresa attenuate*), although they may be false killer whales (*Pseudorca crassidens*), which are commonly sighted in the Kimberley each year. Pygmy Killer Whales are smaller species of the oceanic dolphin family that are often confused with false killer whales and also melon-headed whales (*Pseudorca crassidens*). Because of the similarities between these species, and with a lack of identifying photos our scientists are torn on an identification! If you have any input for us about this sighting please get in touch via our email or Instagram account found on the next page, as we aren't Cetacean experts but are very curious!



Pygmy killer whales in the pod of about 20 individuals that approached the boat on tour!

Photos: Callum Alkemade

Preparation for Broome Harvest ...

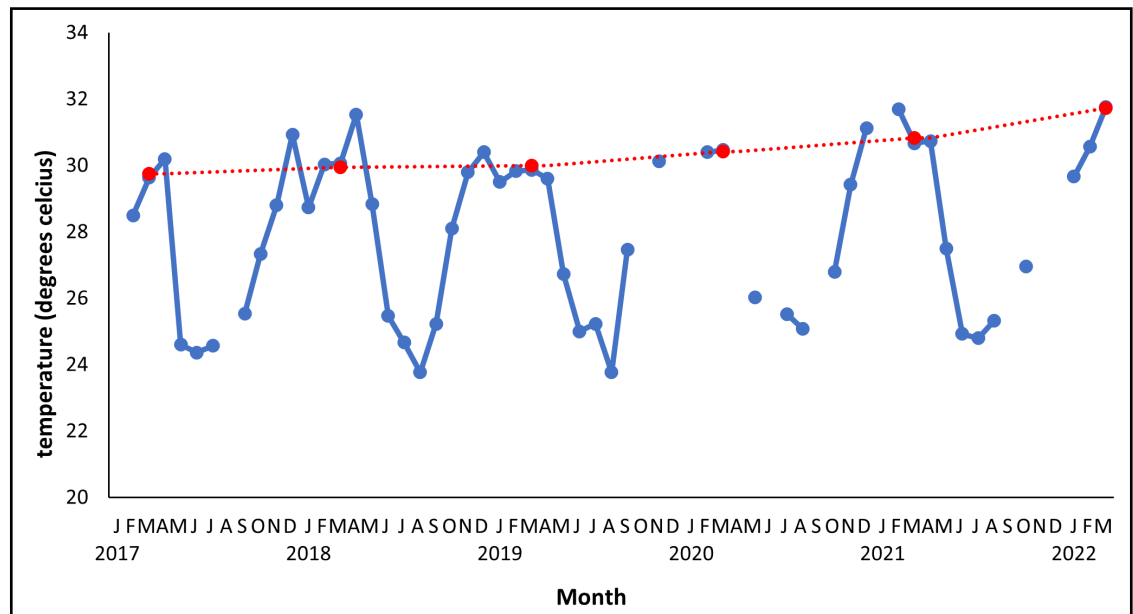
March spawning was set to be the first of our bi-annual spawning events, but this was postponed to our second spawning event of the year in November. Instead, staff have been working hard doing maintenance on our pearling vessels and helping with routine dive operations at our Broome farm.

Keeping an Eye on the Water...

We have been collecting long term data on water temperatures around Cygnet Bay since 2017, and sea water temperatures in March are usually recorded as some of the warmest throughout the year.

Recently in March, we recorded water temperatures that were higher than expected for this time of year (an average of 31.73 °C). Pearling and research staff have been monitoring this with a deployed temperature logger and will continue to keep an eye on any unusual trends. Thankfully, as April comes to a close we are starting to see cooling of the waters with the cooling of day-to-day air temperatures.

This graph to the right displays the average water temperatures around Cygnet Bay in blue. Temperatures recorded in March are indicated in red, and the red dotted line highlights an observable trend of change.



A beautiful moth found at Cygnet Bay earlier in April. We have seen an abundance of life around the farm in the last two months with the change of seasons. Photo: Alexandra Owen

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