



KIMBERLEY MARINE

RESEARCH STATION • CYGNET BAY

APRIL/MAY 2016



News from Cygnet Bay

Coral Bleaching Update

The National Oceanic & Atmospheric Administration (NOAA) has declared the 'third global coral bleaching event' due to the extremely high ocean temperatures over the summer. Unfortunately the Kimberley has not escaped this mass bleaching event, with reports of bleaching found throughout the region.

Verena Schoepf of UWA returned to KMRS at the beginning of April to continue her research on corals for the Professor Malcolm McCulloch research group, which studies the effects of climate change on coral reefs. Kimberley coral reefs are the focus of the project as they have naturally adapted to the extreme tidal ranges of the Kimberley and are often exposed to higher temperatures, but it is still unclear if this natural adaptation will increase their resistance to future climate change causing mass bleaching events. When Verena returned to Cygnet Bay, she and her team conducted bleaching surveys, collected coral cores and measured reef productivity to monitor the health of coral surrounding Shell and Tallon Island to compare with data collected earlier in January.



Kimberley corals in the intertidal shore. Photo: G. Firman.

Cygnets Bay is going solar!

Cygnets Bay has switched on our new solar invertors to provide 50kW of additional power to run the farm. This will reduce Cygnets Bay's reliance on our generator, the investment into renewable energy sources appeals to three important company values:

Environment – opting for renewable energy sources to help reduce our carbon footprint.

Economic – reducing the running costs of the farm and less reliance on burning fuel.

Employment – creating a growing employment hub for people throughout the Dampier Peninsula.



New solar panels at Cygnets Bay. Photo: G. Firman

Research at KMRS

Tagging Turtles

Mat Vanderklift visited Cygnets Bay in April to tag Green Sea Turtles alongside the Bardi Jawi Rangers based at One Arm Point. The team spent three days catching and tagging turtles, with the assistance of children from the One Arm Point school and Save the Children. Six turtles were tagged with satellite transmitters. The samples collected and the data sent from the transmitters will help to learn more about the genetics, life cycle, feeding and travel patterns of the population of Green Sea turtles throughout the Bardi Jawi sea country.



Tagged Green Sea turtle (*Chelonia mydas*).

Photo: M. Vanderklift

The turtles can be followed

here: http://www.seaturtle.org/tracking/index.shtml?project_id=1091.

Juvenile Fish Recruitment

PhD candidate Milly Piggot of University of Western Australia (UWA) returned to Cygnet Bay at the end of May with UWA masters candidate Mike Taylor to continue her research of juvenile fish recruitment of important commercial fish species throughout the Kimberley. Our new interns have been assisting Milly and her team deploy Remote Underwater Video Stations (RUVS) and collecting samples across a range of sites throughout Sunday, Shell and Jalan Islands.



**White tip reef shark at Jalan Reef.
Photo: M. Piggot**

Coral Monitoring

This season's interns will be continuing the great research program developed by our last interns and Milly Piggot of UWA. This will be an ongoing project for KMRS and will hopefully give an opportunity to monitor the health of corals in the local area. There have been a large number of coral bleaching reports from both scientists and local Indigenous people in the area, however ocean temperatures have dropped recently and there is hope that some will recover!



Local coral bleaching. Photo: G. Firman

Rock Oyster Settlement

This KMRS research project was set up by our previous interns and Milly to gain more insight into the wild rock oyster population at Cygnet Bay. KMRS hopes to help develop commercialized Kimberley rock oysters and try to provide business opportunities for the Traditional Owners of the West Kimberley coast with the support of the Bardi Jawi Traditional Owners.

Our new interns will be continuing this research project by collecting the settlement plates, quadrat sampling and recording the data from the Cygnet Bay intertidal zone to determine the spatial and temporal settlement of wild rock oysters.

Coral Recruitment

Milly and her team of interns have also been assisting the Bardi Jawi Rangers with their Coral Recruitment study in a joint effort with the Australian Institute of Marine Science (AIMS). We have been assisting the rangers retrieve and replace the coral tiles from a range of sites throughout the bay and local islands.

Cygnets Bay has had an influx of new staff for the dry season and is starting to get very busy! In our awesome tourism crew and restaurant we have Terry, Jane, Roberto, Pat, Dave, Alex, Mikaela, Jess and Isaac.

In our beautiful pearl gallery, the knowledgeable Emma and Laura have joined the team. On the farm we have two new deck hands on board – Harry and Tomoki, with Lloyd joining the maintenance team.

KMRS New Interns

Milly Piggot from the University of Western Australia is currently completing her PhD and is continuing the development of the KMRS internship program. Milly is the super intern, supervising KMRS research projects, assisting the Bardi Jawi Rangers and completing her own PhD research all at once!



**Lunch break with a view at Cygnets Bay.
Photo: R. Powell**

Charlotte Richioud from France is here on a work placement for two months as part of her Engineering studies in Water Sciences at Polytech' Montpellier. She will be assisting the hatchery staff with operations and Milly with the internship research programs including coral monitoring, rock oyster settlement and maximizing pearl meat harvest. She is already impressed by the beauty and the magic of Cygnets Bay and hopes that this wonderful experience could help her to improve her English.

Rhyanon Powell gained her BSc in Marine Biology and Ecology & Biodiversity at Victoria University of Wellington, NZ. She has worked as a surf lifeguard and PADI Divemaster and loves everything ocean related, so is extremely excited to be here at Cygnets Bay to gain some valuable experience within the aquaculture and marine research industry. She will also be assisting the hatchery staff with operations and working with Milly and Charlotte on the internship research programs.

You too could be an intern at KMRS! Look out for Internship applications on our website.

Photo of the month



**The Monsoon on the Giant Tides Tour from Cygnet Bay.
Photo: Saltywings**

Follow us!

If our newsletter is just not enough and you want to keep updated on the fantastic work here at KMRS and Cygnet Bay make sure you follow us on Twitter (@KMRS2009) and check out our Facebook page (facebook.com/kmrs2009) for regular updates about our research and the beautiful Kimberley Coast.



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