



KIMBERLEY MARINE

RESEARCH STATION • CYGNET BAY

NOVEMBER – DECEMBER 2018



Waterfall Reef tour at Cygnet Bay Pearl Farm (Photo: Tahlia Newnham).

News from the Research Station

Spat delivery from NT and deployment at Cygnet Bay, Saturday 10/11/2018

The big day finally arrived after a week of preparation by the pearling crew. On Saturday evening (10th November) everyone at the Cygnet Bay Pearl Farm, from the pearling team to the tourism team, all pitched in and helped with the spat delivery. When the spat first arrived at the hatchery we had a debriefing and demonstration on spat handling and then we all got to work. It was great to see everyone at Cygnet Bay come together and work as a team to help get these spat safely deployed and in respective tanks.

Spat grow out in aquariums

In November the interns destocked the KMRS aquariums ready for a new delivery of spat from the Northern Territory. Ten panels were put aside for each of the aquariums (inside and outside) to monitor how the spat grow in aquarium conditions. The interns will continue to monitor the aquarium spat over the coming months.

Shell delivery and X-Ray, Saturday 17/11/2018

One week after the spat delivery, Cygnet Bay received a wild shell delivery. Thousands of shell were X-rayed with the X-ray machine. Gary, having had meticulously planned out the logistics, split the Cygnet Bay crew up in three main teams. Two teams were tasked with hanging shell off lines, and one to run shell from the mother ship to the two hanging teams.

Gary and Garata stayed on the mother ship organising and handling any issues that arose throughout the day. It was a successful day; all wild shell were transferred and hung without any major issues. No significant injuries, except for when Gary walked into the frame of a steel door. Great work, Team Cygnet Bay!

Other research from the interns

Coral Transects

Monthly coral monitoring is carried out by the KMRS interns to track changes to the intertidal benthic communities at Cygnet Bay. Data collected is also used to monitor occurrences of coral bleaching and coral diseases. A variety of corals and macro algae are present, with similar community compositions observed across the three transects.



Branching and boulder corals seen along the KMRS coral transects.

Rock Oyster Project

The rock oyster location and survival project has continued across three intertidal locations within Cygnet Bay. This study will shed light on variation between locations in the mid intertidal zone and allow for preliminary data to be collected on spat survival rates. The relationship between barnacle/limpet density and the density of *Saccostrea* spat is also being investigated.

Phytoplankton identification

Phytoplankton is the main food source for *P. maxima* and other filter feeding organisms within Cygnet Bay. Phytoplankton analysis is undertaken by the interns on water samples collected during CRC spat sampling and monthly sampling projects. Phytoplankton analysis allows for monitoring phytoplankton communities throughout the seasons. Identifying and tracking phytoplankton communities gives an indication of nutrients available to oysters at Cygnet Bay. As water temperatures increase coming into the wet season, a substantial increases in phytoplankton numbers have been observed. Examples of phytoplankton identified by the KMRS interns can be seen below.



Left: *Spirulina* spp. Middle: *Coscinodiscus* spp. Right: *Chaetoceros* spp.

Around the Farm

Giant Tides and Waterfall Reef tours

In October and November interns Joan and Tahlia were lucky to experience the Giant Tides and Waterfall Reef tours run by Cygnet Bay Pearl Farm.

The world's fastest tropical tides (up to 12m range) push through the Buccaneer Archipelago creating impressive sights, such as whirlpools and standing tidal waves, but also provide food and nutrients for the diverse ecosystem at Cygnet Bay. The interns were able to appreciate the unique tidal conditions that support the coral and oyster communities monitored by KMRS.



Above: High tide lines on the rocks and the impressive tidal currents of King Sound.
Below: KMRS interns Joan and Tahlia on the Waterfall Reef tour.

While experiencing the Waterfall Reef tour at Tallon Reef the interns learned that the reef there is unique for a number of reasons. The giant tides of the area that result in the "Waterfall Reef" also cause the reef to be exposed for substantial periods of the day. Additionally, the reef is dominated by crustose coralline algae rather than the hard corals traditionally associated with coral reefs. Viewing the Tallon Reef cascades was a unique and interesting experience that the interns valued greatly.

Visit from Curtis Stone

Early in November Australian chef Curtis Stone visited Cygnet Bay Pearl Farm. The celebrity chef has been touring Western Australia filming a new TV show promoting Australian food and wine, due to air in the US in 2019. Curtis and his team were showed around the farm and cooked up a storm with freshly caught mud crab and Cygnet Bay pearl meat.

Final staff volleyball game for the season

Volleyball is a favourite past time of the KMRS and Cygnet Bay staff, with games running often during the dry season. As the season wound down and staff began to leave, volleyball players dwindled, and so a final volleyball game was called for. Players included interns, pearling crew and tourism staff alike, with intern Joan as resident photographer.



Final staff volleyball game at Cygnet Bay. From left to right: Uli, Hayden, Tahlia, Garata, Tamika and Matt. Photo by Joan Gao.

Restaurant closure and end of the tourism season

On November 30th the tourism side of Cygnet Bay Pearl Farm officially closed for the wet season, and we said good bye to the last of the tourism team. The interns and remaining pearling team are set to finish up on the 19th December. Only a handful of maintenance staff will be around over the Christmas period making sure buildings and boats are looked after, feeding the KMRS spat and continuing daily weather observations.



Left: View of the KMRS research station from the Cygnet Bay Pearl Farm restaurant. Right: Front beach.

Photo of the Month



Photo of the month: One of the many beautiful beach spots at nearby Cape Leveque (Tahlia Newnham).

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