



KIMBERLEY MARINE

RESEARCH STATION • CYGNET BAY

MAY - JUNE 2017

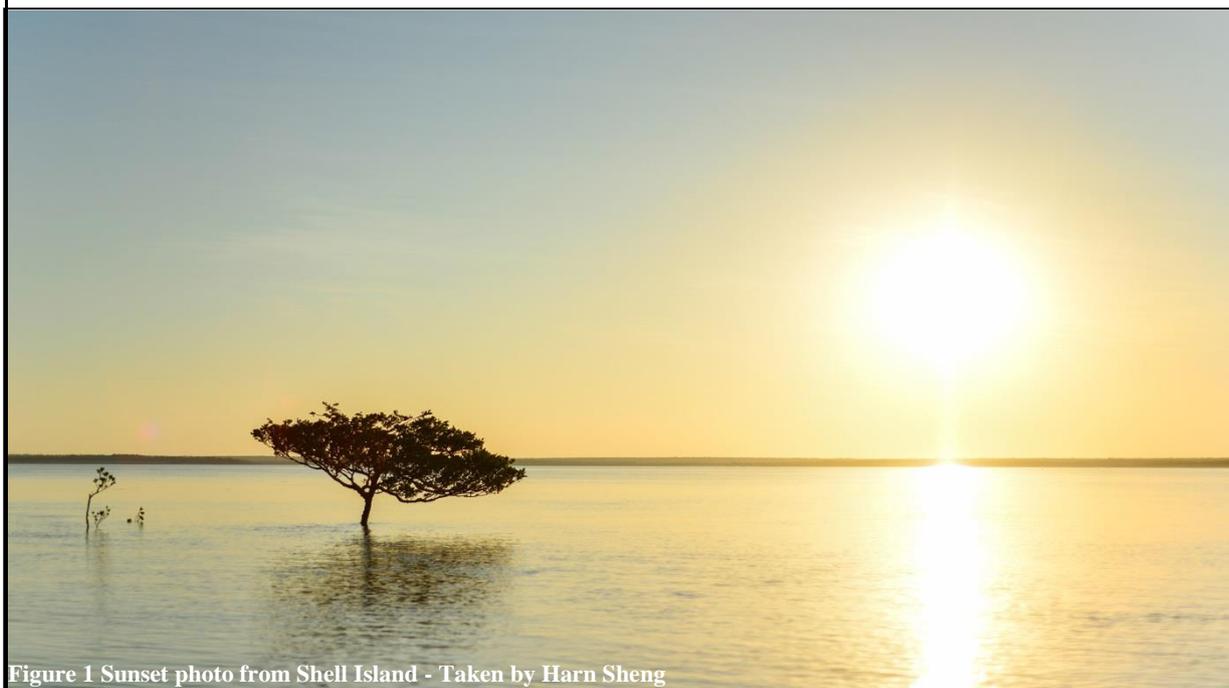


Figure 1 Sunset photo from Shell Island - Taken by Harn Sheng

News from the Farm

Natural Pearls:

During harvest over the past months we've been exceptionally lucky and have come across a number of natural pearls! These natural pearls are found in the mantle tissue of the oyster. It is very rare to find natural pearls; it is thought that one in every 10,000 shells might have a natural pearl in it. The value of the natural pearls is unknown at this stage but the next step is to get them certified to prove that they are natural.

Very exciting day at Cygnet Bay!



Figure 2 Natural Pearl found inside an oyster

Harvest: The 1st of June saw the first day of pearl harvest! The pearling crew and interns have been busy preparing for the arrival of the shell and the technicians have been extracting some amazing pearls. Harvest and first operations, when virgin pearl oysters are seeded, will run through until around September.

Other News from Cygnet Bay

Tourist Season: Since the opening of the new restaurant and accommodation the farm has been booming with tourists. Multiple tours are run each day around the pearl farm as well as tours exploring the waterfall reef, giant tides and the surrounding islands. As it is harvest time, the pearl farm tours now include the harvest where guests get the opportunity to see more action and watch the technicians extract pearls and reseed the oyster.

Arctic Conditions: Cygnet Bay has been experiencing some unusually cold temperatures – the beanies are coming out and marshmallows are getting roasted! This month we've recorded a minimum temperature of 7.5°C, much lower than the average June minimum of 11°C. June temperatures up here haven't been this low since 1994 where it dropped to 7.2°C. We are expecting a lot more cold nights in the next couple of months as winter has only just begun.

Abundant Marine life: The marine wildlife has been quite abundant these past few months out in the water. A pod of 5 snubfin dolphins were spotted close to shore in Cygnet Bay, as well as the common bottle nose dolphin spotted regularly. The pearling crew has had regular visits from large turtles on the cleaning boats and the team is expecting to start seeing humpback whales off the bay as they make their way up to the warmer waters for calving.



Figure 3 Green Sea Turtle swimming around Cygnet Bay.
Photo: Riley Bickerton

Research at KMRS

Rock Oyster monitoring: There is ongoing research into the recruitment and interspecific competition of rock oysters around Cygnet Bay with monitoring at three different sites and tidal elevations. This data is collected monthly to determine if there is an increase in oyster cover and recruitment rates. The project has been up and running for over a year now and with the amount of data collected thus far we are able to identify the sites with the highest abundance of rock oyster coverage, how the population is changing over the different seasons and also the recruitment rates of each site.



Figure 4 Intern Careena Crossman collecting data on rock oysters



Figure 5 Rock Oysters Photo: Ash Haddon

Andy and Ash, Masters students from UWA, are currently interning at Cygnet Bay and also conducting field work on rock oysters for their research projects. Ash's study will investigate competitive and predatory relationships between barnacles, predatory gastropods and rock oysters through fencing and

removal experiments in the intertidal. The growth of the oysters will be monitored until January to identify any effects of predation and competition on rock oysters. Andy's work will focus on materials that oyster spat prefer to settle on. Oyster larvae can be quite selective in terms of the substrate they settle on and will remain in this spot for the rest of their lives. Andy wants to know which surfaces are most attractive to Cygnet Bay's local rock oyster population.



Figure 6 Interns Pippa and Sam collection water samples with help from our skipper Kelsey

Routine monitoring: Once a month our interns conduct routine monitoring of three different locations around the farm. They take full water column samples, and measure the temperature, salinity, pH and basic water chemistry around the farm. They also collect a selection of oysters for health analysis. Using this data they are able to

monitor the environmental conditions and determine if there are any significant changes going on that may affect the oysters, as well as comparing with previous years' data to monitor production.

Algae Cultivation: The interns have been busy in the algae lab over the past few months culturing the algae, *Chaetoceros muelleri*. We now have multiple carboys full of algae growing steadily and ready to feed the oysters coming through the hatchery for harvest. Cultivating the algae is a great opportunity for the interns to improve their skills in the lab and learn about an essential part of the pearling industry.



Figure 7 Intern Careena feeding the tourism oysters with our cultivated algae

Staff News

KMRS Interns Ash and Andy:



Figure 8 New Intern Ash with a nudibranch

We welcome Ashleigh Haddon and Andrew Bossie. Ash is from Perth, and has just finished a Bachelor of Science (Marine Science and Environmental Science) and currently doing her Masters in Marine Biology at UWA. She's looking forward to studying in the Kimberley as part of her project on rock oysters and she wants to learn as much as possible through the internship program.

Andy is midway through a Masters of Biological Science, specialising in Marine Biology at UWA. He is attempting to turn his passion for the ocean into a career after working in the education sector, on the east coast, for the past 6 years. He is never happier than when he's catching a wave or a fish. His time in Cygnet Bay will be split between oyster spat experiments for his thesis and an internship with KMRS and he's keen as a crustacean to get started!



Figure 9 New Intern Andy with his catch of the day

Staff Success Stories:

We welcome back one of our KMRS interns Pip who has now joined our pearling team! Farewell and congratulations to our previous intern Careena who has scored a job as an environmental advisor only one month after finishing up her internship.

Photo of the Month

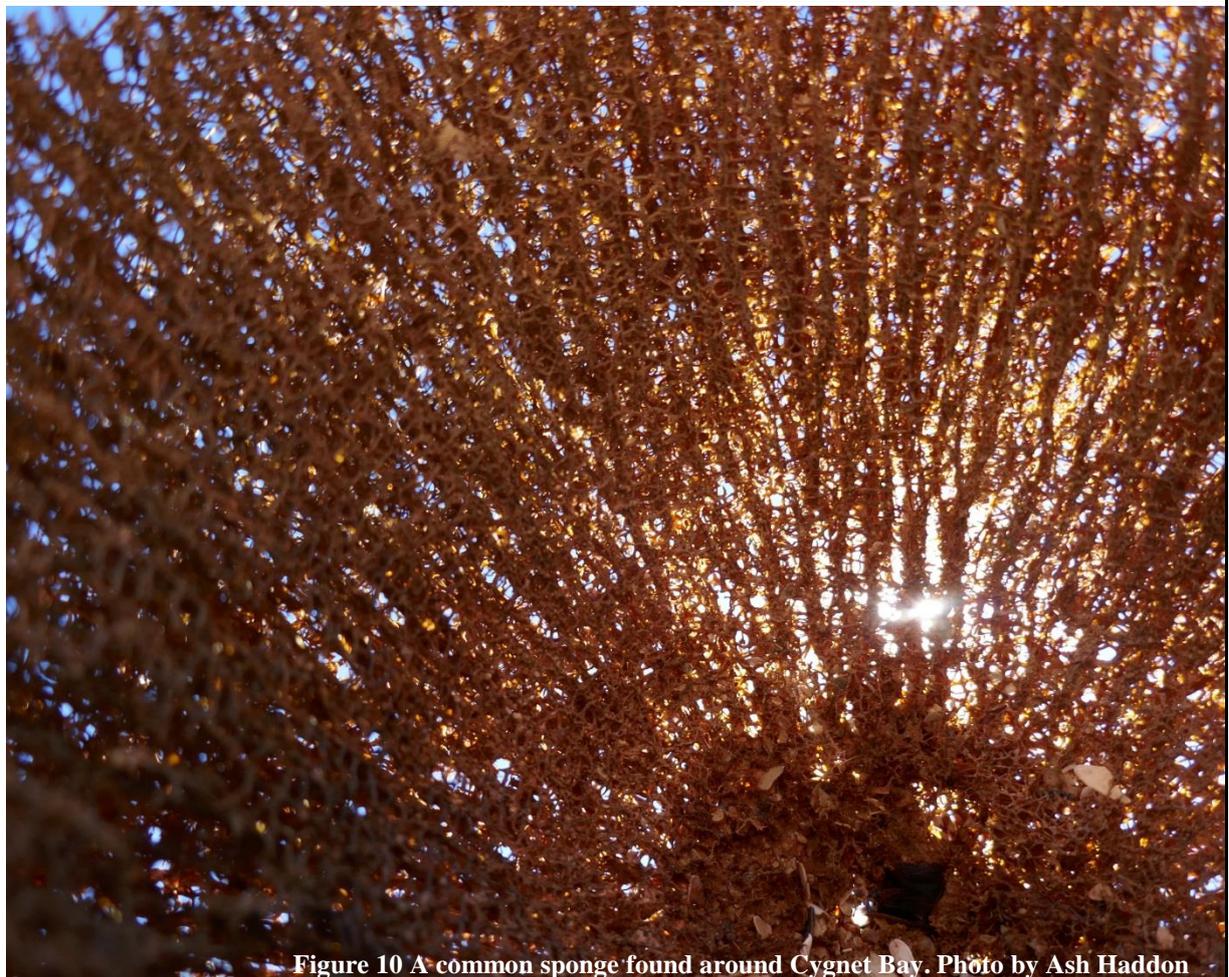


Figure 10 A common sponge found around Cygnet Bay. Photo by Ash Haddon

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