



# KIMBERLEY MARINE

RESEARCH STATION • CYGNET BAY

**MARCH - APRIL 2021**



View from one of our tours at waterfall reef.

## IN THIS EDITION

Weather shifts from wet to dry season as Cygnet Bay fires on all cylinders with the farm, research, and tourism operations in full swing.

## STAFF NEWS

An influx of tourist to the farm has meant the staff cohort has expanded, with new and old faces returning for another season. The research station has welcomed a new research project officer, Patrick Dean, and a new intern, Tane Fannin, as previous interns, Kate and Lauren, transition to aquaculture technicians during spawning operations. Pat studied a Bachelor of Marine Science at Curtin University in Perth and is eager to expand his knowledge and skills in both the pearling operations and research project management. Tane is from Queensland where he also studied a Bachelor of Marine Science and is currently studying his Masters of Environments at Griffith University on the Gold Coast.



New research project officer Pat (Top) and intern Tane (Bottom)



# NEWS FROM THE RESEARCH STATION



Line hooked up to the cleaning boat at inside farm.

## ***Coral & Rock Oyster Monitoring***

Coral monitoring projects have progressed with transect and recruitment tile experiments being conducted monthly. The use of transect line photos and a coral identification program allows for an insight into how the health of the intertidal reef is tracking within the Cygnet Bay area. Recruitment tiles are also used at four different locations to assess the health of the reefs within the surrounding area. Results from April have shown an increase in recruitment at the Catamaran Bay location, with it producing an average of up to six times the recruits when compared to the other three locations.

Interns have continued on with the rock oyster project with monthly analysis of growth. This project aims to compare rock oyster settlement against different types of intertidal locations. Recent results have showed an increase in competition between barnacles and rock oysters at each location.

## ***Monthly Sampling***

The past two sampling months have shown that the Cygnet Bay waters are healthy and stable. Each month water is collected and a variety of test are conducted to determine the health of the farm. With this, oysters from a variety of cohorts are sacrificed and analysed to determine their health. A main focus in April was to have our first look at the 2020 spat cohort and see how they are travelling as they transition from juveniles to adults. Results have shown them to be disease free and developing well which is a good sign for the future stock.



Harvested pearl taken during monthly sampling dissections.

## ***CRC Research***

The research station has been fortunate enough to continue its close relationship with James Cook University during spawning operations. A team joined us in March to aid in broodstock pairing, tagging and swabbing whilst also conducting their own experiments. With this, a representative from CRC, Roger, also joined us on the farm in April where he assisted in all areas of spawning and spat deployment.



# AROUND THE FARM

## *Spawning & Hatchery*

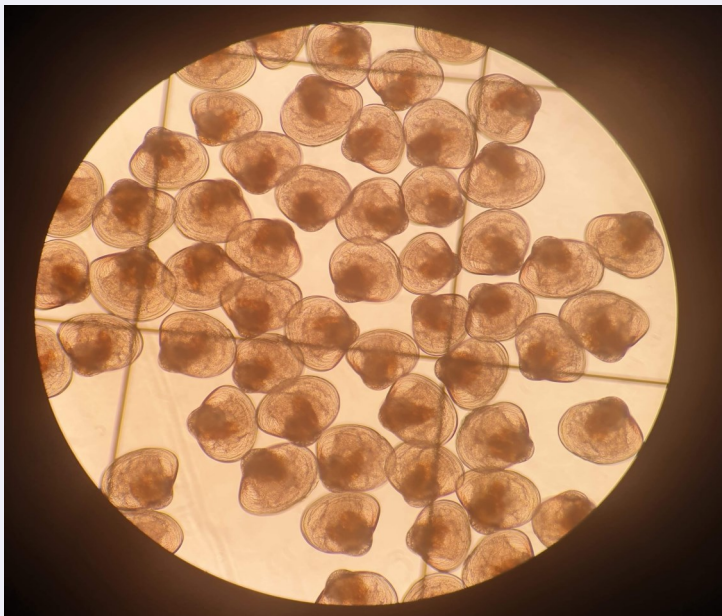
Two spawning events occurred in March and April within the Cygnet Bay Pearl Farm hatchery. Viable broodstock were selected based on their gonad quality with the successful candidates being bought back for induced spawning. This involves the alteration of the oyster's stress level to a point in which they release their sperm and eggs for fertilisation. The result is a cohort of living larvae which are transported to large tanks, where they are cared for throughout their stages of development. During these operations, broodstock oysters were given a health assessment, swabbed for DNA analysis and then the shells were microchipped before being deployed back onto the farm. All this was done with help from Roger, the JCU team, and representatives from the Broken Bay farm in NSW.



Liam conducting a health assessment, swabbing and micro-chipping on a broodstock.

## *Algae Feed*

The algae lab has continued over the past couple of months with Lauren and Kate working hard on keeping up with our very hungry spat. They have been cultivating four different species of algae which are all used in different quantities depending on the development stage of the spat and the algae cell counts.



Juvenile spat under the microscope before being placed in the settlement tank (Left). Rows of 20L algae carboys (Right).

# MORE FROM AROUND THE FARM

## *Pearling Operations*

The pearling crew has been working hard over the past couple months cleaning lines, deploying spat and checking for broodstock. This has not just been in Cygnet Bay with regular trips being made to Broome to maintain the farm there. With this, the crew has also been prepping new lines as we look to expand our Broome lease.



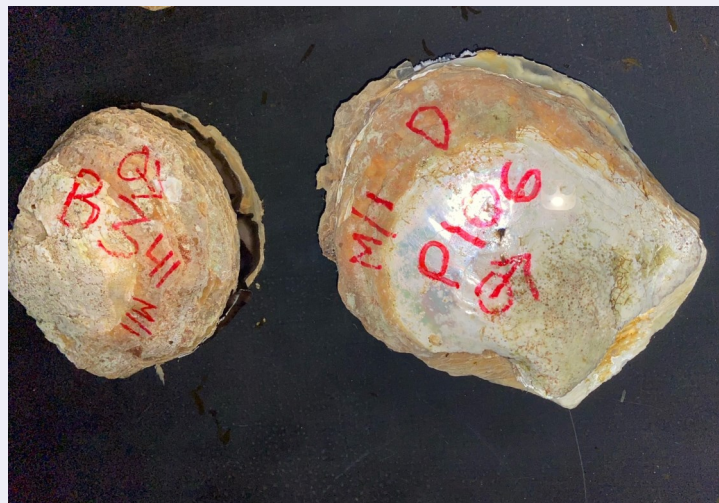
Glassed out conditions during monthly sampling.

## *Weather*

The last of the rain has come and gone with temperatures beginning to drop overnight and easterly winds becoming more prevalent.

## *Tourism in Full Swing!*

The Easter long weekend meant the beginning of tourism season, with plenty of people enjoying everything the farm has to offer, from the restaurant to the tours. Covid has continued to have an impact with short lockdowns in QLD and Perth, however we have not felt this directly as accommodation, the restaurant and the tours continue to be booked out.



A pair of male broodstock labelled and ready for induced spawning

## *Broken Bay Visitors*

Cygnet Bay was lucky enough to be joined by Celeste and Ash from the Broken Bay farm over the last part of April. The pair were heavily involved in all facets of pearling procedures as they try to integrate and learn from the different practices.

Recent flooding events in NSW heavily impacted the Broken Bay farm, leaving the crew down south to salvage what they can. The team has remained optimistic for the future and we wish them a speedy recovery.

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Kimberley Marine Research Station



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