



BROKEN BAY
PEARLS OF AUSTRALIA

YOUNG GUARDIANS

VOL. 5
SPRING 2022
TERM 3

'OYSTERS ARE THE GUARDIANS OF THE OCEANS' – James Brown, April 2021

Broken Bay Pearl Farm pays our respect to the Darkinyung people who are the traditional custodians of the lands and waters we work on and enjoy.

We pay our respect to all Aboriginal peoples, to ancestors, and to the leaders of yesterday, today and tomorrow.



SPRING

- Spring cleaning
- Spreading out our stock
- Stocktake

Marine Mysteries

What Am I?

I am tiny in size, I live in every one of the world's oceans apart from in the polar regions, I can be healthy or harmful...

Look inside to find out all about Australia's Amazing Algae.



We have waited patiently throughout winter, leaving our oysters undisturbed as they are more delicate in the cold months. Now it is time to wake them up a bit with a spring clean!

One by one we bring in hundreds of baskets, each can hold between a few dozen to a few thousand oysters - depending on the age and size of them. Every single akoya oyster will be cleaned and handled a few times a year by our small team of farmers. This means we can see how they are growing. We also count sample groups to help us estimate how many individuals we have in the whole farm. As we clean the oysters we move them into larger baskets with fewer oysters, so they all get plenty to eat.

SUSTAINABLE SEAFOOD

From Broken Bay Pearl Farm

NUTRITION with
AMY PERSIANI

Foodie, Yacht Chef,
Nutritionist AdvDipNutMed

Amy is a food lover.

The tastier and healthier the food, the better!

When we celebrated Science Week in 2021, Amy talked to us about how nutritious oysters are for our bodies.

We also learned how important it is to:

- Eat Fresh
- Eat Seasonally
- Eat Local
- Eat a Rainbow

If we eat a wide range of good, healthy foods, served when they are fresh and available locally, we can put excellent fuel into ourselves.

What kinds of food are SUSTAINABLE?

Do you notice that sometimes words become popular?

We could call them buzzwords, and 'sustainable' is an important new buzzword.

'Sustainable seafood' is seafood that is caught or farmed using fishing practices that have been designed to protect threatened species and marine environments while providing high quality products for food.



OYSTERS ARE AWESOME

When we eat fresh, local oysters we give our bodies a mouthful of very tasty vitamins and minerals.

Zinc, protein, vitamins A B D & E, calcium, iron, Omega 3, copper, iodine are all included in a delicious oyster, and they are very low in saturated fats and low in cholesterol.

At both Broken Bay Pearl Farm and Cygnet Bay Pearl Farm we enjoy introducing our visitors to our yummy pearl oysters.



My favourite way to enjoy:

STEPH

Tour Guide
Broken Bay Pearl Farm

Pearl Nerd
Counselling student
Dab hand in the kitchen

Seafood Stock



Fish stock is an excellent way to make use of all the things you'd normally chuck out, reducing food waste. Mother nature gives us so much flavour and nutrition in the food we eat, it'd be a shame to let it go to waste. Take any extra fish bones, heads, tails (prawn shells & heads work too!), roast them in the oven with some onions and carrots -vegetable scraps can work here too, but avoid anything in the cabbage family which will give it a funny taste- and simmer for a couple of hours. Skim off any froth or oil that floats to the surface while it's cooking. This stock can be used as the base for soups or any dish that needs a bit of liquid where you want to taste a bit of the ocean.

NSW is home to a very special oyster farm



BROKEN BAY
PEARL FARM

Our 'Shellar Door' is open to everyone! School groups welcome.
12 Kowan Road, Mooney Mooney NSW 2083



OYSTER TASTING TOURS

Celebrating Fathers' Day?

Does Dad or Grandpa like to cook a family feast? This is a great gift idea for him!

Just up the highway from Broken Bay Pearl Farm is Port Stephens. *'Port to Plate'* was created to celebrate the sustainable seafood community there and to spread the word about how wonderful NSW Seafood is.

You can meet author **Lynda Sloan**, Celeste has interviewed her in this volume of *Young Guardians*.



Oyster Tasting Experiences are an exciting new tour offered at our Shellar Door, in Mooney Mooney.

Families and friends enjoy coming along to learn how to open, or 'shuck' an oyster and hear a second-generation oyster farmer describe the differences between Sydney Rock oysters, Pacific oysters and our Akoya pearl oysters.

Did you know that oysters from different waterways have distinctive flavours, and the seasons also play a part in how creamy an oyster is?

If you don't like your oysters fresh from the river we also pop some onto the fire so you can eat them hot and smokey. YUM!

Guardian's Glossary

*How to talk like a
Marine Biologist*

Each *Young Guardians* newsletter includes plenty of exciting new words to tickle your brains.

Which words do you know?

Can you use a new word this week and teach your family what it means?

See if you can create your own glossary from new words throughout this volume.

Here are a few to start you off:

Seasonal
Sustainable
Sample
Estimate
Acidification
Ecosystem
Nutrition
Symbiotic

What's that WORD???

Eutrophication

Each term we will untangle a very tricky word. A word so incredible that we might never have heard it before.

Eutrophication describes the process in which a waterway has an increased level of nutrients within it that leads to a vast increase in the organisms present, such as plants and algae.

Too much of anything in an ecosystem mean the healthy balance is lost. This can cause fish to die and the habitat of many animals to become unsafe for them.

Eutrophication results in high carbon dioxide from the decomposing plants and reduced pH level of the saltwater, which is called ocean acidification.



ALGAE

Awesome or Awful?

Australia is home to over 12,000 types of algae. Many of them are very good food for other creatures to eat, but some are toxic to humans or animals and could make us very sick if we ate them.

Oysters filter algae in the rivers and oceans where they live as part of a natural balance to ensure the water is clean and healthy, and sunlight can pass through it to reach the plants below.



Pearls of Australia invites people from all over Australia and the world to visit our two pearl farms:

Broken Bay Pearl Farm, NSW
Cygnet Bay Pearl Farm, WA.

We are the only pearl farmers in Australia to be growing both Akoya pearls and Australian South Sea pearls.

We can eat pearl meat and pearl oysters from both farms.

GROWN- UP GUARDIANS

MEET SOME OF THE FRIENDS OF THE FARM

There are so many passionate people who work in pearling, seafood, aquaculture and our marine environments. Celeste has interviewed some of these fabulous folk so you can get to know them, and be inspired for your own journey.



LYNDA SLOAN

Author of
PORT TO PLATE

My favourite creature, this is a hard one because there are so many animals in the sea to enjoy and learn about.

My job is working with seafood and when I'm not doing that I'm thinking about the next seafood book to write.

I'm good at it because I'm passionate and love helping people, educating and understanding our local species is important to sustaining our ecosystem.

I love the ocean because I enjoy swimming in the waves and riding my boogie board.

If you learn about your local sustainable fish, you can teach your family and friends how cool would that be.

My name is Lynda Sloan, I was born in New Zealand and when I was 8 I wanted to be like Jacque Cousteau.

I would tell young people to look after your ocean and animals, educate yourself on what's available to you. This is why I wrote Port to Plate: to help people understand the local species and support sustainable species.





You can follow Cygnet Bay Pearl Farm, the Kimberley Marine Research Station and Pearls of Australia on Instagram and Facebook for more news!



PEARLING IN THE WILDERNESS

Marine Mysteries: *What am I?*

This amazing algae is a diatom.

Its name is *Ditylum Brightwellii*.

Thanks to our fabulous interns at the Kimberley Marine Research Station, located at Cygnet Bay, WA, for this beautiful photo. It was taken under the microscope and shows this diatom in a stage of cell division. There are many different types of diatoms, and many look quite spectacular when magnified and photographed. Diatoms are one of the two classes of phytoplanktons.

When they are present in a balanced ocean they are healthy. If any organisms are out of balance they can be harmful, such as in an algal bloom.



Cygnet Bay Pearl Farm is a very special place, located in the Kimberley, WA.

With a tropical climate that brings a beautiful Dry Season from April to September and a very hot and humid Wet Season over the rest of the year, it can be a really challenging place to live.

12 metre tides and cyclones are a normal part of farm life at Cygnet Bay. Our pearl farmers often have to live on a specially designed boat called *Big Ned*, while they work out on the ocean for a week or two at a time.

The pearl oyster that Cygnet Bay Pearl Farm grows is called *Pinctada maxima*, it creates Australian South Sea Pearls.

3 Ways

Kids can change their WORLD

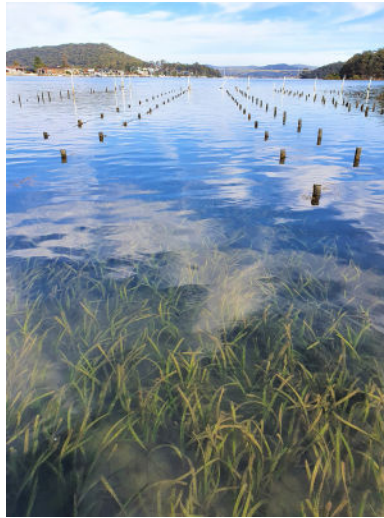
Here are some ways you can be the Team Captain of your family, and lead them in easy ways to help protect the environment.

This is what Young Guardians do so well!

- Protect Seagrass beds by walking around them when you are in the water
- Buy **Port to Plate** for someone you love
- Host a Family Movie Night and watch a marine documentary

If your family have Dine & Discover vouchers or Parent vouchers to use, you can use them for a Broken Bay Pearl Farm Discovery Tour.

We have family tickets available, and we can accept multiple Parent vouchers.



Write a love letter

Invite your family to write a love letter to the ocean, the planet or to your favourite sea creature.

Include all the things you love and how special it is to you.

Then read them aloud to each other and find out some new reasons for us to work together to look after our wonderful world.

Symbiotic Relationships

The love story of the oyster and the crab.



Relationships are important to many living creatures, and sometimes two different species will form a type of partnership because it is helpful to one or to both of them. When two different organisms live in physical company with one another, and the relationship between them is mutually beneficial, we call it a symbiotic relationship.



Inside each *Pinctada maxima* pearl oyster in the wild or on a pearl farm such as at Cygnet Bay, there is a tiny pea crab. It cleans the mantle tissue, keeping the oyster clean inside which helps the oyster stay healthy. In the photo on the left we can see that the pea crab nestles into a soft hollow in the body of the oyster, this is its home. The crab wanders all over the mantle tissue and always comes back to this special little spot.

Young Guardians' Oyster Update

Over the past 18 months we have met some terrific classes from NSW schools. We have named some of our Akoya pearl oysters after these great Young Guardians.

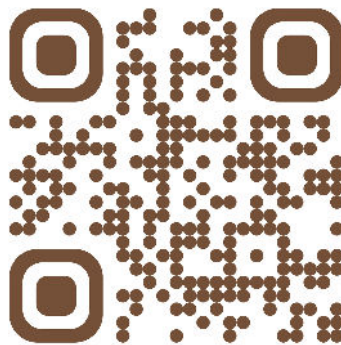
Here is an update on how YOUR little babies are growing at Broken Bay Pearl Farm!

Over the next 12 months our farm team will be sharing photos of these oysters on Instagram so you can watch them grow towards seafood harvest or pearl production.

Our clever marketing fairy, Jodi, has created this special QR Code just for sharing the Young Guardians newsletter.

You can scan this or share it with your teacher at school to find the newsletter online, as well as past copies.

Each school term is linked to a season so we can share the wonderful world of aquaculture, seafood and pearl farming with you throughout the year.



Young Guardians, do you have:

- a favourite seafood recipe?
- an excellent tip for sustainable fishing?
- a photo of local marine life such as a turtle, jellyfish, crab or water bird?

Share your photos on social media with the hashtag #YoungGuardiansNSW so the Broken Bay Pearl Farm team can see your great ideas and beautiful photos!



A SPECIAL INVITATION to classrooms across NSW

All NSW Public, Systemic & Independent Primary schools are welcome.

Broken Bay Pearl Farm is home to three groups of Akoya oysters:

- our youngest oysters were spawned in April 2022
- our juvenile oysters were spawned in October 2021
- and some very special oysters survived the flooding in 2021

We're naming baskets of our oysters after year 3 & 4 classes!

To have your class included, you are welcome to send us an email and watch out for updates in **Young Guardians** and on Instagram at @youngguardiansnsw

Email hello@brokenbaypearlfarm.com.au to participate.