



Australian Government

Great Barrier Reef
Marine Park Authority



Reef Guardian
School

Reef Guardian

Kindy activity book



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About this resource

Overview

The Reef Guardian Kindy activity book connects Early Years Learning Framework (EYLF) v2.0 principles with marine conservation, transforming sustainability (interconnectedness) into active stewardship (hands-on care). In early childhood education (EYLF v2.0), sustainability is defined as understanding how everything is connected, while stewardship is the active, hands-on role children take to care for the environment.

Built on play-based inquiry and child agency, the program empowers early childhood learners as active citizens protecting the reef and global oceans. Activities foster environmental responsibility and Connection to Country.

To ensure inclusive, multimodal engagement for diverse learners, each activity is mapped across Gardner's Multiple Intelligences Framework and the Reef Guardian **CLASS** pillars (**C**are, **L**earn, **A**ct, and **S**hare = **S**tewardship).

The 5 CLASS pillars create opportunities for students to Connect/ Care for the reef, Learn, take Actions towards a resilient reef and Share knowledge to foster Stewardship (C.L.A.S=S) as they aspire to become the next generation of reef stewards.

First Nations Acknowledgement

The Reef Authority acknowledges the expertise, wisdom, and enduring connections that have informed the guardianship of the Reef for millennia. We pay our respects to the Traditional Owners as the first managers of this land and Sea Country, and value their traditional knowledge which continues to inform the current management and stewardship of the Reef for future generations.

The Dhui Dhui (pronounced Doo-ee Doo-ee) Story appears courtesy of Russell Butler, of the Bandjin ('Saltwater') people from Hinchinbrook

Island and Lucinda Point on the adjoining mainland of north Queensland, as well as Gould and Garden Islands and part of Dunk Island.

Overarching inquiry question

How can we learn about, care for and share knowledge about the Great Barrier Reef?

Big ideas

Through these experiences, children will explore that:

- Everything in nature is connected.
- Healthy habitats support healthy animals.
- People can help protect the reef through everyday actions.
- Aboriginal and Torres Strait Islander peoples have cared for Country and Sea Country for thousands of years and continue to do so today.
- Everyone can be a reef steward.

Pedagogical approach

The activities are designed to support:

- Play-based learning.
- Inquiry and exploration.
- Child agency and voice.
- Intentional teaching.
- Sustainability and stewardship.
- Connection to Country and Sea Country.
- Inclusive and differentiated learning.

About this resource

Multiple ways of learning

To support diverse learners, activities provide multiple ways for children to engage, explore and communicate their understanding, informed by Gardner's Multiple Intelligences framework.

The Early Years Learning Framework (EYLF) V2.0 Connections

Activity	Outcome 1.4	Outcome 2.4	Outcome 4.1	Outcome 4.2	Outcome 4.4	Outcome 5.5
Connecting land to reef	✓	✓		✓		✓
Life on the reef		✓		✓	✓	
Marine debris		✓	✓	✓		
Looking after our Sea Country	✓	✓			✓	
Care for the reef		✓	✓	✓	✓	

Activity 1: Connecting land to reef

In this activity, students will discover how land and sea are connected. They will learn about the diverse habitats that support the reef and the amazing animals that call them home.

Reef Guardian Pillars

Learn / Care

Suggested Materials

- Clay or playdough
- Recycled boxes or cardboard
- Natural materials (sticks, leaves, stones, foliage)
- Toy reef animals/figurines
- [Habitat posters - Appendix A](#)
- Blue fabric or cellophane
- Ocean sounds
- Worksheet 1 Where do they live?

Optional

- Storybook: [On Kikis Reef](#) by Carol Malnor
- Storybook: [Hello Fish](#) - Visiting the coral reef by Sylvia A Earle
- Video: [Where the forest meets the sea- Jeannie Baker](#)

Introduce Vocabulary

- habitat
- mangrove
- seagrass
- coral
- connection
- protect

Activity Overview

1. Use clay, cardboard, figurines, natural foliage and recycled materials to build a classroom display of the 5 habitat areas that connect to the reef (creeks and rivers, mangrove forest, sandy seafloor, seagrass meadow and coral reef). Option: include ocean soundscapes.
2. Print out the [Habitat Posters Appendix A](#) and place them in the display.
3. Using clay, students mold their own 3D flora and fauna to add to the reef habitat.
4. Ask students: I wonder 'What animals do you think live in each habitat?'
5. Students complete Worksheet 1 Where do they live? They then cut out their favourite animal and place it in its correct habitat.
6. Reflect that some animals live in all 5 habitats and some can only live in one.

Scaffolded Option

- Provide photographs of habitats and animals for matching and sorting.
- Focus on identifying where animals live before exploring how habitats connect.
- Use gestures, visuals and modelling to support participation.

Enrichment Option

- Design an outdoor water cycle system in the sandpit or water table, tracing a path from the mountains to the sea. Children simulate a flood in their sandpit model, observing how dirt, leaves, or soapy water from the land flows directly into the reef zone.
- Ask students: I wonder 'What will happen to our animals and their habitat? How can we keep them safe?'
- Students share how they can look after the water where they live to keep the reef animals and their habitats safe.

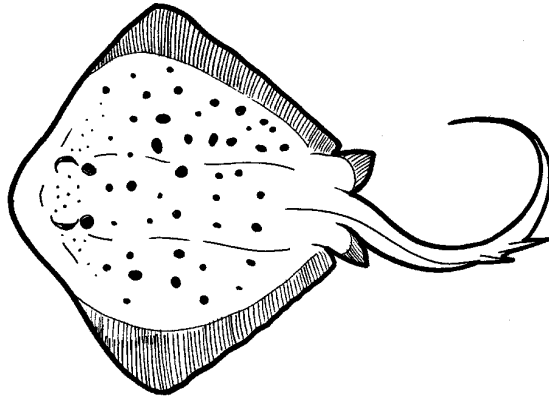
Worksheet 1: Where do they live?

Trace the name of each animal and colour it in.

Blue Spot
Ray

Habitat:

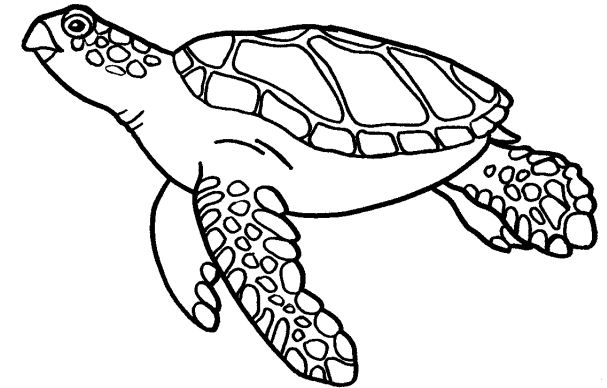
- Sandy seafloor



Sea
Turtle

Habitat:

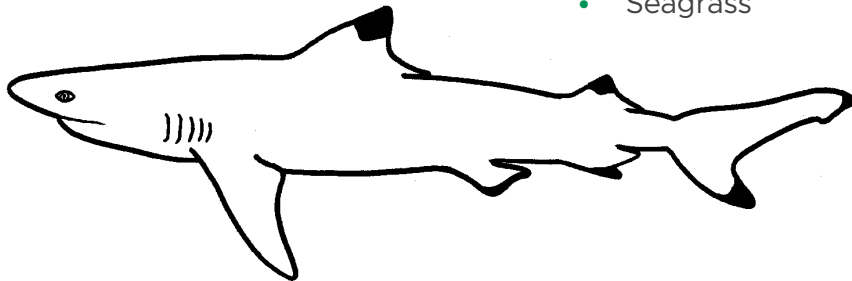
- Mangrove forest
- Seagrass
- Coral reef



Shark

Habitat:

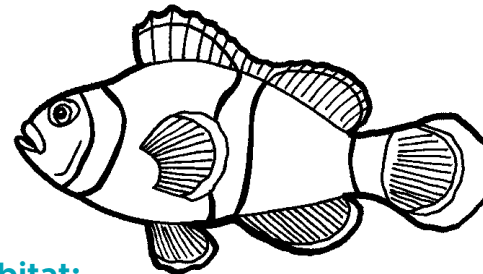
- Creeks and rivers
- Mangrove forest
- Sandy seafloor
- Seagrass



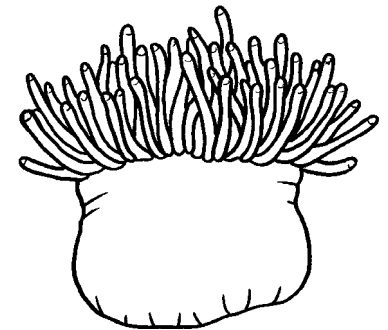
Clownfish

Habitat:

- Coral reef



Anemone



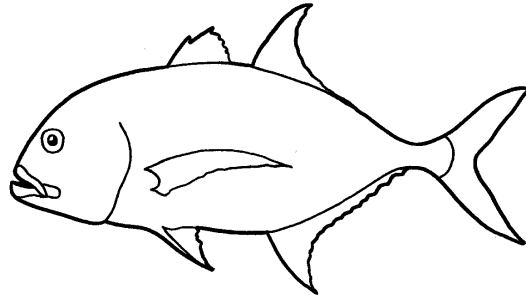
Worksheet: Where do they live?

Trace the name of each animal and colour it in.

Giant
Trevally

Habitat:

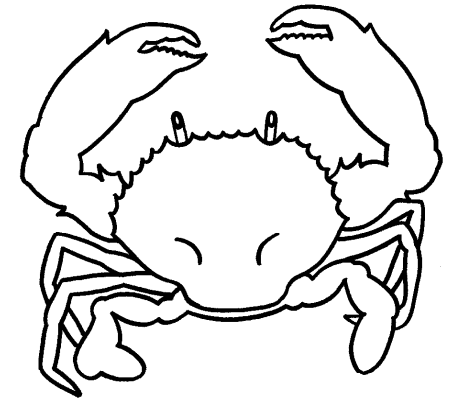
- Mangrove forest
- Sandy seafloor
- Seagrass
- Coral reef



Mud
Crab

Habitat:

- Mangrove forest



Pacific Blue
Eye

Habitat:

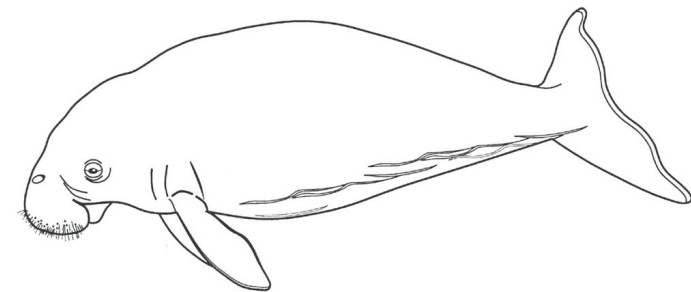
- Creeks and rivers



Dugong

Habitat:

- Seagrass



Activity 2: Life on the reef

In this activity, students explore reef food chains by investigating reef animals and how they get their energy. Children will create a food chain to understand the connection between the Sun, other animals and plants in a food chain.

Reef Guardian Pillars

Learn / Care / Act / Share

Suggested Materials

- Video: [Who Eats What?](#) (Chapter 2 1.50)
- Website: [Great 8 | Reef Authority](#)
- Drawing materials
- Worksheet 2 Food chain
- iPads/tablets with the [ChatterPix Kids](#) digital app

Optional

- Video: [Marine Food Chains](#)
- Video: [If Sharks Disappeared](#)

Introduce Vocabulary

- great eight
- energy
- food chain

Activity Overview

1. Introduce children to the '[Great Eight](#)' reef animals (clown fish, giant clams, manta rays, maori wrasse, potato cod, sharks, turtles, whales).
2. Students draw a picture of a 'Great Eight' animal.
3. Pose the question: 'What do you think the animal you drew eats?'
4. Explain that animals get hungry too. Introduce the idea that

everything that is alive needs energy to play, run, and grow. Plants get their energy from the sun, and animals have to eat plants or other animals to get their energy.

5. Watch [Who Eats What?](#) (Chapter 2 1.50) and discuss the students prior knowledge about the reef. Pose the question: Why is eating important to keep the reef healthy?
6. Using a class set of images from Worksheet 2 Food chain, students stand in a line to represent the food chain sequence. Energy source (sun) > Primary Producer (seagrass) > Primary Consumer (crab) > Secondary Consumer (fish) > Apex Predator (shark).
7. Reflect on where specific creatures get their energy from: Who is eating or using what? Where would people fit into this food chain?
8. Pose the question in relation to each child's chosen creature: I wonder 'Who am I, where do I live, what do I eat, what do I need to survive and how can you protect me?'
9. Students colour and sequence the images from Activity 2 worksheet food chain.
10. Using the [ChatterPix Kids](#) digital app, children photograph their drawing, draw a virtual mouth, and record a 30-second message from the animal's perspective outlining who they are and what they eat.

Scaffolded Option

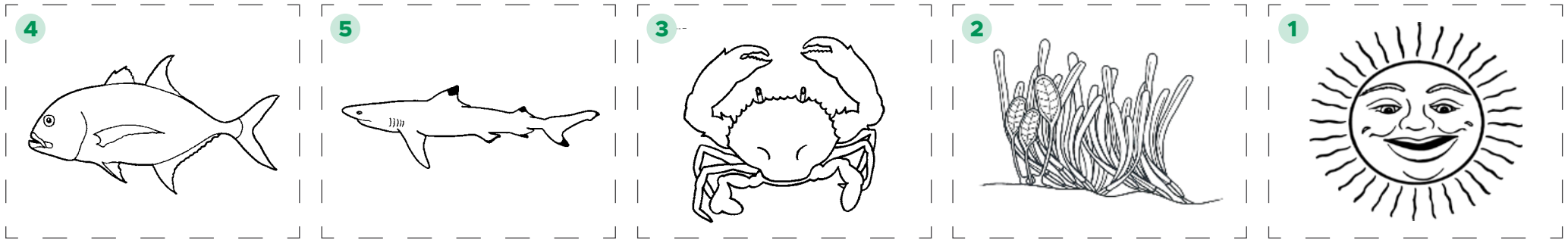
- Provide pre-cut, large-scale cards (sun, seagrass, crab, fish, shark) with velcro backing. Use a felt board or large display strip for students to order the chain, focusing on the simple flow of 'who eats what'.

Enrichment Option

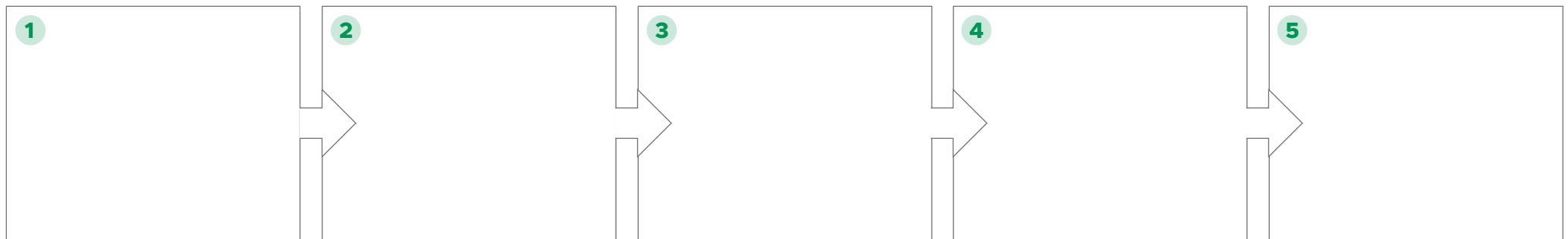
- Investigate the food chain in one of the other five habitat areas explored in Activity 1.

Worksheet 2: Food chain

1. Colour and cut out the pictures.



2. Glue them in the correct order.



The image shows a sequence of five empty rectangular boxes arranged horizontally. Each box has a small tab on its right side that fits into the next box, with an arrow pointing to the right. The boxes are numbered 1 to 5 in green circles in the top left corner, corresponding to the order of the food chain components from the previous section.

Activity 3: Marine debris

In this activity, students investigate the threats human rubbish and plastic pollution pose to reef animals through hands-on games, a local waste audit, and the creation of a class 'Healthy Reef Plan'.

Reef Guardian Pillars

Learn / Care / Act / Share

Suggested Materials

- Hula hoop x2
- Coloured paper, loose items representing seaweed and coral, and clean 'pollution' samples (e.g. plastic bags, bottles, fishing lines)
- Coloured and labelled bins for sorting waste (recyclables, compost, soft plastics)
- Worksheet 3 What doesn't belong
- Storybook: [Ocean Soup: A Recipe for You, Me, and a Cleaner Sea](#)
- Video: [Don't let your litter bug our reef](#)

Optional

- [School litter survey](#)
- [Marine debris clean up tool](#)

Introduce Vocabulary

- marine debris
- pollution
- recyclables
- compost
- soft plastics
- microplastics

Activity Overview

1. Decorate the first hula hoop with gems to represent coral. Decorate the second hula hoop like the first, but add objects such as plastic bags, streamers etc to represent samples of marine debris and pollution e.g. plastic bags and bottles and fishing lines.
2. Play the 'Marine Debris Wiggle game'. Students stand in a circle holding hands. Place the first hula hoop with no pollution on one child's arm, and the group must pass the hoop entirely around the circle without breaking hands. Repeat the activity using the second hula hoop with the rubbish attached.
3. Discuss the wonder questions: How did it feel trying to move through the hula hoop? Was it easier or harder to move through the hula hoop that had the rubbish on it?
4. Reflect on the game, connecting it to how easily wild sea animals get tangled up in plastic pollution, loose bags, and abandoned fishing lines.
5. Students conduct a rubbish audit of their local area e.g. classroom, playground, beach or park. Provide students with coloured labelled bins to sort the waste into recyclables, compost, and soft plastics.
6. Discuss the importance of preventing rubbish entering our waterways and breaking down into microplastics that enter the ocean food chain.
7. Reflect on the 'Marine Debris Wriggle' game and the audit. Discuss what they can do to protect the 'Great 8' and what they can do to minimise marine debris.
8. Collaboratively create a 'Healthy Reef Plan' poster. Encourage students to contribute one simple, actionable idea (e.g. 'bring a reusable water bottle' or 'pick up rubbish') to help minimise single-use plastics and protect our marine creatures, which can be displayed to share their stewardship with the wider community.

9. Listen to the story [Ocean Soup: A Recipe for You, Me, and a Cleaner Sea](#) and discuss what does and doesn't belong in the ocean.
10. Students watch the video [Don't let your litter bug our reef](#), then complete the Worksheet 3 What doesn't belong, colouring the items that do not belong in the ocean.

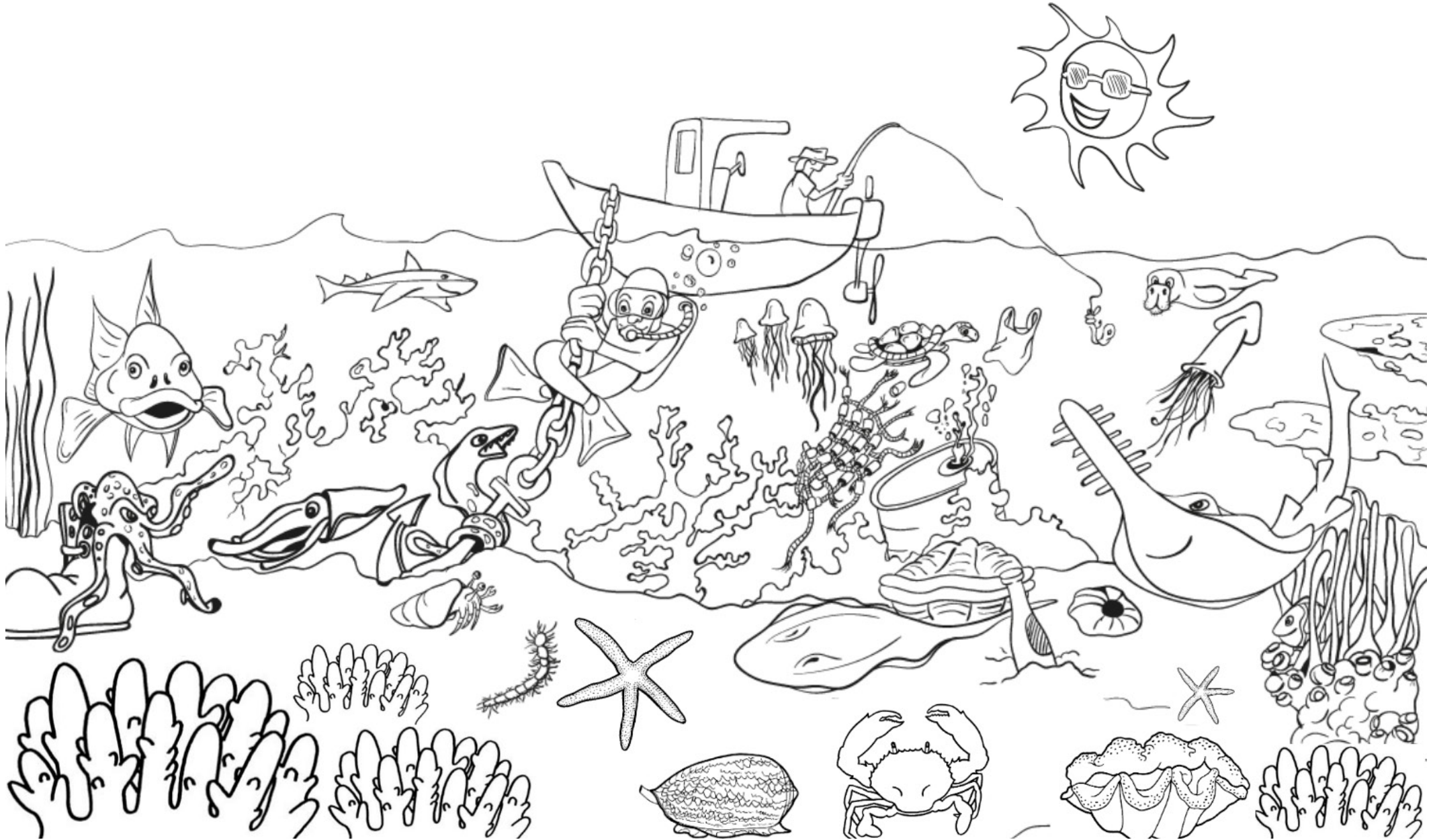
Scaffolded Option

- Provide a 'Belongs in the reef' vs. 'Does not belong' sorting tray. Use images (coral, fish) and clean real-life trash samples (bottles, bags) for hands-on sorting.

Enrichment Option

- [School litter survey](#)
- [Marine debris clean up tool](#)

Worksheet 3: What doesn't belong?



Activity 4: Looking after our Sea Country

In this activity, students explore 'Sea Country' through the Dreamtime story of *Dhui Dhui* of how the Southern Cross came to be and the consequences of fishing in the wrong areas.

By conducting a classroom fishing activity, students learn about modern day Marine Park zoning, and sustainable fishing.

Educator Note:

Here is the *Dhui Dhui* story supplied by Russell Butler - [Stars – Australian Indigenous Astronomy](#).

Long ago, two boys paddled out in a canoe south of Dunk Island (Coonangalbah) and dropped their stone anchor to fish. The elders had warned them not to fish on that sand spit because there was a big dangerous shovelnose ray (Dhui Dhui) that lived there. But the boys were defiant and fished there anyway. As they fished, the ray bit their line and started to tow them around in the canoe, but the boys wouldn't let go of the line. It towed them around the ocean for a while before going down the Hinchinbrook channel. They disappeared into the horizon. By then, it was getting dark and everyone was worried about the boys. As the people looked south after sunset, they saw the Southern Cross rising, which was Dhui Dhui (the shovelnose ray), followed by the two Pointer stars (the two boys in their canoe).

Reef Guardian Pillars

Learn / Care / Act / Share

Suggested Materials

- Dreamtime story: Dhui Dhui: [Stars – Australian Indigenous Astronomy](#)
- Classroom items e.g. tables, chairs, bags, or coloured mats/ sheets

to make zones.

- Worksheet 4 Fish images printouts of different sizes
- [Appendix B](#) Labels and icons for different fishing zones (green, yellow, light blue, and dark blue)
- Fishing rods: Wooden dowels/rulers, string, paper clips, and fridge magnets
- [Appendix C](#) Background information on the fishing zones
- [Appendix D](#) Legal size fish printouts.

Optional

- Video: [Crabbing with dad](#)
- Video: [Keepers of the reef](#)

Introduce Vocabulary

- Sea Country
- zones / zoning
- no-take / green zone
- size limits
- bag limits
- sustainable

Activity Overview

1. Read the Dreamtime story 'Dhui Dhui.' A traditional dreamtime astronomy story from the Bandjin (Saltwater) people of North Queensland. Focus on how the elders explicitly warn the boys not to fish in a certain area because it is the home of a Shovelnose Ray.
2. Clarify that the story's lesson is to avoid fishing in restricted zones to prevent penalties or negative outcomes. This narrative additionally explains the Dreamtime origin of the Southern Cross constellation.
3. Pose the question: How do you know where to fish to avoid

consequences? What could be the consequences if we fish in the wrong place today?

4. Using classroom items (e.g. tables, chairs, bags) create and label different fishing zones (i.e. dark blue, light blue, yellow and green). Include images and icons from [appendix B](#) to show each zone's fishing requirements.
5. Print out fish images Worksheet 4 of different sizes and place them in the different zones.
6. Students may make their own fishing rods out of wooden dowels or a rules (rod), string (line), and fridge magnet (hook). To catch the fish using a magnetic hook, stick a paper clip on the paper fish so they can be 'caught'.
7. Teacher prompt: Today we are going fishing! Look at our reef area (zoned classroom). Can you see the different colours, these colours let us know what activities we can and can't do in each area. Just like on the maps for the Great Barrier Reef. We call these areas 'zones', and not all zones are 'open' to fishing. See [appendix C](#) for background information on the fishing zones.
8. Invite the students to go fishing, but remind them to follow the zoning rules and they cannot fish in the 'no-take' green zones, as this is a marine national park. Explain that the fish we catch need to be at adult size before we can keep them. These are called size limits. If the fish are too small they have to be returned to the ocean unharmed.
9. Discuss the benefits of no-take zones - healthy fish populations, healthy food chains and the movement of fish from green zones into other zones.
10. Students measure their catch against the legal size fish printouts [appendix D](#). They must make sure they are the same size or bigger, throwing back their catch if it is too small.

11. When the students have caught all of the legal sized fish from zones 'open' to fishing, discuss that only the small fish are left. Have the students look at the green zones – there should be fish of all sizes here. This is where the fish for other zones will come from. As the fish breed in the green zones and the young move into other areas.

12. Reflect on the following questions:

- Why is it important to know your zone?
- How do Aboriginal and Torres Strait Islander peoples continue to care for Sea Country today?
- How can we care for Sea Country whilst we are out fishing?

Scaffolded Option

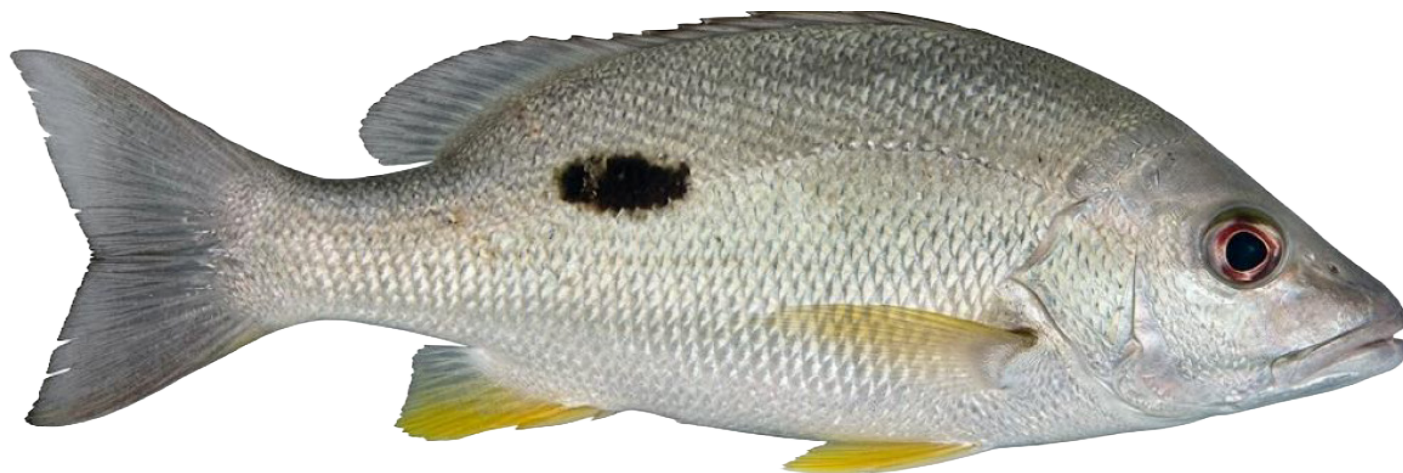
- Set up a simple two-bucket system for sorting the fish. Use a 'put back' bucket (for undersized fish) and a 'keep' bucket (for large fish).

Enrichment Option

- Look at local area maps and identify the different zoning areas.
- Students count the number of fish bagged.
- Introduce bag limits to regulate how many fish each student is allowed to catch. Discuss how this also helps protect fish populations.

Worksheet 4: Fish printouts





Activity 5: Care for the reef

In this activity, students explore how changing temperatures affect living things through a hands-on sensory experiment introducing the concept of coral bleaching. They will then connect big environmental changes to small, empowering actions they can take at home by building a 'Care for the reef' mobile.

Reef Guardian Pillars

Learn / Care / Act / Share

Suggested Materials

- Two large clear tubs
- Cool water and lukewarm water
- Brightly coloured toy sea creatures, colourful sponges, or plastic plants
- Ice cube trays or small plastic cups, and bright red/blue food dye
- Worksheet 5 Care for the reef mobile

Optional

- Coral polyp links
 - Print your own 3D coral polyp using the [downloadable coral polyp file](#) or contact reefguardians@gbrmpa.gov.au to loan a class set.

Introduce Vocabulary

- temperature
- coral bleaching
- energy
- water consumption
- stress

Activity Overview

1. Pose the question: How does your body feel when you get too hot? Do you want to run around, or do you want to rest in the shade?
2. Discuss: Just like us, animals and corals love their home just the way it is. What do you think happens to creatures in the ocean if the water in their home gets too warm?
3. Set up a sensory water-play science station with two large clear tubs to demonstrate temperature change and coral bleaching visually.
 - Ahead of time, freeze 'healthy coral ice blocks' by placing brightly coloured toy sea creatures, colourful sponges, or bright red/blue food dye inside ice cube trays or small plastic cups, then freezing them solid.
 - Tub 1 - The happy reef: Fill with cool water. Place unfrozen colourful toy corals, plastic plants, or colourful sponges at the bottom to represent a healthy, thriving reef.
 - Tub 2 - The warming reef: Fill with lukewarm water to represent a warming ocean.
4. Invite students to place the frozen 'healthy coral' ice cubes into Tub 2 - The warming reef. Observe how the ice melts rapidly in the warm water, causing the bright colours to dissolve, fade, and spread out, or exposing the toy as its cold protection vanishes.
5. Ask students to compare Tub 1: The happy reef with Tub 2: The warming reef. Explain that this colour fading represents 'bleaching' caused by stress from the heat. When the ocean gets too warm, the corals lose their beautiful colours because they get too stressed and hot. This is called coral bleaching.
6. Reflect: When we use too much electricity (like leaving lights on when we aren't in the room) or waste lots of hot water, it makes the Earth work extra hard, and that can gently warm up the air and the oceans.

7. Referring to Worksheet 5 Care for the reef mobile, students discuss the different actions they can take at home or school to reduce energy and water consumption e.g. turning off lights, conserving water.
8. Students colour and construct the 'Care for reef mobile' to take home as a reminder of how they are keeping the oceans cool and the corals colourful.

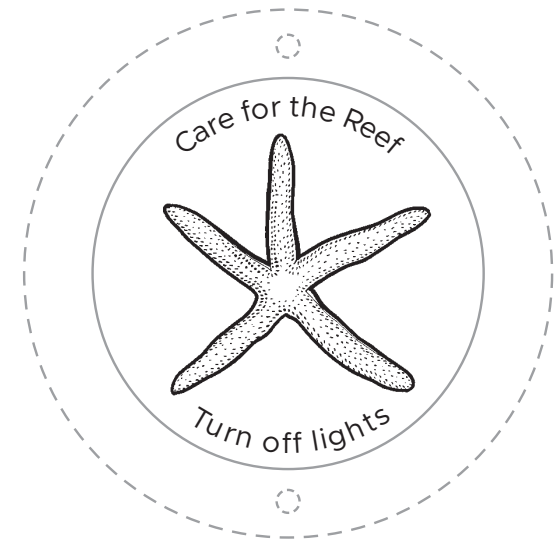
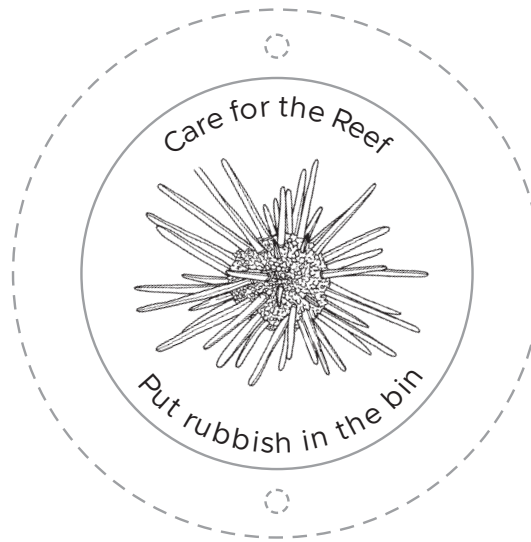
Scaffolded Option

- Provide visual clues when labelling tub 1 and tub 2. A sun to represent hot/bleaching and a snowflake or ice cube to represent cold/healthy. Provide pictures of healthy, colourful coral reefs and faded, white coral reefs. Ask students to place the images under the correct temperature icon to show what happens when the water gets too warm.

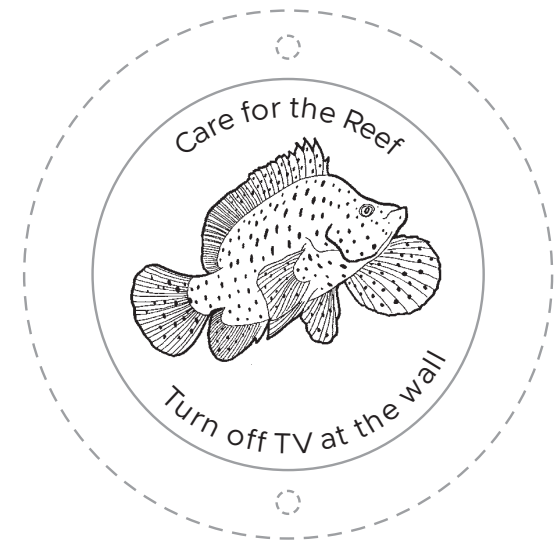
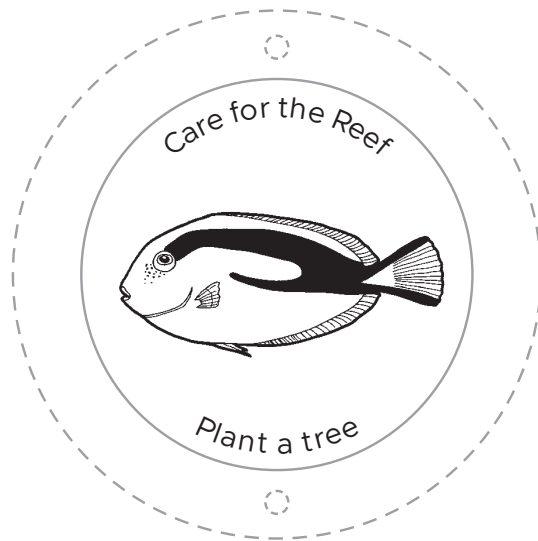
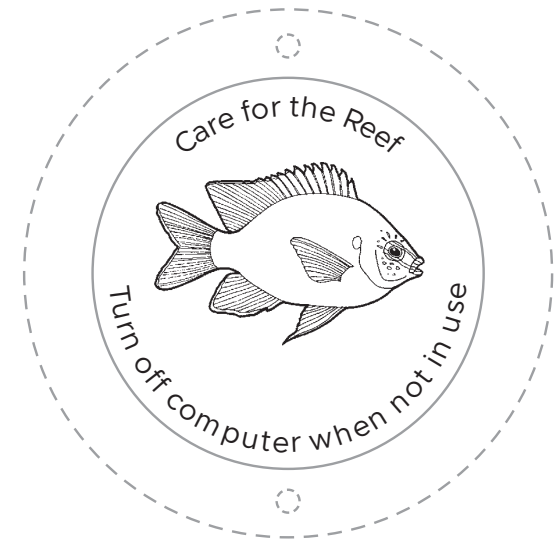
Enrichment Option

- Students choose one of the pledges they would like to do from the 'Care for the reef mobile'. Colour it gold and share it with their family.

Worksheet 5: Care for the reef mobile



Worksheet 5: Care for the reef mobile



Kindy Reef Steward Certificate

IS PROUDLY AWARDED TO

[Blank area for name and details]

for successfully participating in and becoming a Reef Steward.

CARE - LEARN - ACT - SHARE = STEWARD

DATE OF CERTIFICATION

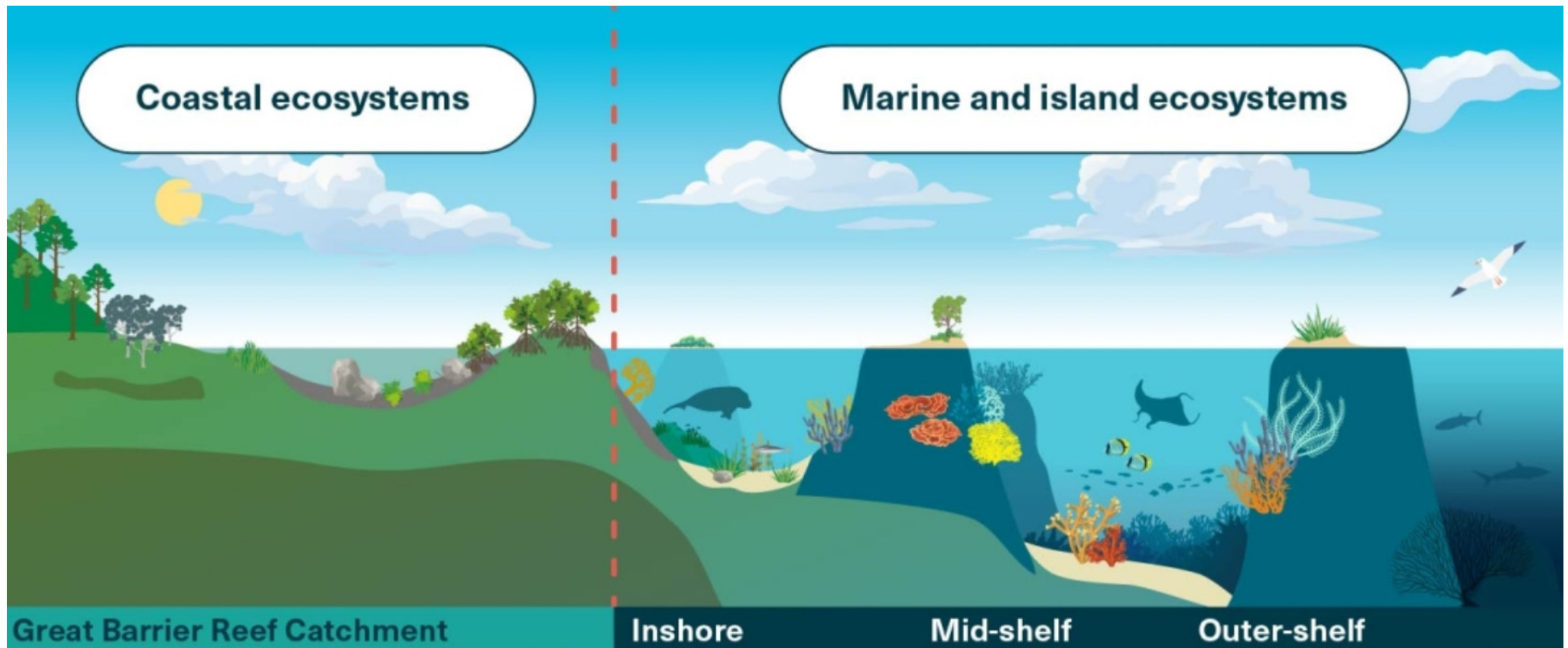
REEFED.EDU.AU

SEE THE
LOVE THE
PROTECT THE **REEF**



ELIZABETH HICKMAN
Reef Authority

Appendix A: Habitat Posters



Appendix A: Habitat Posters



Coral reef

Appendix A: Habitat Posters



Seagrass meadows

Appendix A: Habitat Posters



Sandy seafloor

Appendix A: Habitat Posters



Mangrove forest

Appendix A: Habitat Posters



Rivers and creeks

Appendix A: Habitat Posters



Rainforest

Appendix B: Fishing and Zoning Requirements

	 Boating	 Photography	 Swimming	 Line fishing	 Netting	 Trawling
General use zone	✓	✓	✓	✓	✓	✓
Habitat protection zone	✓	✓	✓	✓	✓	
Conservation park zone	✓	✓	✓	✓		
Marine national park zone	✓	✓	✓			

Appendix C: Great Barrier Reef Marine Park Zones

Teacher background information

To manage the human activities that occur in the Great Barrier Reef Marine Park it has been divided into different zones (colours).

Each zone has different rules for what activities are allowed, what's prohibited and what requires a permit.

Zoning helps protect a part of each ecosystem within the Marine Park. This keeps the reef healthy while still allowing sustainable human activities.

Breaking the zoning rules is taken very seriously and penalties apply.

Zone	Colour	What can and can't you do in each zone
General use zone	Light Blue	We are allowed to do all six activities in these zones (boating, photography, diving, line fishing, netting and commercial trawl fishing).
Habitat protection zone	Dark Blue	We are allowed to do all activities except there is no commercial trawl fishing allowed. This helps protect the seafloor of these areas which are important habitats for many species of fish and other animals.
Conservation zone	Yellow	No netting or commercial trawl fishing are allowed in these zones to conserve habitats and fish populations. However, you can still go line fishing, boating, diving and take photographs of these beautiful places.
Marine national park zone	Green	Just like national parks on land, all animals and the habits they live in are protected. So, there is no fishing allowed in these zones. This helps reduce human impacts in these areas to keep them healthy. As no fishing is allowed here, the fish grow bigger and have more babies. As the babies grow, they move into other areas of the reef that are open to fishing. By having green zones, we protect fish populations and will always have fish to catch. We can go into this area but only if we are boating, diving, or taking photos. Another name for a green zone is a 'no-take' zone.

Reef Guardian Pillars

- [How Marine Park Zoning works](#) | Reef Authority
- [Going fishing? How zoning helps hook you a catch](#) | Great Barrier Reef Marine Park Authority

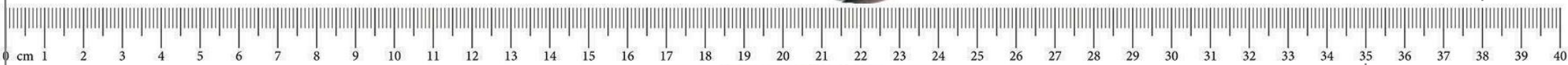
Measure your catch here!

Coral Trout
(Legal size - 38cm)



Australian Government
Great Barrier Reef
Marine Park Authority

Reef Guardian
School



Fingermark Snapper
(Legal size - 35cm)

