



**Australian Government**  
**Great Barrier Reef**  
**Marine Park Authority**

# Be a Marine Biologist for a Day

---

**Activity Booklet**  
**Year 6**



**ANSWERS**

## How can I help the Great Barrier Reef?

One way I can help the reef is to be a citizen scientist.

I can help to count animals for the Great Barrier Marine Park Authority.

They have a citizen science initiative called Eye on the Reef.

I can conduct an Eye on the Reef activity on my excursion called a Rapid Monitoring survey.

When I conduct a Rapid Monitoring survey on my excursion, I will be counting animals that will help the Great Barrier Reef Marine Park Authority look after and protect them.

The Great Barrier Reef Marine Park Authority will tell me which animals to count. There are 10 animals to count. I have 10 minutes to count them. But I don't need to count them all. I only have to count one (or the ones that my teacher tells me to count), with my buddy pair. I don't need to get wet either. We are counting them from a place where we can all stay dry.

I will record my count on a tally sheet in this activity book. I am counting the (animal/name). When we all finish counting, our reef guide will help me and my friends and the teacher fill in the Rapid Monitoring survey form on the day of our excursion. That form is also in this activity book.

When we get back to school, my teacher will help us to login to the Great Barrier Reef Marine Park Authority *Eye on the Reef* website so we can let them know how many we all counted.

I can also download the Eye on the Reef app and record what I saw on my excursion. Or I can use it to check out some of the really cool animals I saw!

# What is citizen science?

Citizen science is when citizens participate in scientific research.

The Great Barrier Reef is a very big place to monitor.

Data from citizen science helps to monitor and manage the Reef.

The Great Barrier Reef Marine Park Authority (GBRMPA) has a citizen science program called Eye on the Reef.

I will be collecting data for Eye on the Reef during a Rapid Monitoring Survey.

The Rapid Monitoring survey includes a 10 minute timed swim.

But, because we are not getting in the water to snorkel, it will be a modified 10 minute timed survey.

We still count 10 indicator animals over a 10 minute time frame, but instead of being in the water snorkelling, we are staying dry.

We are counting these animals in particular for several reasons. They could be a reef health indicator, endangered, contribute to reef health, iconic, commercially valuable and/or popular with tourists.

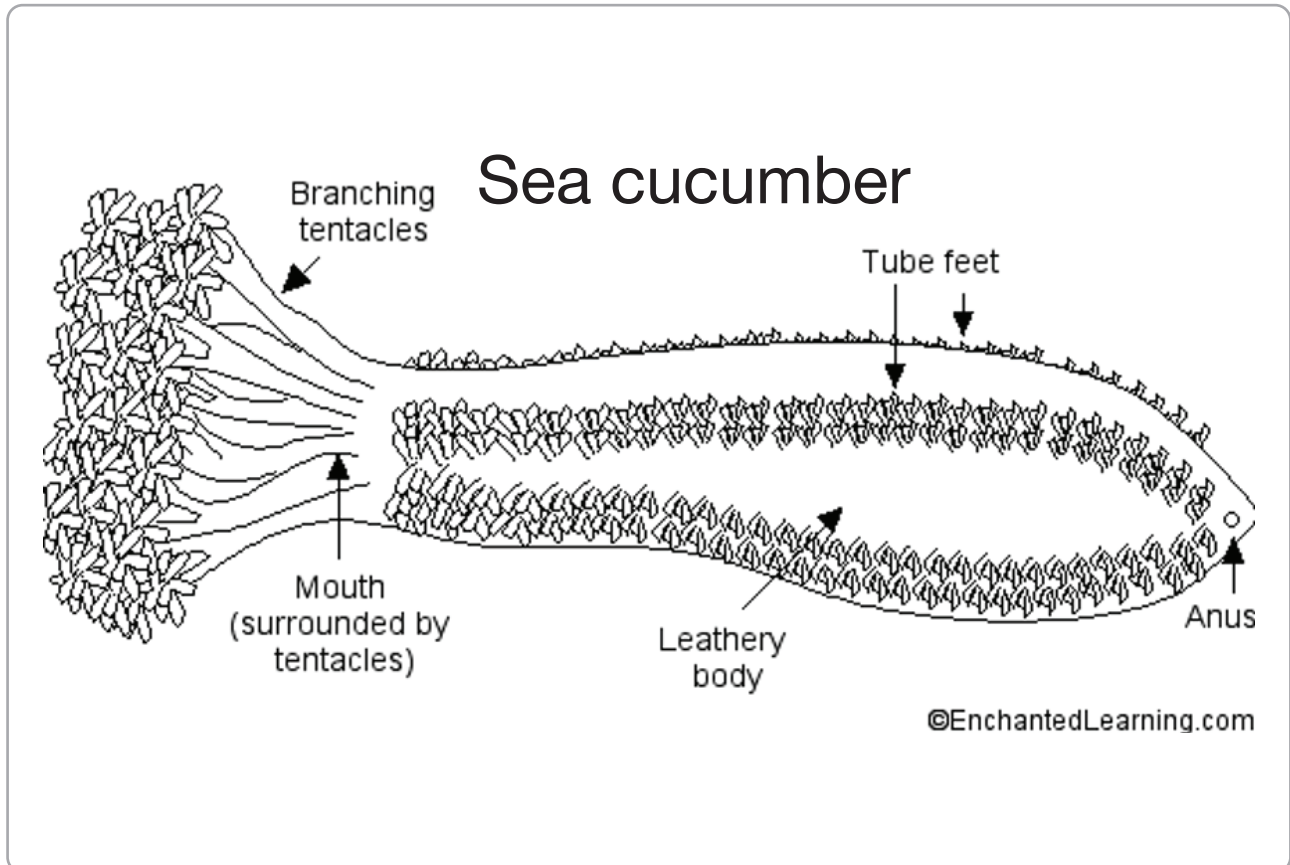
I need to bring this activity book on the excursion. There are lots of questions to answer about the animals we are counting. The questions are very similar to what we are learning this year at school. The Great Barrier Reef Marine Park Authority made sure these activity books aligned with the syllabus for my grade. I am allowed to answer some of the questions before the excursion, some during the excursion and some after the excursion. We get to check all our answers when we get back to school after the excursion. My teacher calls it 'Part 3' of the *Be a Marine Biologist for a Day* program. Part 1 is before the excursion, Part 2 is during the excursion and Part 3 is after the excursion. This activity book is used across all 3 parts.

When I get older, or when I visit the reef again, I will be able to do a Rapid Monitoring survey all on my own! Because I will know what to do.

I am a citizen scientist and I am helping the Great Barrier Reef!

# Sea cucumber

Draw a sea cucumber in the box below.



<https://www.enchantedlearning.com/subjects/invertebrates/echinoderm/seacucumber/printout.shtml>

## How do they move?

With their tube feet and rhythmic contractions of their bodies.

## How do they breathe?

By taking in water through their anus!

## Why count sea cucumbers?

They are the vacuum cleaners of the sea!

They keep the sand clean and filtered.

# Sea cucumber



© Commonwealth of Australia GBRMPA. Photographer: K.Goudkamp

## Names

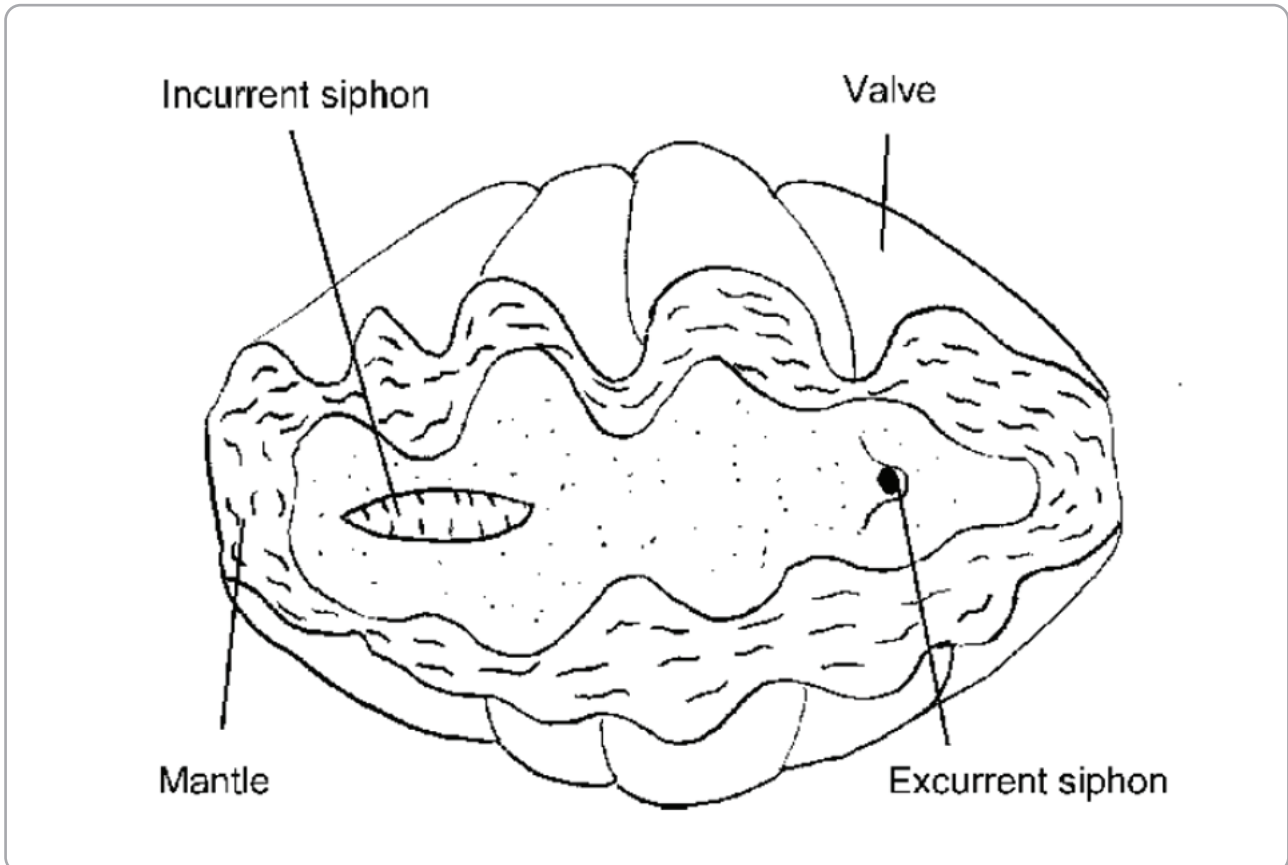
## Tally

## Total

# Giant clam

>30cm

Draw a giant clam in the box below.



<https://meilin5giantclam.wordpress.com/2016/10/20/is-this-i-think-it-is-no-wait-what/>

How many holes (siphons) does the mantle have?

2

How does the algae that lives in the mantle help the clam?

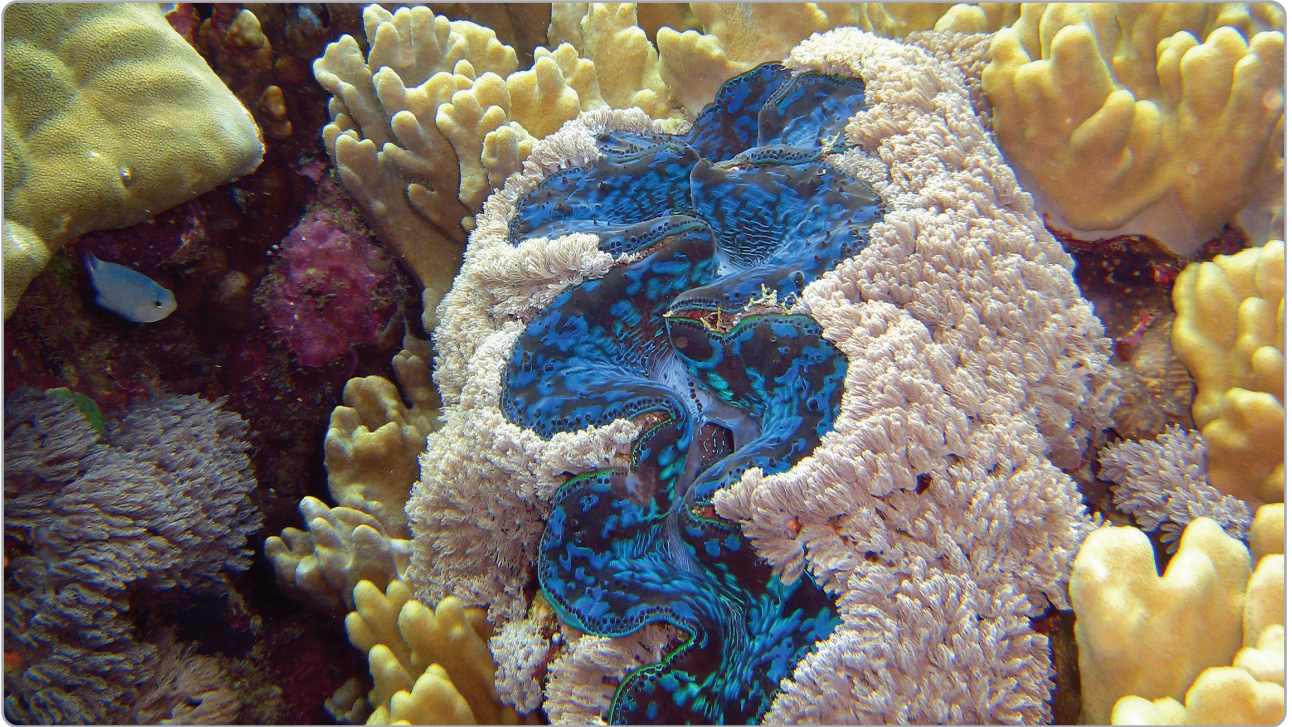
It feeds the coral.

Via photosynthesis turning sunlight into food and energy.

How does the giant clam help the algae in return?

The algae (zooxanthellae) has a safe place to live.

# Giant clam



© Commonwealth of Australia GBRMPA. Photographer: C. Jones

## Names

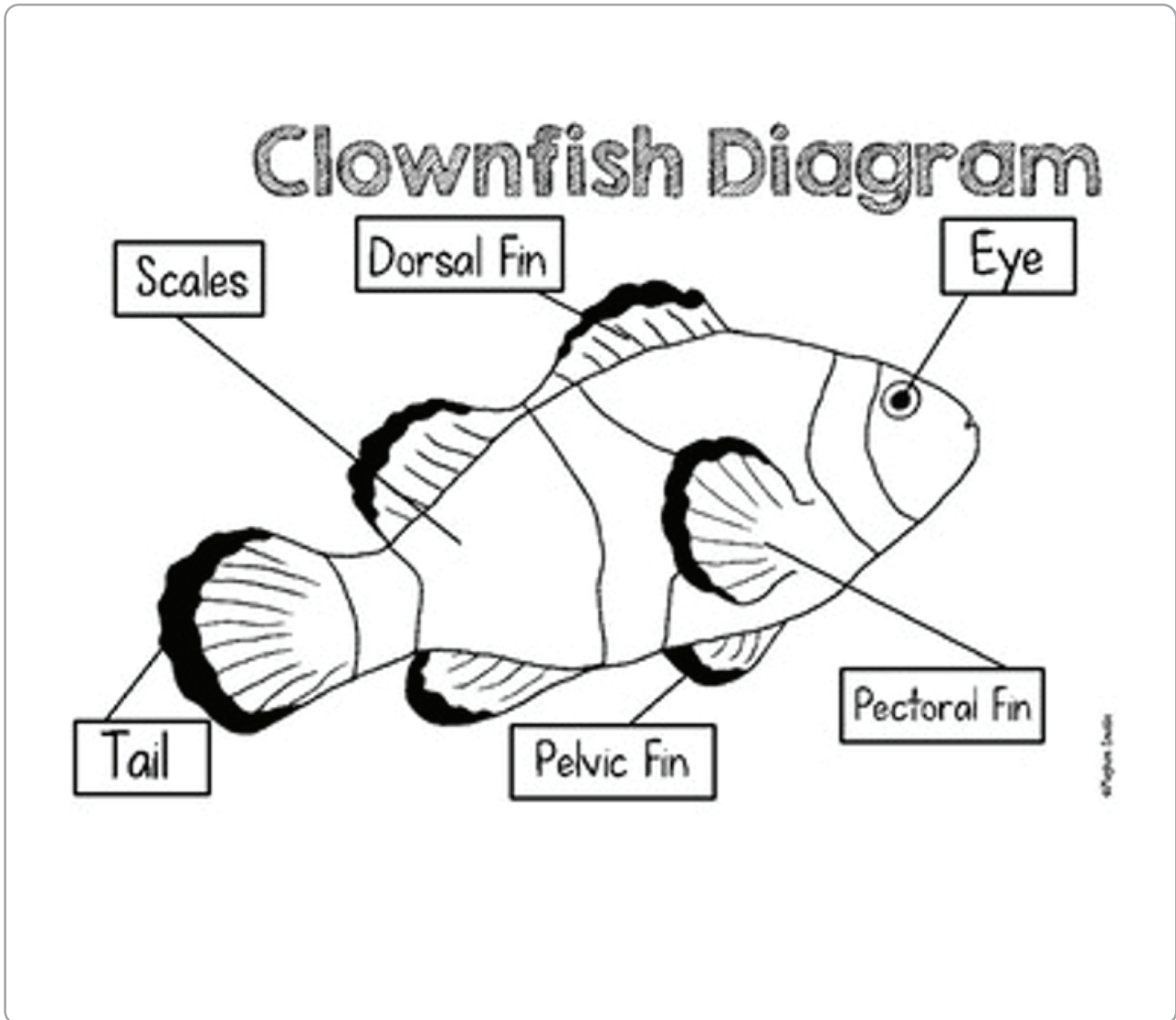
## Tally

Only those bigger than 30cm

## Total

# Anemonefish

Draw an anemonefish in the box below.



<https://www.teacherspayteachers.com/Product/Clownfish-Diagram-Freebie-3134585>

## Why are the anemonefish all different sizes?

The biggest anemonefish is always the female.

All the others are male.

The two largest anemonefish are the mating pair.

When the female dies, her male partner turns into a female, and the next biggest male takes his place.



# Anemonefish



© Commonwealth of Australia GBRMPA. Photographer: J. Sumerling

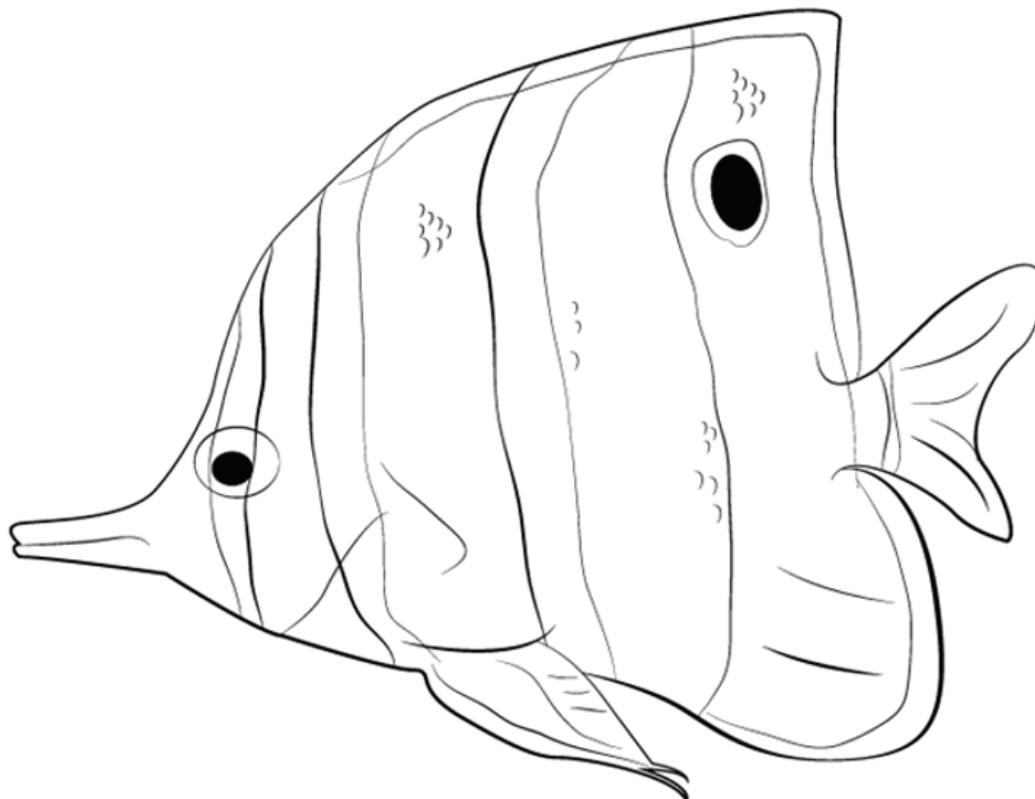
## Names

## Tally

## Total

# Butterflyfish

Draw a butterflyfish in the box below.



<https://www.drawingtutorials101.com/how-to-draw-a-butterflyfish>

Some butterflyfish have a fake eye spot. Why?

To trick their predators.

# Butterflyfish



© Commonwealth of Australia GBRMPA. Photographer: J. Jones

Names

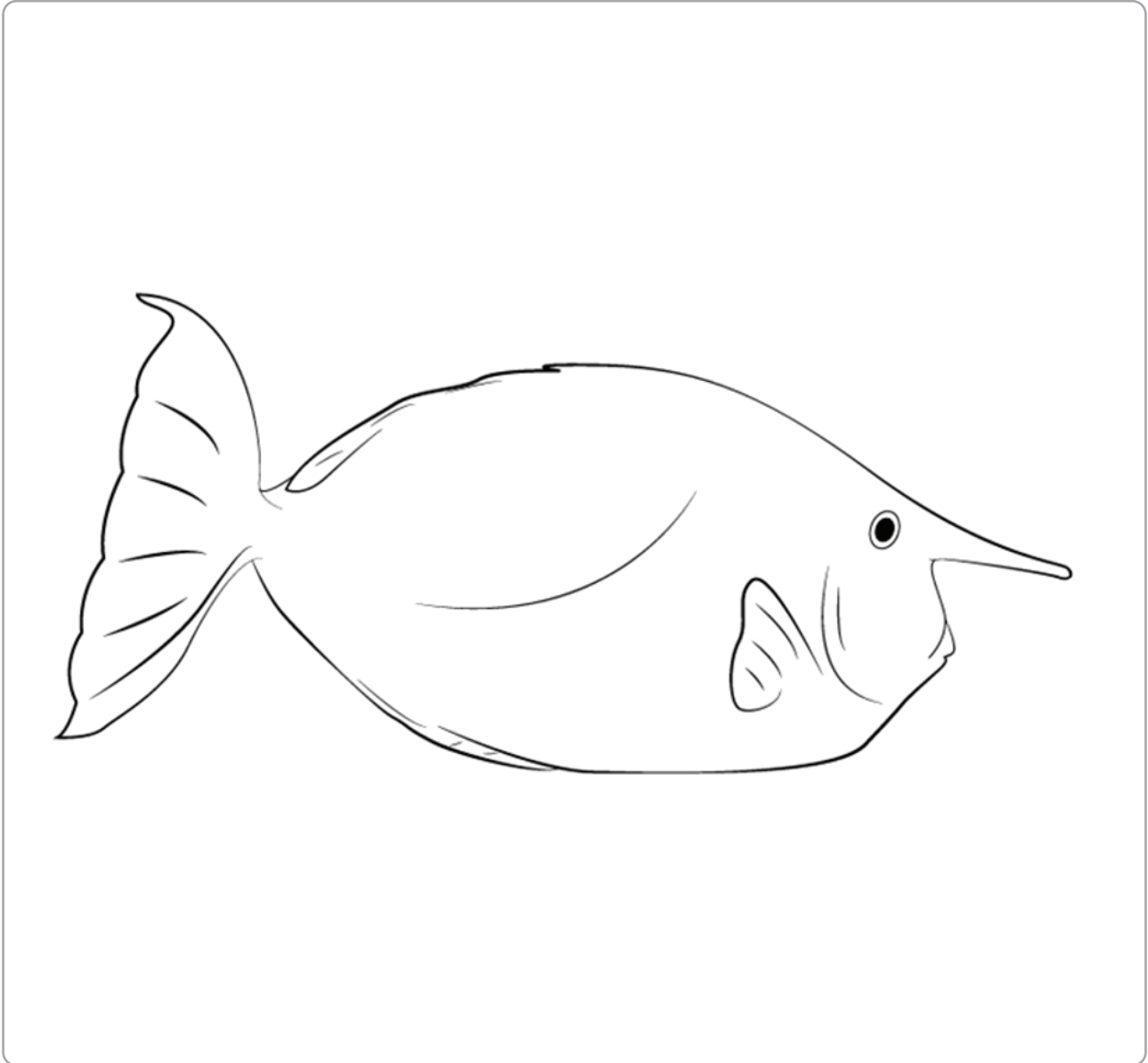
Tally

Total

# Grazing herbivores

Parrotfish / Surgeonfish / Unicornfish / Rabbitfish

Draw a grazing herbivore in the box below.



<https://www.drawingtutorials101.com/how-to-draw-a-whitemargin-unicornfish>

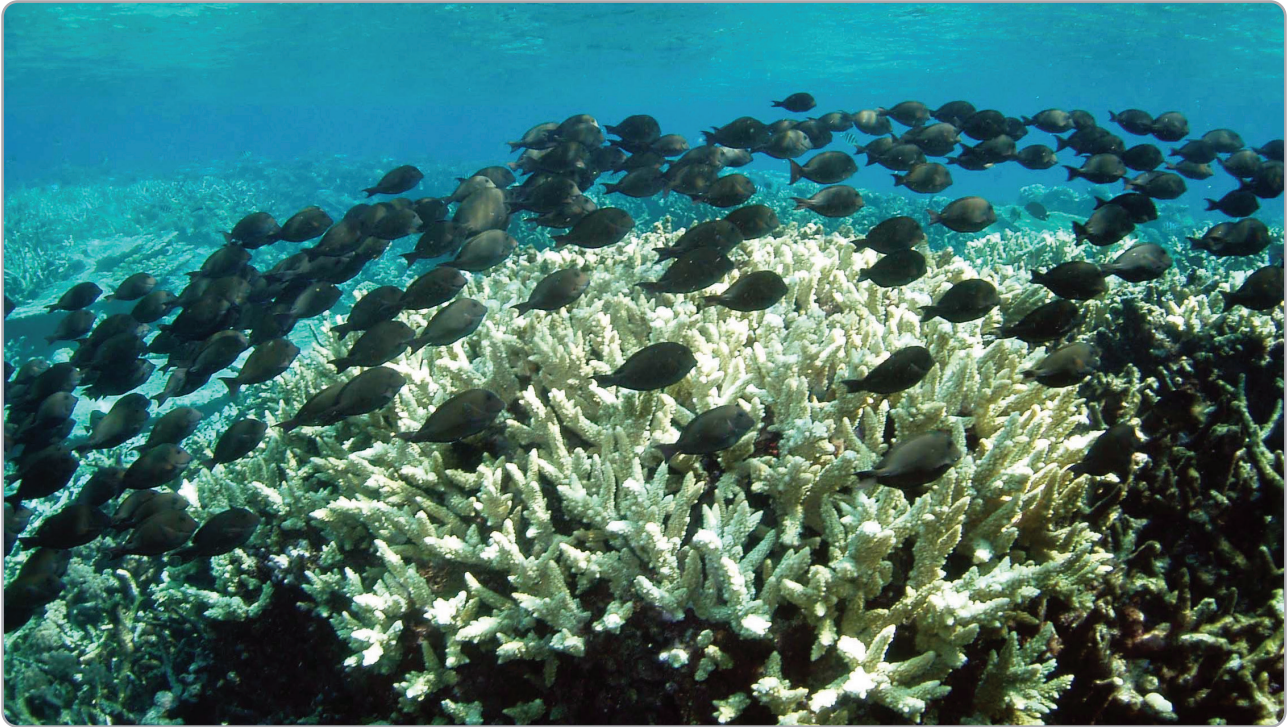
Why are they called the lawnmowers of the Reef?

Because they graze on so much algae.

Why are some called surgeonfish?

Surgeonfish have a sharp blade, like a surgeon would use.

# Grazing herbivores



© Commonwealth of Australia GBRMPA. Photographer: C. Jones

Names

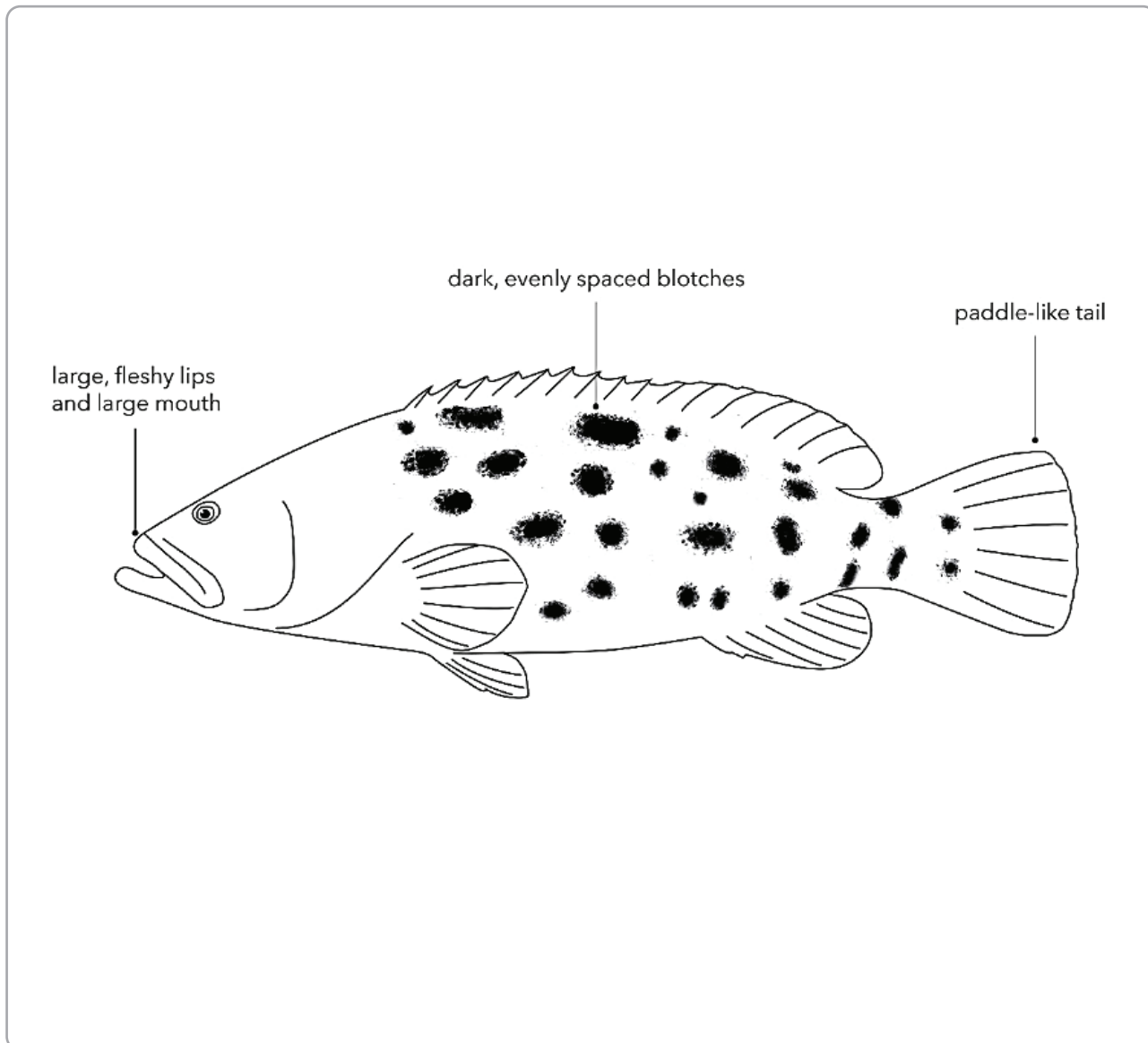
Tally

Total

# Cods and groupers

>50cm

Draw a cod or grouper in the box below.



<https://marinewaters.fish.wa.gov.au/resource/potato-cod/>

Cod and grouper are solitary animals. They live alone. So, what is happening when there are many in one place?

They all gather in one spot to spawn and then, in pairs, simultaneously release eggs and sperm into the water. Spawning aggregations are protected from fishing within the boundaries of the Great Barrier Reef Marine Park.

# Cods and groupers



© Commonwealth of Australia GBRMPA. Photographer: P. McGinnity

## Names

## Tally

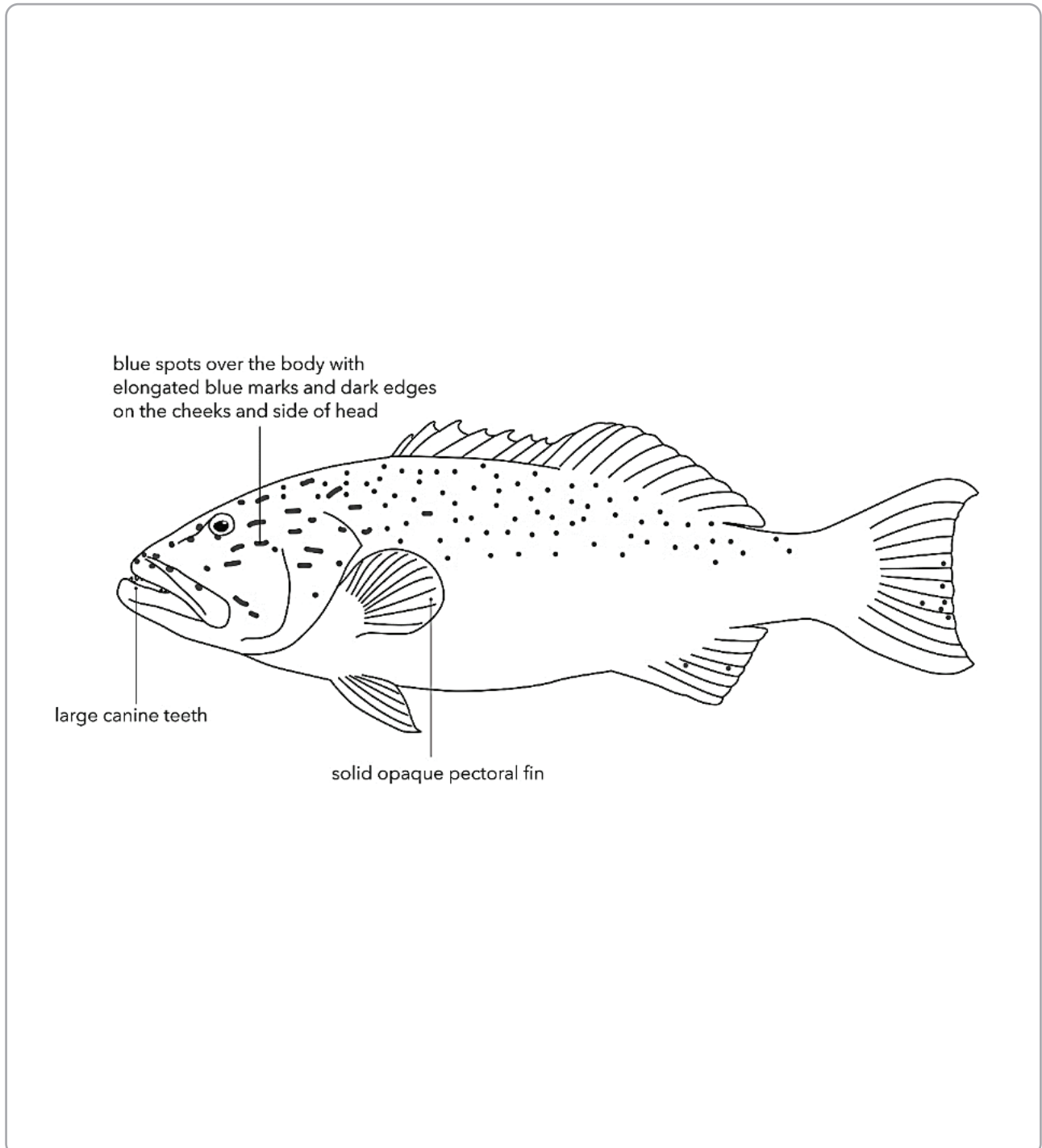
Only those bigger than 50cm

## Total

# Coral trout

<38cm / >38cm

Draw a coral trout in the box below.



<https://marinewaters.fish.wa.gov.au/resource/fact-sheet-barcheek-coral-trout-2/>

Lots of people eat coral trout. What is the legal size?

At least 38cm.



# Coral trout



© Commonwealth of Australia GBRMPA. Photographer: G. Goby

## Names

## Tally

< 38cm

## Tally

> 38cm

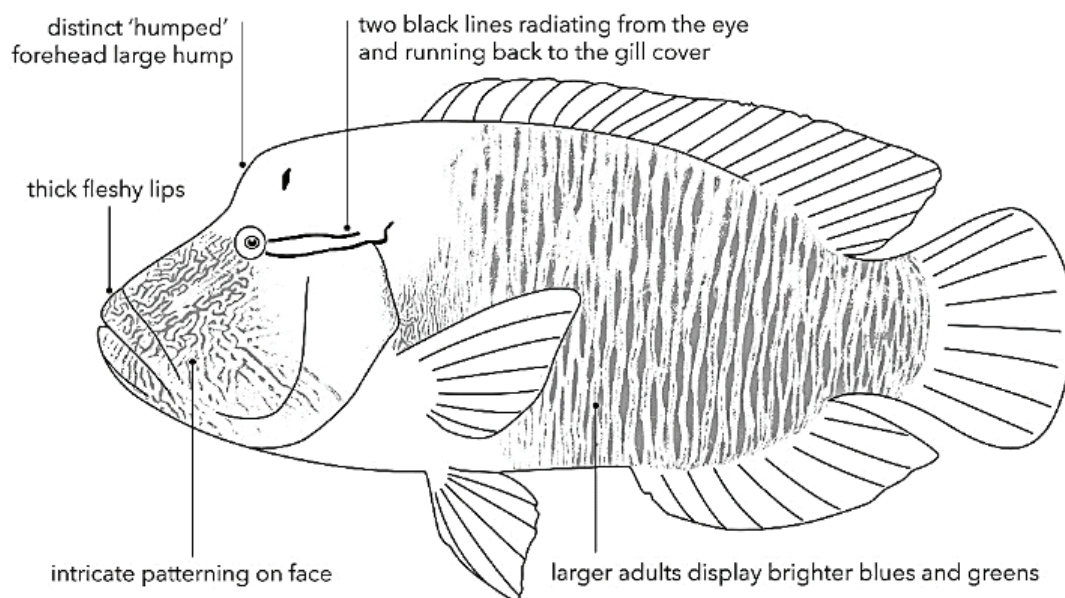
## Total

## Total

# Maori wrasse

Male / Female

Draw a male Maori wrasse in the box below.



<https://marinewaters.fish.wa.gov.au/resource/humphead-maori-wrasse/>

What happens if people touch a Maori wrasse?

It removes their protective layer of fish mucus and they can get sick.

# Maori wrasse



© Commonwealth of Australia GBRMPA. Photographer: U. Engelhardt



© Commonwealth of Australia GBRMPA. Photographer: C. Jones

## Names

## Tally

Female

## Tally

Male

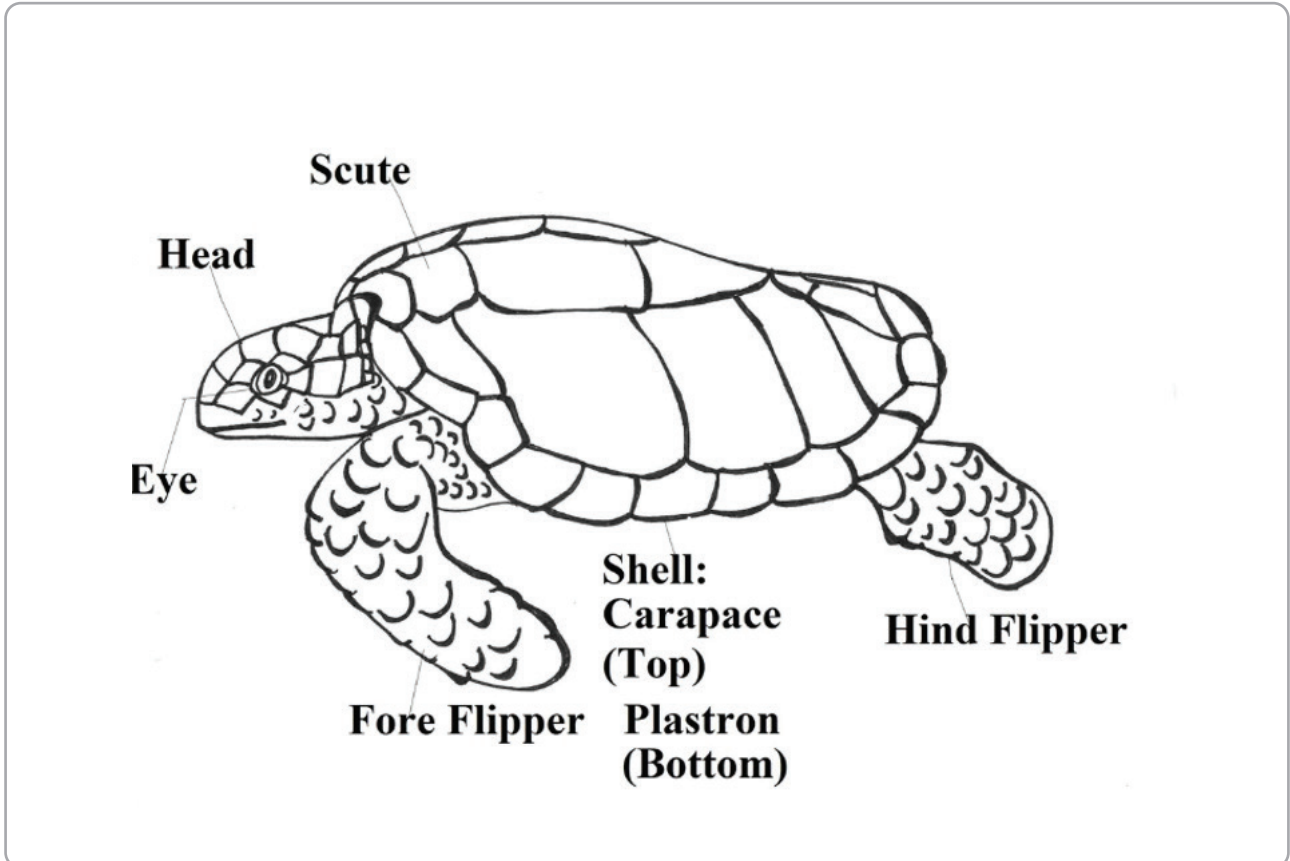
## Total

## Total

# Sea turtles

Green / hawksbill / other

Draw a sea turtle in the box below.



<https://seaturtles5.weebly.com/parts-of-a-sea-turtle.html>

When is turtle breeding season?

Summer.

What is the Great Pacific Garbage Patch?

A collection of marine debris in the north Pacific Ocean.

For every kg of plankton in the Great Pacific Garbage Patch, there are 6kg of plastic.

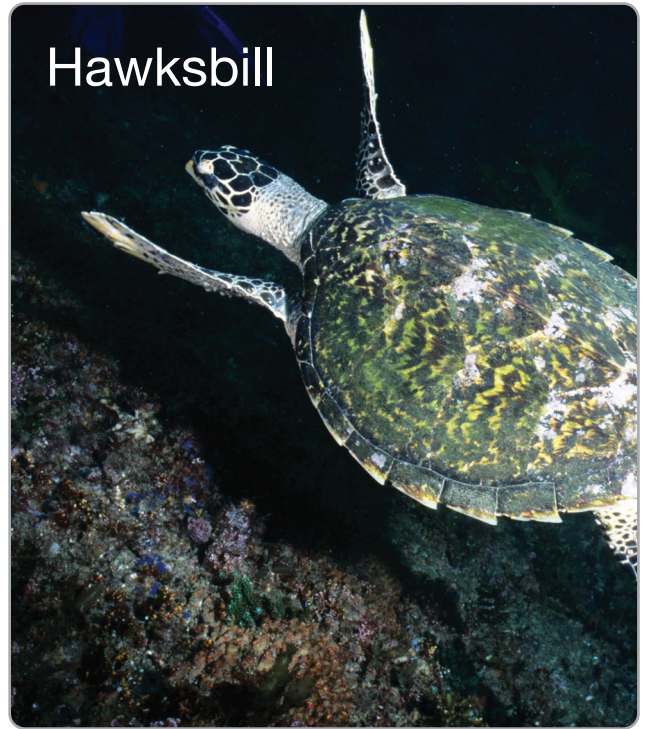
How many sea turtles are threatened with extinction?

All 6 found on the Great Barrier Reef.

# Sea turtles



© Commonwealth of Australia GBRMPA. Photographer: K. Hoppen



© Commonwealth of Australia GBRMPA. Photographer: K. Hoppen

## Names

Tally

Tally

Tally

Total

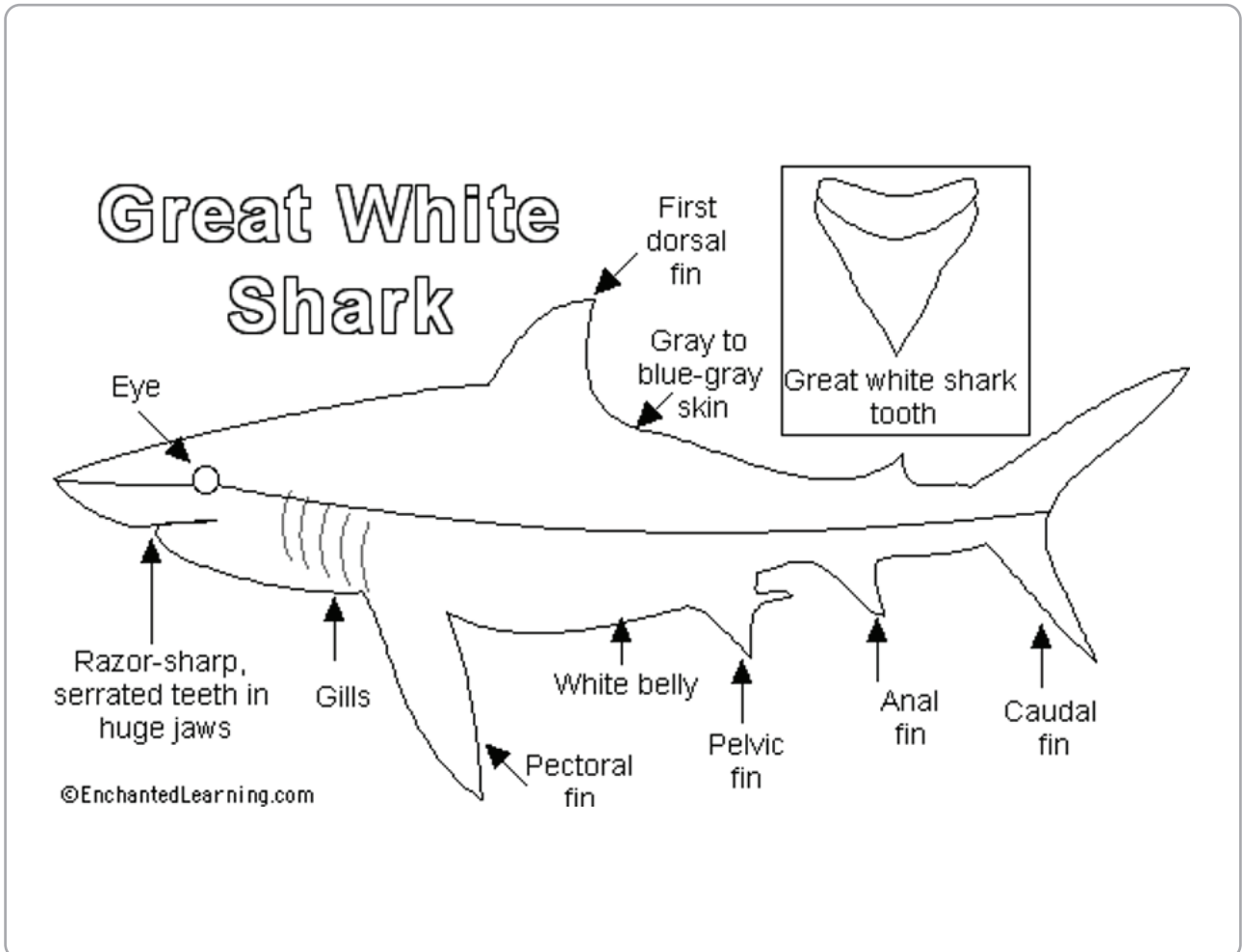
Total

Total

# Sharks

Whitetip / Blacktip / other

Draw a shark in the box below.



<https://www.enchantedlearning.com/subjects/sharks/classroom/sharktemplates/Gws.shtml>

## Are all sharks dangerous?

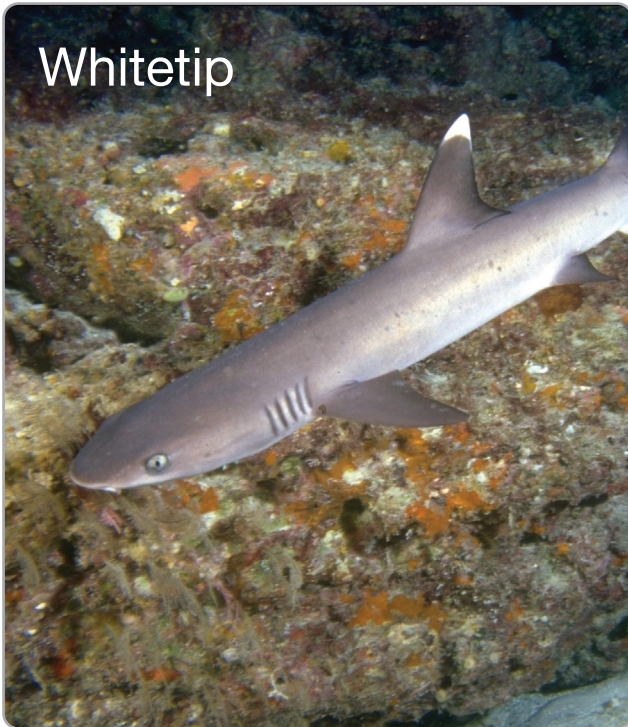
No. Not all sharks are dangerous. For example, the whale shark is the biggest shark alive. And, it has small teeth! It eats plankton.

## Why count sharks?

Sharks keep the reef balanced and healthy.

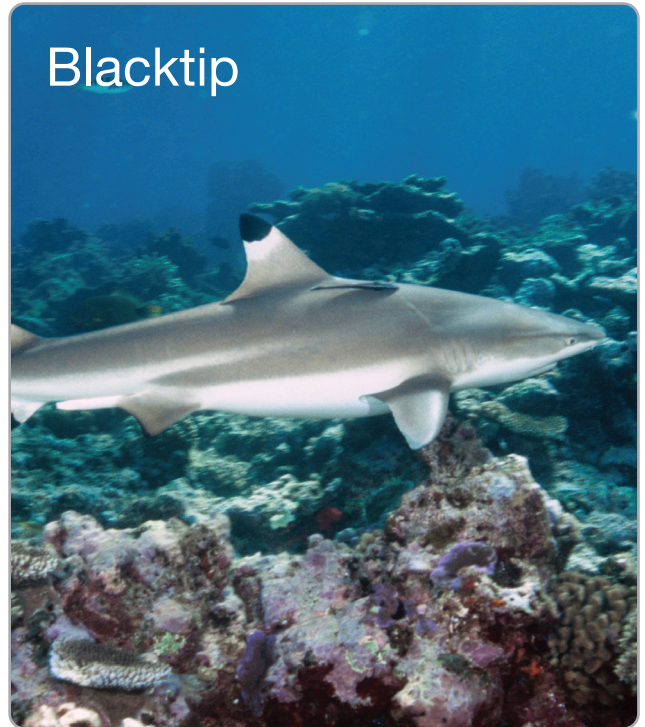
Many sharks are threatened with extinction.

# Sharks



Whitetip

© Commonwealth of Australia GBRMPA. Photographer: T. Mayne



Blacktip

© Commonwealth of Australia GBRMPA. Photographer: K. Hoppen

## Names

Tally

|          |
|----------|
| Whitetip |
|----------|

Tally

|          |
|----------|
| Blacktip |
|----------|

Tally












|       |
|-------|
| Other |
|-------|

Total

Total

Total

Complete this table with your Reef Guide after counting the animals on the reef.


| Timed swim (10 minutes)   |       | See over page for survey methodology |   |   |       |       |
|---|-------|--------------------------------------|---|---|-------|-------|
| ANIMALS   | TALLY | TOTAL                                | ANIMALS   | SIZE  | TALLY | TOTAL |
| Sea cucumber<br><small>(all species)</small><br>                   |       |                                      | Coral trout (all species)<br>  | <38cm<br>>38cm  |       |       |
| Giant clam<br><small>(larger than size of hand)</small><br>        |       |                                      | Maori wrasse<br>               | SEX<br>Male<br>Female   |       |       |
| Anemonefish<br><small>(all species)</small><br>                    |       |                                      | Turtle (all species)<br>       | TYPE<br>Green Turtle*<br>Hawksbill Turtle*<br>Other (please name) |       |       |
| Butterflyfish<br><small>(all species)</small><br>                  |       |                                      | Shark (all species)<br>       | Whitetip reef shark<br>Blacktip reef shark<br>Other (please name) |       |       |
| Grazing herbivores<br><small>See definition over page</small><br> |       |                                      | Crown-of-thorns starfish<br> | Juvenile<br>Adult   |       |       |
| Cods and groupers<br><small>(over 50cm in length)</small><br>    |       |                                      |   |   |       |       |



Complete back at school after your excursion.

***How did I help the  
Great Barrier Reef?***

Below, draw a picture or write about your day on the Reef!

A large, empty rectangular box with rounded corners, intended for a student to draw a picture or write about their day on the reef. The box is completely blank and occupies most of the page's vertical space.