

What's Under the Water?





This activity book has been written for young Victorians who have an interest in fish and other animals that are found in freshwater, estuarine and marine environments. It aims to provide readers with information about their unique qualities, habitats and life cycles in a fun and engaging way, and stresses the importance of looking after the environment.

This activity book has been produced by Fishcare Victoria. Fishcare is operated by volunteers as members of incorporated community groups across Victoria – from Warrnambool in the West to Mallacoota in the East. The fundamental aim of the Fishcare program is to promote sustainable fishing practices and care for aquatic environments to anglers and the wider public. This is achieved through a wide variety of methods and programs including fishing clinics for various target groups, school programs, displays at local festivals and expos, community forums and workshops, and the production of educational resources. Find out more about Fishcare at www.fishcare.org.au

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Acknowledgements

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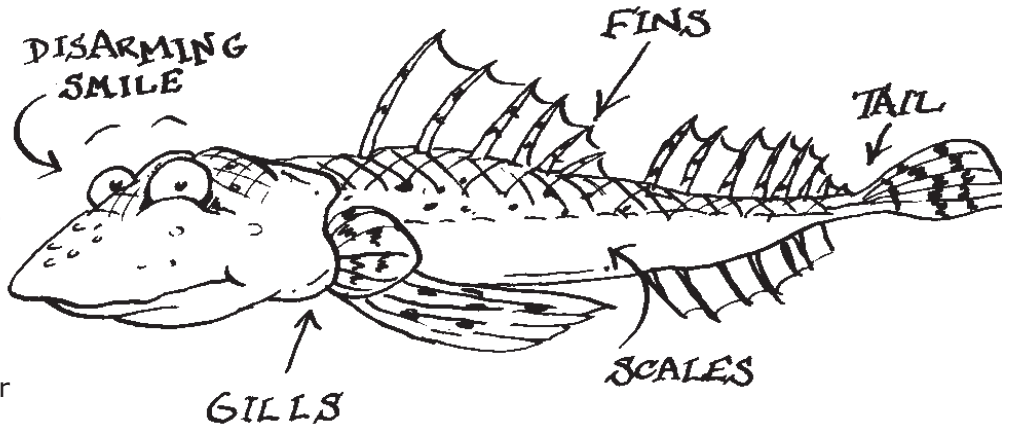




All About Our Fish

What Is A Fish?

Fish are vertebrates like us humans, which means they have a backbone, but unlike us they are cold blooded. Fish have gills, fins and scales to help them live underwater. The gills are used for breathing, fins help them move around and scales protect their bodies.



How many different types of fish can you think of? What do they look like? Do they have big fins, funny shaped heads or long tails?

Did you know that there are more than 24,000 species of fish in the world! Fish can be found in lots of different shapes and sizes.



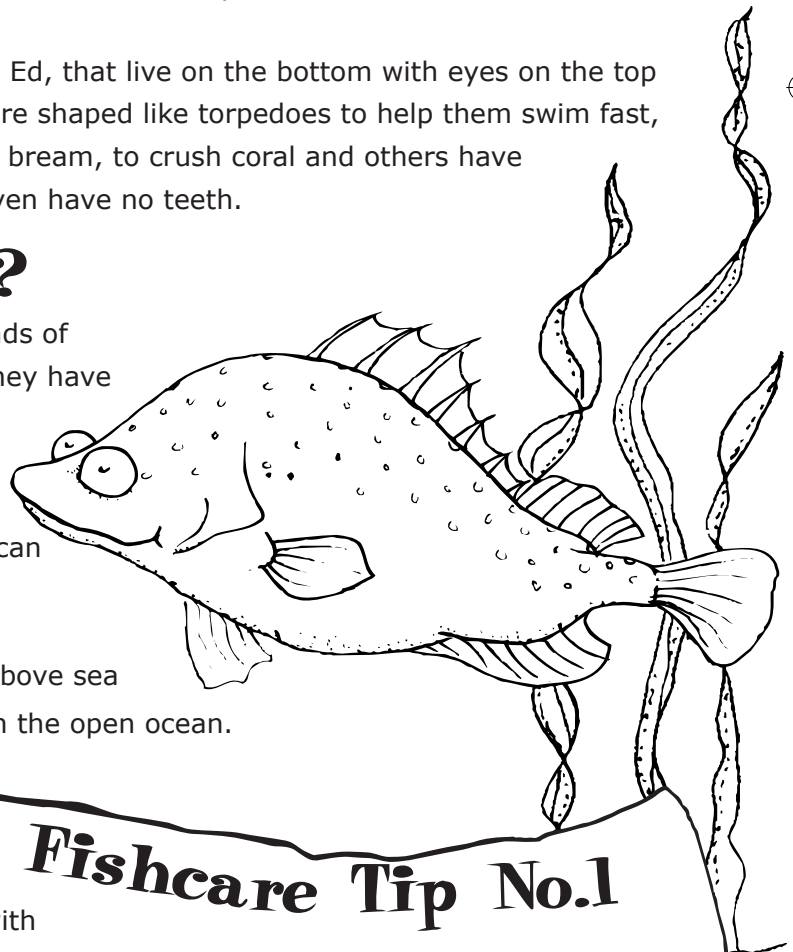
Some are flat, like Flat Ed, that live on the bottom with eyes on the top of their heads and others are shaped like torpedoes to help them swim fast, like a salmon. Some have big round crushing teeth like bream, to crush coral and others have sharp teeth to tear their food, like sharks. Some fish even have no teeth.

Where Can Fish Live?

Over millions of years fish have learned to live in all kinds of underwater environments. To ensure fish can survive they have learnt to adapt to different homes called habitats.

They can live in freshwater like rivers, lakes and dams and in saltwater like the sea. Some types of fish can live in freezing water and other types in hot springs.

Freshwater fish can live in mountain rivers up to 5km above sea level and deep sea fish can swim down to 11km deep in the open ocean.



Flat Ed's Fishcare Tip No.1

When you go fishing with someone make sure you don't leave any litter or tackle behind. Hooks, tangled line and plastic bags can all be a danger to fish, seabirds and other marine life.





Where Are They From?

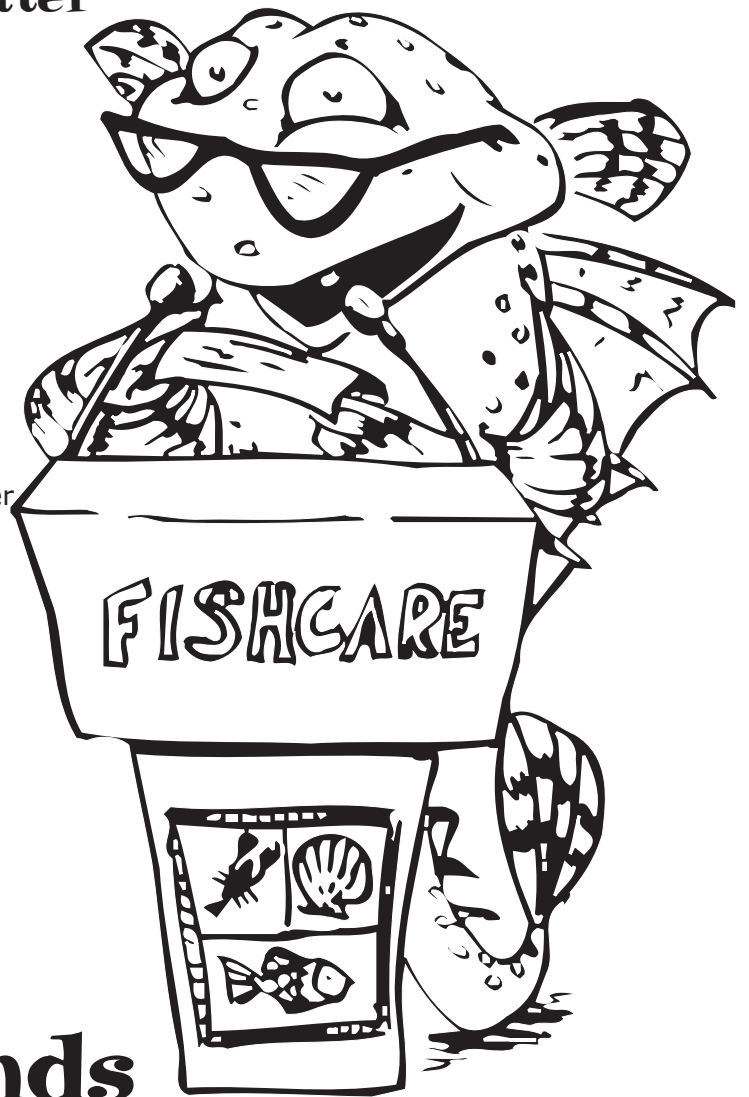
What fish live in the water next to where you live?

Are they native fish or introduced fish?

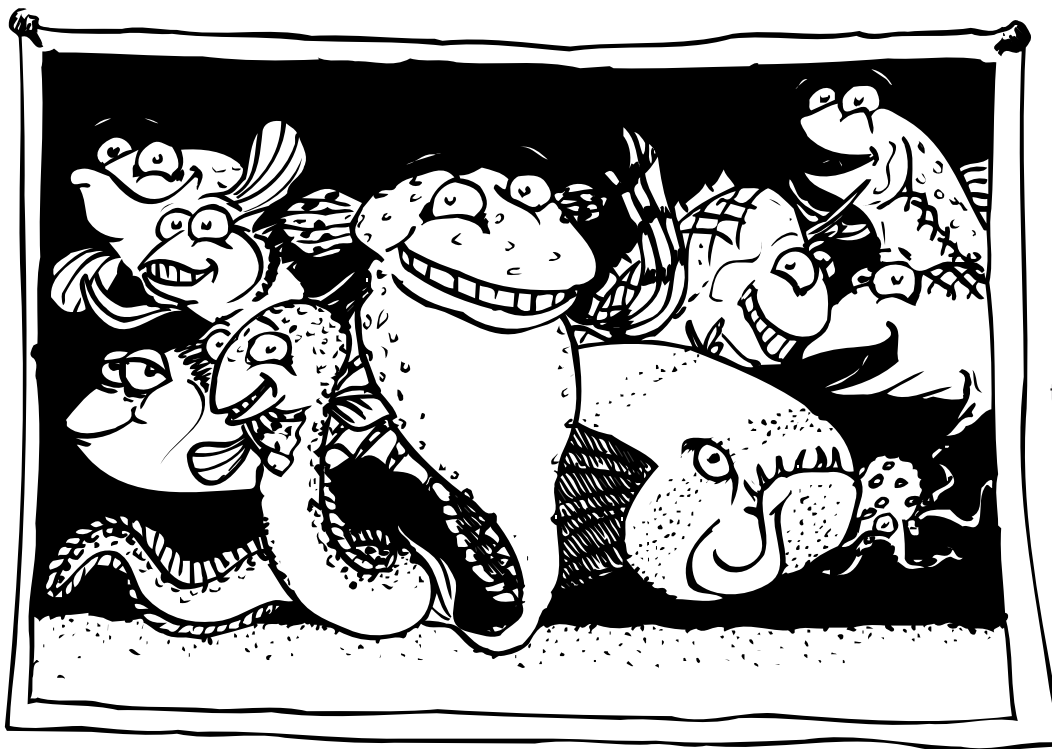
Native fish have adapted to our Australian environment over thousands of years and learned to survive in our own unpredictable climate of drought and flood.

Introduced fish have been brought to Australia from other countries by people, like trout from Europe and North America or carp from Asia. These fish have found the

Australian environment suitable to live in. Some introduced fish are popular with anglers but others are pests and can have damaging effects on our rivers and native fish habitats.



Flat Ed's Friends



Your backyard is an ecosystem with lots of different types of creatures living together. Flat Ed also has lots of creatures living in his backyard! These are not all fish. Some of the creatures that can be found are molluscs (snails, abalone, pippis, scallops, mussels, squid and oysters), crustaceans (yabbies, crayfish, shrimp, prawns and crabs) and other bugs and critters.



Who Eats Who?

Trace the line to
find out who has what for
dinner!

Hatches into a dragonfly when it grows up.

Mudeye

Yellowtail Kingfish

A very fast swimmer. Can migrate 2,000km from Australia to New Zealand.

Snapper

Known as pinkies when they are young.

Bream

Can live for a long time, some fish can be up to 30 years old!

Gummy Shark

Has very small teeth and rough skin.

Murray Cod

Australia's largest freshwater fish. Can grow up to over 110kg and 1.8 metres in length.

Rainbow Trout

Introduced 150 years ago into Australia for sportfishing. Can jump high out of the water to catch food.

Estuary Perch

Can live in freshwater and saltwater and has big eyes to help it hunt for food.

Short Finned Eel

Usually comes out at night and can change its appearance to hide from predators.

Southern Calamari

Small bait fish that forms large schools. Great food for bigger fish.

Pilchard Anchovy

Small see-through animal that lives in weedbeds.

Yabby

Lives in burrows in the mud, in billabongs, lakes and rivers.

Has two black spots on its shell to try and fool its predators.

Sand Crab

Shrimp

Earthworm

Come in different types like scrubworms and night crawlers.

Polychaete Worm

Has lots of legs like a centipede.

What Lives Up The River?

Freshwater Reaches

Fish can migrate or swim up and down rivers but sometimes a man made barrier can stop them. Fish ladders help fish to move past weirs.

Native eels and galaxiids can climb up waterfalls!

Trout love to live in cool fast flowing water where they hide behind rocks out of the current to save energy

Golden Perch travel over floodplains to find new homes!

Native trees, shrubs and grasses help to filter the water before running into billabongs lakes and rivers.

Eels migrate to the sea to breed!

Lots of different creatures are found in billabongs like eels, yabbies, Murray Cod and Golden Perch.

The mighty Murray Cod likes to live in deep holes and slow moving water.

Removing trees from the edge of the river can cause erosion.



Downstream To Estuary

What Lives Down The River?

River blackfish lay their eggs in hollow logs like many other native fish species.

Yabbies help to break down debris that fall into the river.

Sometimes fish that live in the estuary can swim and play upstream.

'Snags' are trees that have fallen into the river and provide homes and shelter for fish.

Estuaries, bays and inlets are nursery areas for little fish.

Wrasse are born as girls and the dominant ones turn into boys and develop a blue colouration, like the blue throat wrasse.

Crayfish have sensitive feelers that they use to taste and smell their food.

Crayfish grow by moulting. In this process they climb out of their shell and grow a new one. They can live for 100 years.

What Lives



What Lives In The Sea?

Coasts And Bays

Starfish
are not actually
fish, they are
related to sea
urchins!

Eleven-armed
seastars are native to
our bays and inlets. If
they lose an arm they
can grow it back!

Scallops
are jet
propelled.
To move it
compresses the valves
of its shell and forces
water backwards.

Seals have
soft fur like a
dog and love to
sunbake on
rocks.

There are lots of Octopi
living in our bays. Watch
out for the blue ringed
octopus, it has a
poisonous bite!

The
stargazer
has been known to
bite scuba divers!

Seals
can get seasick
when they are
onboard a
ship!

Dispose
of plastic bags
thoughtfully as seals
can mistake them for
jellyfish when seen in
the water and can
eat them.

The blue
ringed octopus starts life
the size of a pea and is fully
grown at the size of a golf
ball, but carries enough
poison to kill 26
adult humans -
beware!

Sharks like the
Grey Nurse and the Great
White are threatened species, so
we need to protect them. They have
several rows of teeth.

Whales
are mammals not fish and
often visit our bays and inlets.
Whales can swim for 3 months
without eating.

Anglerfish
live in the deep
sea where there's no
daylight and use a
light to attract
little fish to
eat.





Galaxiid

Humpback

Garfish

Murray Cod

Lakes Mudeyes

Rainbow Trout

Carp

Ocean Perch

Whale

Stingray

Flat Ed

Kingfish

Prawn

Crayfish

Tuna

Shark

Flounder

Seaweed

Blackfish

Barracouta

Salmon

Snapper

Bream

Dolphin

Crabs

Remora

Leather Jacket

Yabbies

Abalone

Blue Ringed

Eels

Squid

River

Octopus

Mollusc

Fins

Redfin

Starfish

Word Search

B D I I X A L A G F L O U N D E R
 F L H S I F R A T S L A T I E R E
 D I U Q S E M O L L U S C H E S M
 T D P E N O L A B A N U T P W H O
 U K E R R S E Y E D U M P L A A R
 O C R D A I S E I B B A Y O E R A
 R A C O S W N A L Y N R S D S K B
 T B H C L O N G R S A E B O G Y A
 W P L Y F L A T E D E V R K A A R
 O M E A P R A C D D C I E S R R R
 B U L R C A F T F E O R A A F G A
 N H A R R K T S I H E C M L I N C
 I W H U A T F E N S S R T M S I O
 A S W M F O R I Y I E B O O H T U
 R U K I N G F I S H F K A N P S T
 A H S I F Y A R C H N D A R M U A
 L E A T H E R J A C K E T L C E S

What Is My Secret Message?





Flat Ed's Trivia

1.

What is the largest fish that lives in the Ocean?

- a) Whale shark
- b) Marlin
- c) Tuna

2.

Do fish sleep with their eyes closed?

- a) Only at night
- b) Only when they are really tired
- c) No, they have no eyelids

You have just caught a fish, it is undersize, and the hook is deep in the fish's stomach. What is the best thing to do?

- a) Try to remove the hook and throw it in the water
- b) Keep the fish
- c) Pick the fish up using a damp cloth, cut the fishing line outside the mouth and quickly release the fish

3.

4.

How old can sea turtles live for?

- a) Less than 50 years
- b) Over 100 years
- c) Nearly 500 years

What is a juvenile snapper called?

- a) Pinky
- b) Big Mouth
- c) Bluey

5.

Some types of fish are protected by:

- a) Size limits
- b) Bag limits
- c) Both

6.

Rubbish and Pollutants...

- a) Can damage a fish's scales, slime and gills
- b) Cannot do any damage to a fish
- c) Can provide a place for them to hide

7.

When checking to see if a fish is big enough to keep, how should it be measured?

- a) From tip of the nose to the end of the tail
- b) From the tip of the nose to the start of the tail
- c) From the gills to the end of the tail

8.

9.

When at the beach, what do you do with your rubbish?

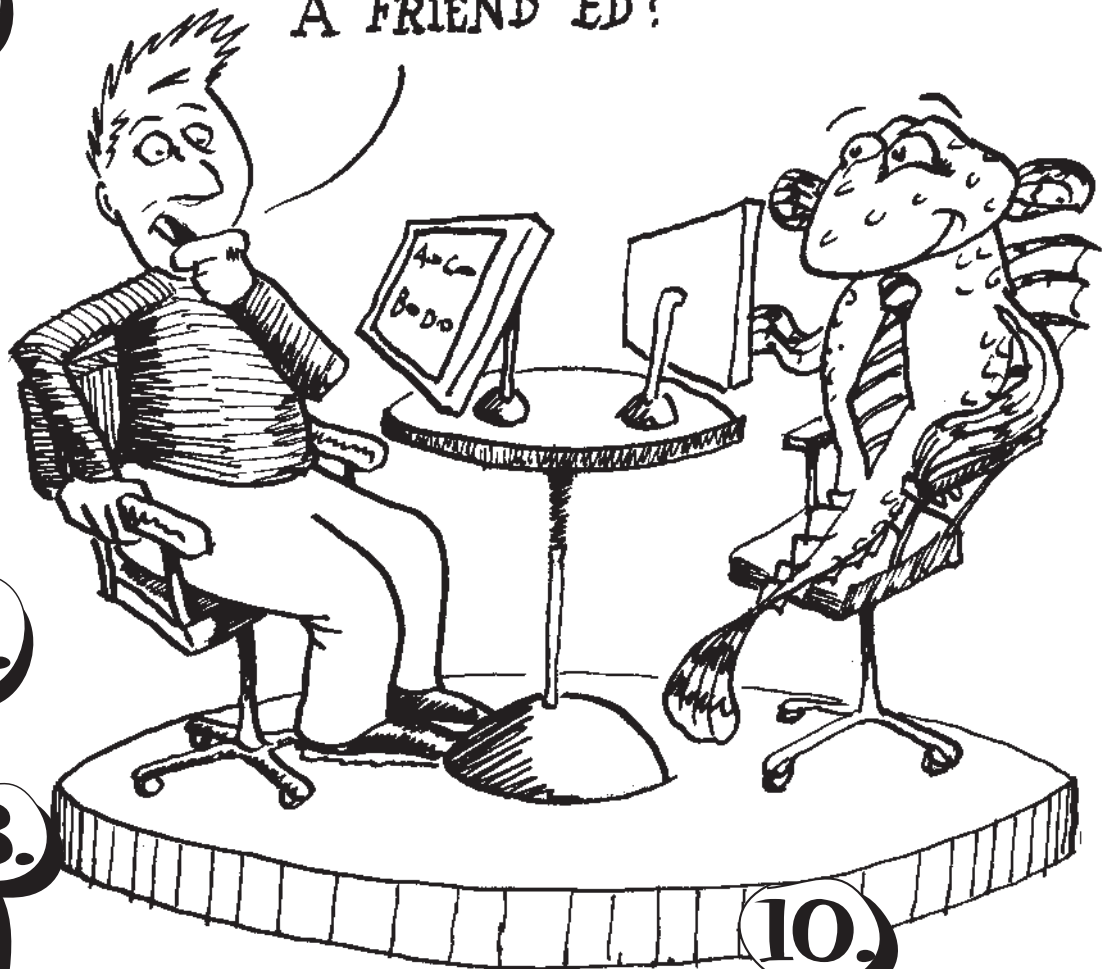
- a) Bury it in the sand so no one can see it
- b) Put it in the water so it will drift away
- c) Take it home with you

10.

You have caught four fish which is enough to feed your family for dinner, do you...

- a) Try to catch heaps more to feed the cat
- b) Stop fishing and go home for a nice dinner
- c) Keep fishing until your fish bin is full

CAN I PHONE
A FRIEND ED?



Flat Ed's Jokes

Tickle your fish bone!

Q. What's the coldest fish in the sea?

A.
A Blue Whale!

Q. What do you get from a bad tempered shark?

A. As far away as possible!

Q. Why are sardines the silliest fish in the sea?

A. Because they climb into tins, close the lid and leave the key on the outside!

Q. What happened to the cold jellyfish?

A. It set!

Q. What did the sardine call the submarine?

A.
A can of people!

Q. Why did the whale cross the road?

A. To get to the other Tide!

Q. What did the boy octopus sing to the girl octopus?

A.
I wanna' hold your hand!, hand!, hand!, hand!

Q. What is the difference between a fish and a piano?

A.
You can't tuna fish!

Q. Where do fish have a bath?

A.
In the river basin!

Q. What kind of fish will help you hear better?

A.
A herring aid!

Q. How could the dolphin afford to buy a house?

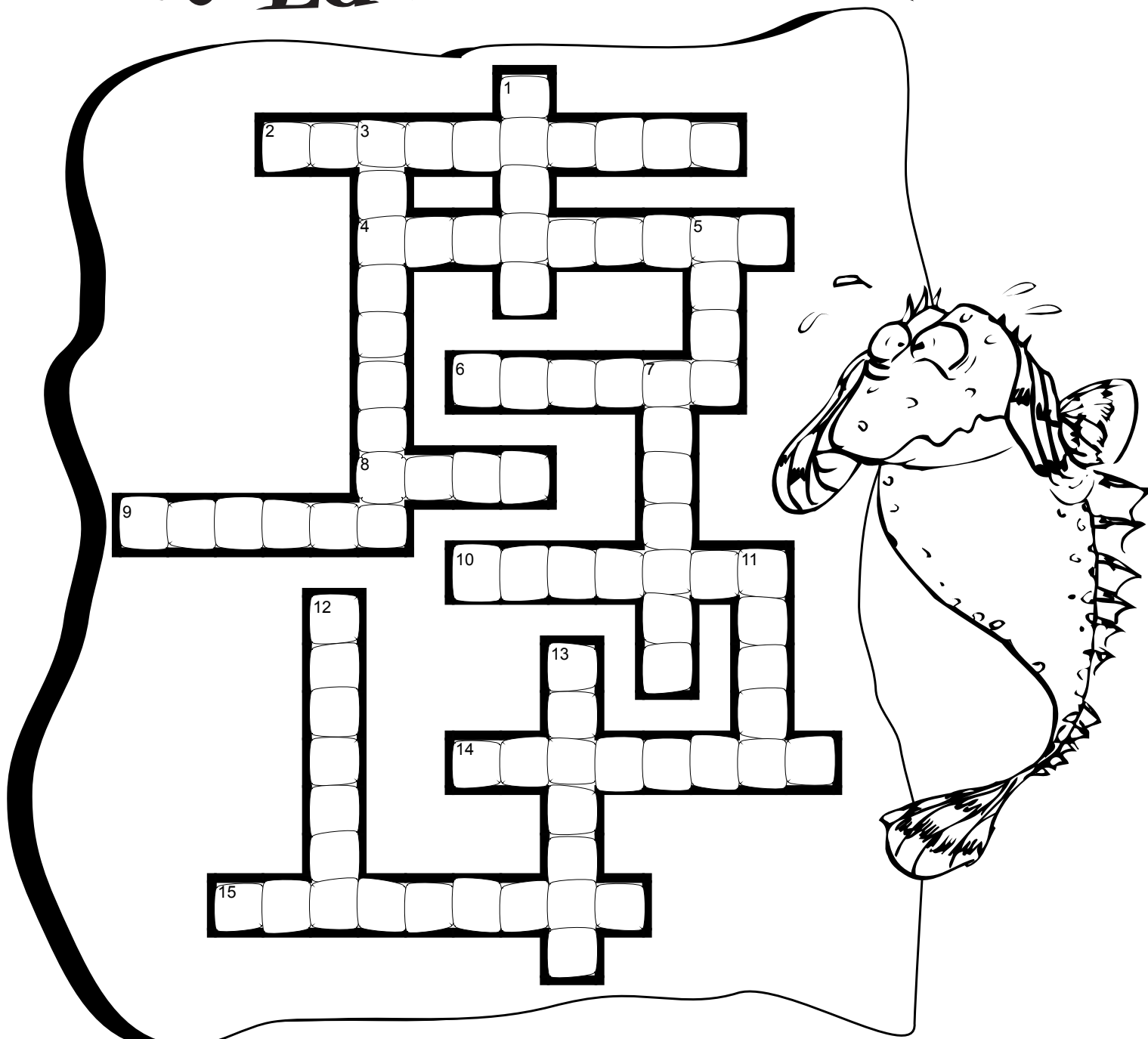
A. He prawned everything!

Flat Ed's Fishcare Tip No.2

Many types of fish are protected by regulations like minimum size limits (how big they must be to keep), bag limits (how many you can keep) and closed seasons (times of the year when you can't keep them). If you go fishing find out what the rules are.



Flat Ed's Crossword



Across

Down

- | | |
|--|---|
| <ul style="list-style-type: none"> 2. Lives in the deep sea 4. Nuseries for little fish 6. Can swim for three months without eating 8. A mammal with soft fur 9. Fish that can change from female to male 10. Found in billabongs 14. Can grow a new shell 15. Lives in deep holes | <ul style="list-style-type: none"> 1. Likes to live in cool fast flowing water 3. A threatened species of shark 5. Migrate out to the sea to breed 7. Can be caused by removing trees near the water 11. Provide homes and shelter for fish 12. Can grow an arm back if they lose it 13. Jet propelled shellfish |
|--|---|





Scrambled Fish

Don't panic Flat Ed.
It's not a recipe, it's another cool
puzzle with a secret message!

LEHWA



CERHP



NHIWGIT



LPCALOS



SPRHMI



URTOT



RLTEUT



NLOSMA



AREMB



FBAKHILCS



RHAFGIS



PASP NRE



RHAKS



GIFHIKSN



CUPOSTO



Flat Ed's Fishcare Tip No.3

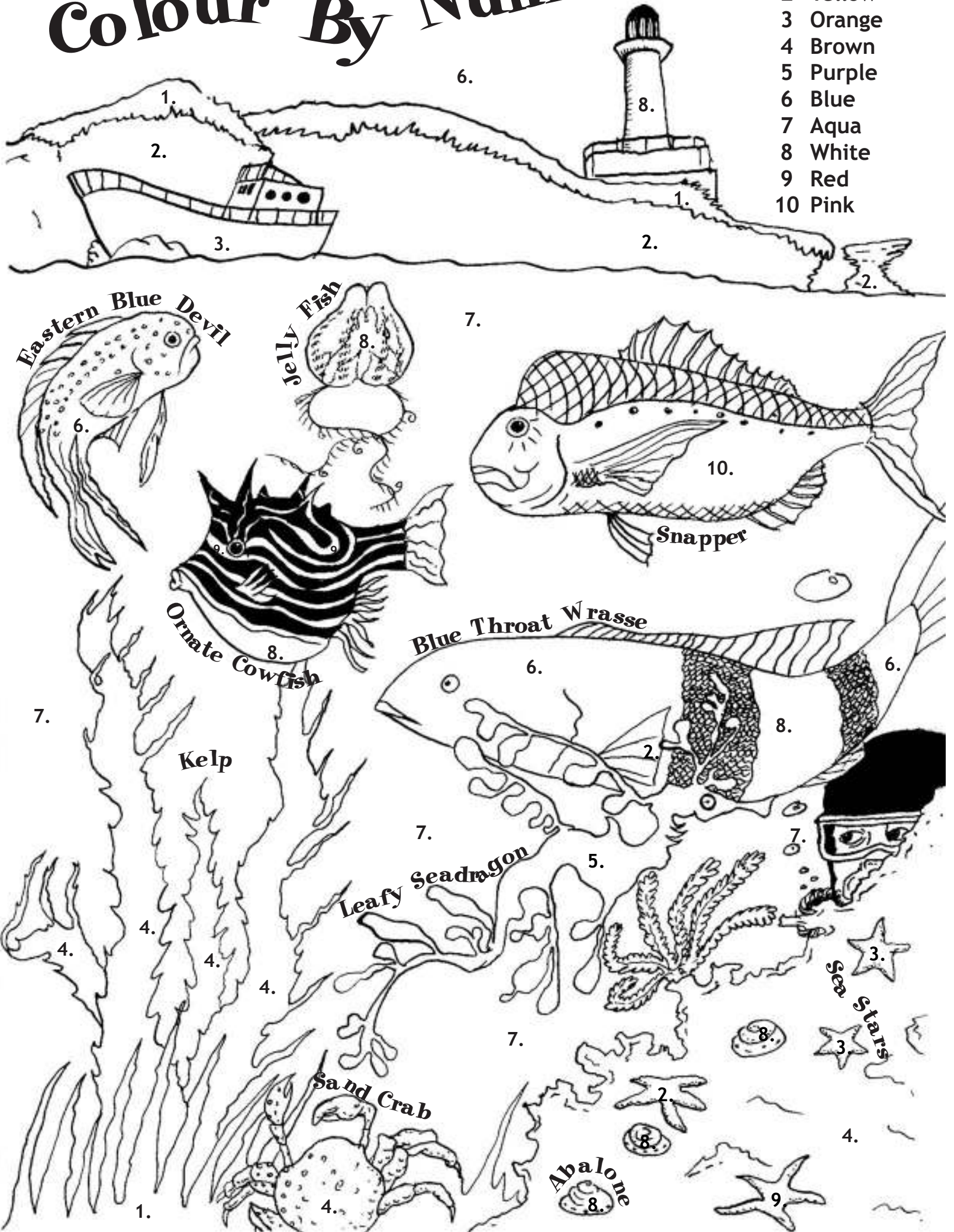
If you catch a fish that is too small to keep (or you do not want to keep) release it back into the water as quickly as you can. Handling the fish as little as possible and cutting the line rather than trying to get the hook out will improve its chances of survival.





Colour By Numbers

- 1 Green
- 2 Yellow
- 3 Orange
- 4 Brown
- 5 Purple
- 6 Blue
- 7 Aqua
- 8 White
- 9 Red
- 10 Pink



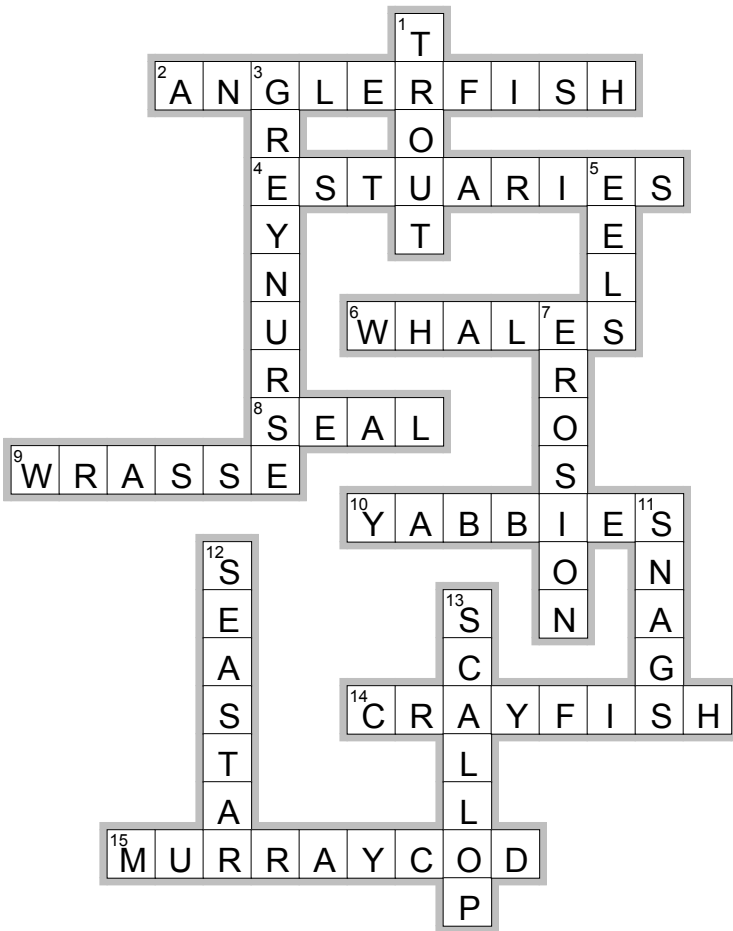
Answers

Page 3. Who Eats Who?

Yellowtail Kingfish eats the Southern Calamari.
 Bream eats the Polychaete Worm.
 Snapper eats the Pilchard/Anchovy.
 Murray Cod eats the Yabby.
 Rainbow Trout eats the Mudeye.
 Estuary Perch eats the Shrimp.
 Short Finned Eel eats the Earthworm.
 Gummy Shark eats the Sand Crab.

Page 7. Word Search

Flat Ed's Secret Message is....
 Flat Ed says look after the waters for you and me!



Page 8. Flat Ed's Trivia

- a - Whale shark - It's not a whale, it's a fish and grows to 30 metres.
- c - No, they have no eyelids.
- c - Pick the fish up using a damp cloth, cut the fishing line outside the mouth and release the fish.
- b - Over 100 years
- a - Pinky
- c - both
- a - Can damage a fish's scales, slime and gills.
- a - From the tip of the nose to the end of the tail.
- c - Take it home with you.
- b - Stop fishing and go home for a nice dinner.

Page 11. Scrambled Fish

- WHA L E
 P E RCH
 WHI T ING

 SCA L LOP
 SHR I MP
 T ROUNT
 TUR T LE
 SA L MON
 BR E AM

 BLACK F ISH
 GARF I SH
 S NAPPER
 S H ARK

 KIN G FISH
 OCT O PUS

Page 10. Flat Ed's Crossword



It's a delicate balance.. Be careful what you remove



Funded by the Victorian Government to improve recreational fishing in Victoria through revenue from Recreational Fishing Licences

