

# Wild Things

Number **116** November 2012



## Shore Birds

KCC IS JUNIOR FOREST & BIRD

**KCC**  
Kiwi Conservation Club

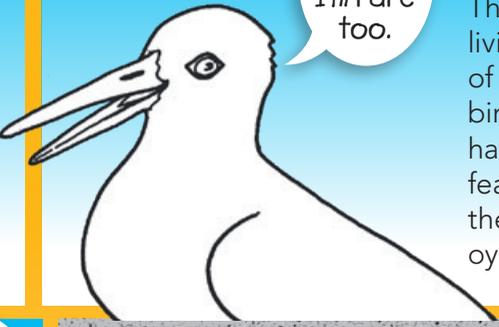
I'm Dottie. I'm a rare bird.

Dottie is a New Zealand dotterel or tuturiwhatu. There are only 1700 of them in the world. They live on beaches around the north of the North Island and on Stewart Island.



I'm Tama. I'm rare too.

Tama is a variable oystercatcher or torea. There are about 4000 living around the coast of New Zealand. Most birds are black but some have patches of white feathers, which is why they are called 'variable' oystercatchers.



I wish people would look out for us.

Me too. I've written them a message.



Is 'pollution' spelt right?

Um... I dunno.

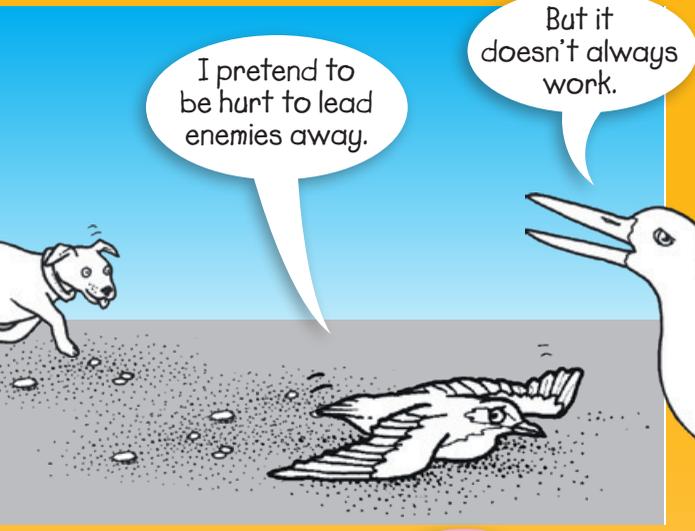


We try to defend our nests. I divebomb to try to scare people off.



I pretend to be hurt to lead enemies away.

But it doesn't always work.



Our chicks can run but they can't fly.

I'm a dotterel chick.



David Hallett

We show them things to eat, like crabs and shellfish.

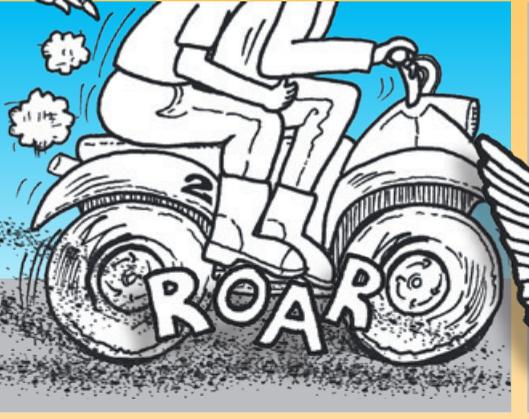
Look out! People coming.

Look kids - a baby pipi!



It's wrecked my message!

What's the matter? The bike won't hurt you. You can fly away.



red-billed gull

Sometimes people help us. They've built a fence around my nest!



But the bike will run over our nests, Rosie!

The nests of dotterels and oystercatchers are just scrapes in the sand. Their eggs and chicks are so well camouflaged you might tread on them or run them over. Dogs, cats, stoats and hedgehogs smell the eggs and chicks and will eat them.



Oh - I see.

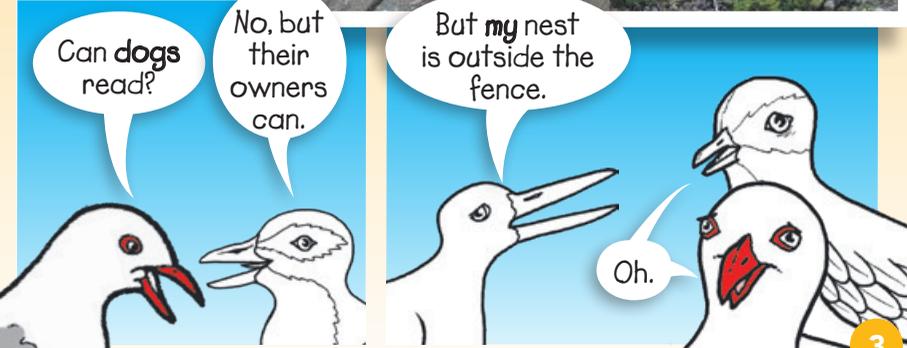
All around our coasts, people are helping shore birds. They set traps for stoats, cats and hedgehogs. They tell beach-goers about the birds and put rope fences and signs around their nests. If you see a fence like this, don't go inside it. Just look in. The nest will be very hard to see.

Can dogs read?

No, but their owners can.

But my nest is outside the fence.

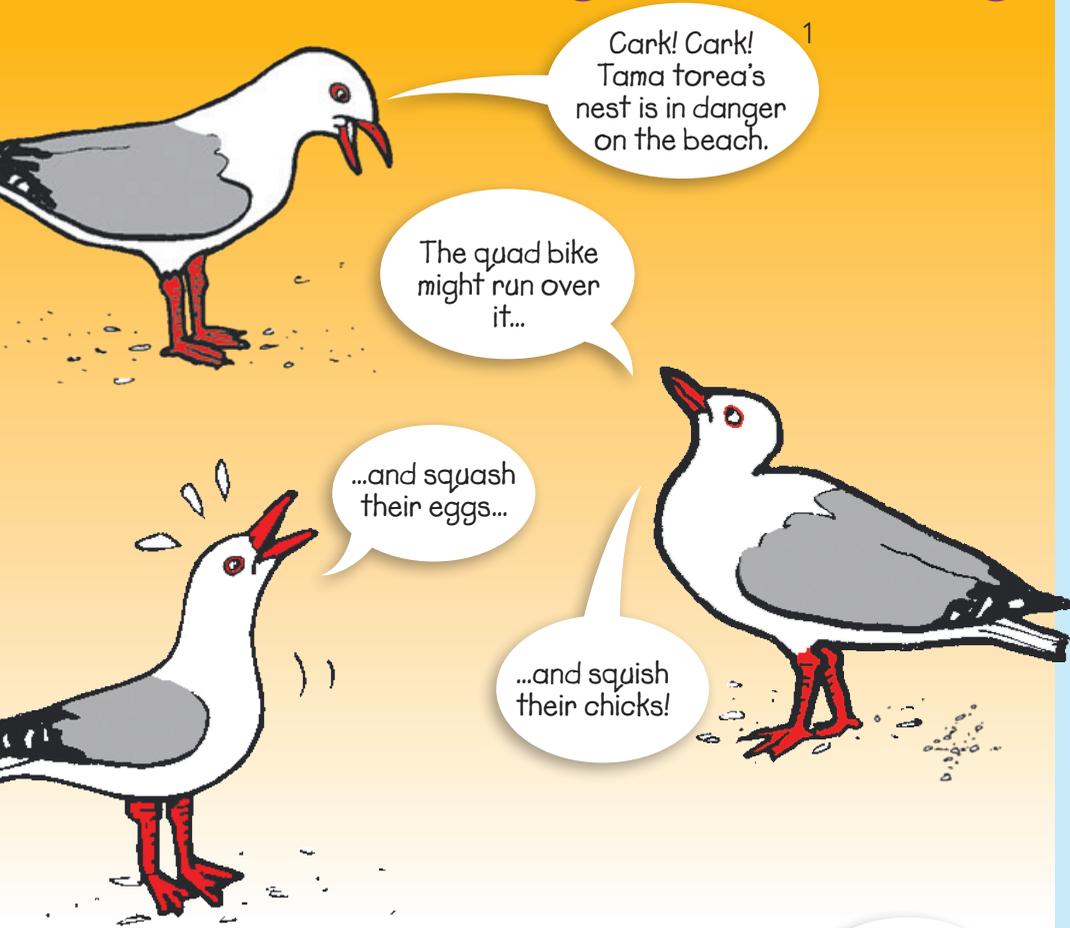
Oh.



Susan Bryant

Cover: NZ dotterel, Craig McKenzie

# The red-billed gulls' meeting

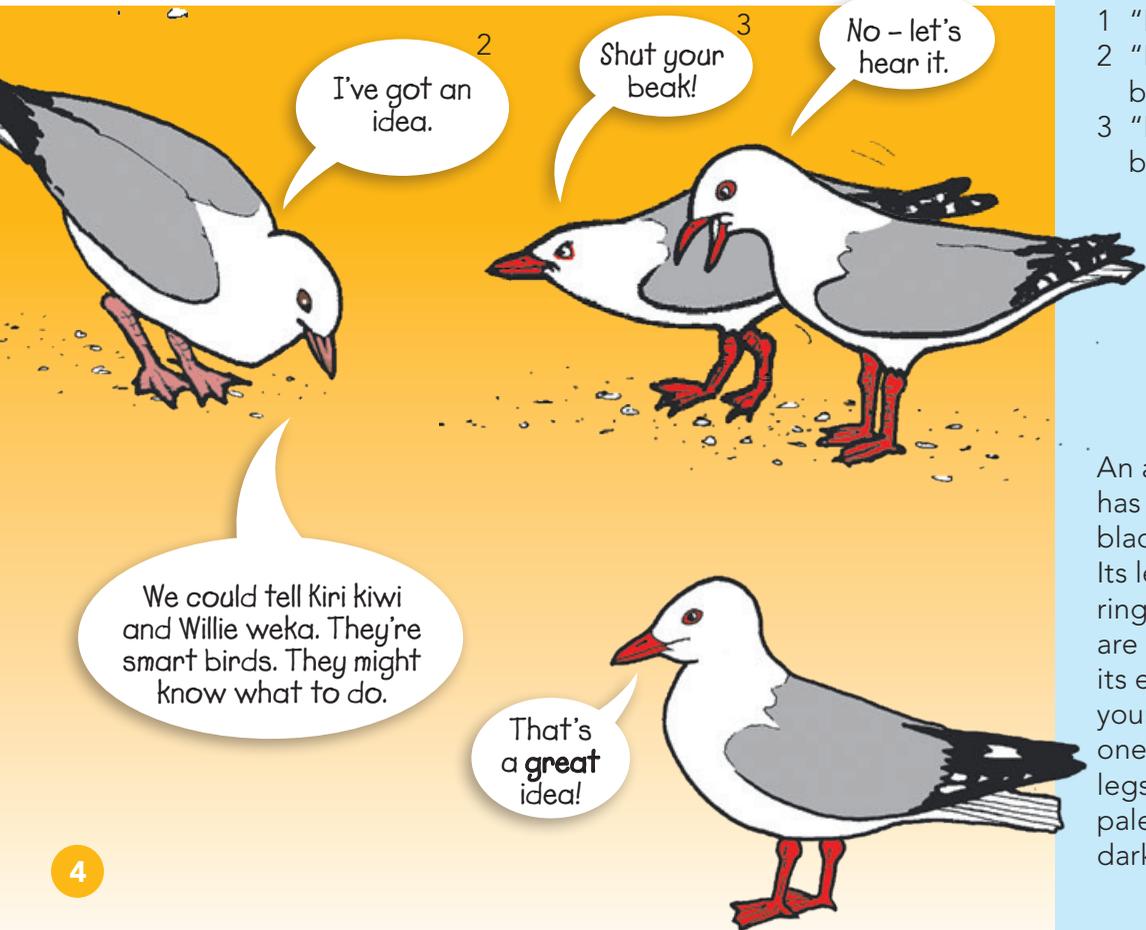


1  
Cark! Cark!  
Tama torea's  
nest is in danger  
on the beach.

The quad bike  
might run over  
it...

...and squash  
their eggs...

...and squish  
their chicks!



2  
I've got an  
idea.

3  
Shut your  
beak!

No - let's  
hear it.

We could tell Kiri kiwi  
and Willie weka. They're  
smart birds. They might  
know what to do.

That's  
a great  
idea!

Like dotterels and oystercatchers, red-billed gulls sometimes nest on the sand. But mostly they nest together on rocks where they are safer from people and pests. Maori call red-billed gulls tarapunga.

Red-billed gulls live in flocks. They squabble a lot but they all understand the body language of 'gull talk'. If you watch the gulls, you will be able to understand it too.

## Gull talk

- 1 "I'm the boss"
- 2 "Excuse me, I'm being polite."
- 3 "I'll peck you! I'm a bully."

An adult red-billed gull has grey wings with black and white tips. Its legs, beak and the rings around its eyes are bright red and its eyes are white. In young birds like the one being bullied, the legs aren't red, they are pale and the beak is darker. Its eye is brown.

# The adventures of Kiri Kiwi & Willie Weka Nest patrol

"What was all that about?" asked Willie weka, as the shrill cries of the red-billed gulls faded in the distance.

"They came to ask us something," said Kiri kiwi. "But they all talked at once! They're so loud they make my head ache."

"Get over it, Willie. You know what gulls are like. I think they were telling us about Tama and Toni torea and their nest and a quad bike."

"Huh. What's it got to do with us?"

"They wanted us to sort out their problems. They reckon we're awesome! Come on Willie, let's go and see what's bothering them."

"Whatever." Willie pretended not to care but he was flattered. "I s'pose we can look."

It was early morning. Kiri and Willie made their way to the edge of the forest and through the rushes and manuka to the foot of the sand dunes. The dunes were the barrier between land and sea and they were a barrier to Kiri and Willie too. Their claws couldn't grip the shifting sand and Kiri had to use her beak as an anchor as she struggled up.

She began to wish she had gone back to sleep in her burrow.

They reached the top of the seaward dune and peeped through the grassy pingao. Below them was the beach. The tide was out and the sea glittered far out over the sand.

They could see the line of fence stakes marking Dottie dotterel's nest. Just below them a quad bike was parked and beyond it two men with buckets were digging with their hands in the wet sand.

"They're getting shellfish," said Willie.

The sea was quiet. The waves were breaking in a lacy fringe on the sand. A big black torea was looking for food, poking and prodding with its long red beak. Then a big wave swept in and nearly overturned one of the buckets. The men looked up and called to each other. Then they picked up their buckets and walked back up the beach.

"The tide is coming in. The people will go now," said Kiri.



They watched as the buckets were stowed and the men climbed onto the bike. With a snort and a puff of stinky smoke, the driver revved the engine and sped off along the beach. A torea flew up from the sand in front of it and the bird that had been feeding swooped up and dived at the bike.

"That must be Tama. Oh dear, and that's Toni, his mate. She must have been sitting on her eggs. I hope the bike didn't run over them!"

Slipping and sliding, they ran down the dune. Toni was running to and fro, bobbing her head in distress.

Tama flew down. "I tried!" he cried. "I tried to chase them away."

Tama and Toni ran to their nest. There were the three speckled eggs, nestled amongst the shells and sand. The tyre marks were scarcely 20 centimetres away from them, but the eggs were untouched. The torea were overjoyed and Toni settled down on the nest before the eggs got cold. Kiri and Willie walked back to the forest, deep in thought.

"The eggs were OK," said Willie.

"Yes, but what about next time?"

They walked on.

"We can't stop a monster like that quad bike," said Kiri. "I think we should tell Henry. He might know what to do."

The next morning she set out early to catch Henry on his way to the school bus. Frowning, he listened to her story.

"I don't think people are supposed to drive along the beach," he said. "But it's hard to catch them, especially so early in the morning. I'll ask dad. But where's Willie?"

"Dunno. He must have slept in."

But Willie hadn't slept in. He'd got up really early and run all the way to the beach. He had a plan, and he wanted to do it all by himself so he could skite to Kiri afterwards. Last year he and Kiri had helped stop poachers stealing tuatara from the island by letting down a tyre on their truck. It was actually the wrong truck – it belonged to the police – but Willie still felt he had helped catch the thieves.

Now his plan was to let down the tyres of the quad bike. He hid on the dune, waiting for the sun to come up. It was cold and he was shivering by the time the bike arrived. Again, Tama tried to scare it off but it parked on the sand and the men set out with their buckets.

Willie raced down the dune. He ran up to the enormous tyres and looked at the valves. He

he could poke his strong beak inside to release the air. But the valve caps were all screwed on tightly and Willie couldn't turn them.

His plan didn't work. He stabbed angrily at a tyre but he only hurt his beak. He started back up the beach.

Then he stopped. He might as well have a look at the bike. Willie is a weka, and weka are very inquisitive birds. He hopped up the step and climbed onto the driver's seat. The dashboard had lots of shiny knobs.

He poked one.

Nothing happened.

He poked another.

A light started to flash.

That gave Willie a fright. He stabbed the button again, and the light went out. Willie peered over the handlebars at the people down on the sand, but they hadn't noticed.

He poked and pulled some more buttons and levers. Nothing happened. There was a big button in the middle of the handle bars. He poked it. It moved a bit but nothing happened, so he poked it again, really hard.

TOOOOT!

Willie fell back on the seat. The men gathering tuatua looked up in surprise. They started walking back, carrying their buckets.

It was time to go. Willie took a last look around and spotted a silver chain dangling below the handle bars. "Ooh, cool!" He yanked it out with his beak, jumped off the seat and sprinted up the beach into the dunes.

The voices came closer.

"There's no one here. The horn must have shorted."

"Ewwww, gross! A bird's pooped on my seat!"

Willie met Kiri in the forest late in the afternoon. He didn't tell her where he'd been.

He just shrugged when she called him lazy-bones for sleeping in that morning. Then Henry came running along the track looking for them. He was very excited.

"You know how worried you were about that quad bike and the oystercatchers' nest? Well, I've got news!"

"Those men were down on the beach again this morning but their bike broke down. The tide came in and swamped it and they had to go for help! They got a tractor to tow the bike and the council staff heard about it and went along too."

"The staff were pretty angry that the bike had been driven on the dunes and they found far too many tuatua in the buckets\*. The shellfish gatherers are in big trouble. They won't be back."

"I hope the tractor didn't drive over Tama's nest," said Kiri.

"The council staff noticed the oystercatchers flying around," replied Henry. "They didn't see the nest but they guessed it was somewhere above the high tide mark. So they asked the tractor driver to stay well down on the beach. I think the nest was safe."

"That's awesome!" said Kiri. "Lucky the bike got stuck. I wonder why it wouldn't go."

Willie went to his sleeping nest and came back with the shiny thing

dangling from his beak. Henry took it from him.

"It's a key!"

"Oh – that's what it is," said Willie.

"Willie, is this from the quad bike?"

"Er... Maybe."

"Did you steal it?"

"No, I just – er – borrowed it!"

"So that's why the bike wouldn't go! That's brilliant! You clever bird!"

"It was just a plan I made up," said Willie modestly.

Kiri looked at him thoughtfully. "Really?" she said.

\* There are limits on the number of tuatua each person can gather. This is to make sure that there are enough shellfish for everyone and to leave plenty to grow and breed. Visit [www.fish.govt.nz](http://www.fish.govt.nz) and click the RECREATIONAL tab for more info.



# DEFENDERS of the DUNES

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I'm spinifex. I hold the dune with my roots and runners.

Pingao helps too. It's tough work. Often we're hot and dry and thirsty.

Storms and high tides batter us. Sometimes we're buried in sand.

Oops! Sometimes our roots are left dangling.

But we keep on growing...

...and holding...

...and growing...

...and holding...



Craig McKenzie

**Pingao – the eyebrows of Tane Mahuta**  
Tane Mahuta, God of the Forest, and his brother Takaroa, God of the Sea, had quarrelled. To make up, Tane Mahuta plucked out his eyebrows and gave them to Takaroa. But Takaroa wouldn't forgive Tane. He threw the eyebrows back onto the shore and they became the pingao, growing on the dunes between the land and the sea. As the sea crashes on the shore, it is Takaroa still fighting against Tane Mahuta.



Willemijn Vermaat

Spinifex and pingao are native plants. They are the best at holding the dunes, better than the non-native marram grass. Maori use the golden leaves of pingao to weave tukutuku panels.

Susan Bryant

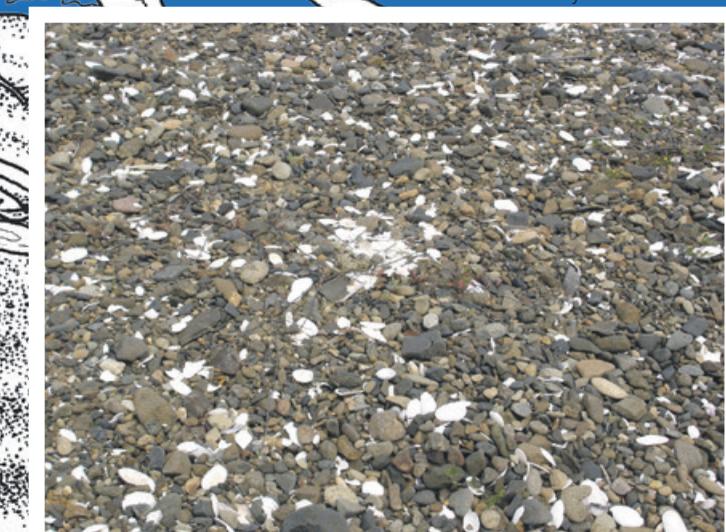
The **katipo spider** makes its web amongst the spinifex. Its bite is poisonous but katipo spiders are so shy that few people get bitten.

I'm pingao.

The **shore skink** lives amongst the dune plants and driftwood. It eats insects, and sunbathes on warm stones.

By day the **sand scarab beetle** burrows deep into the dunes. At night it wanders across the sand, making tell-tale tracks. (see p 10)

**Sandhoppers** eat rotting fish and seaweed. They keep the beach clean. Dotterels love to eat sandhoppers.

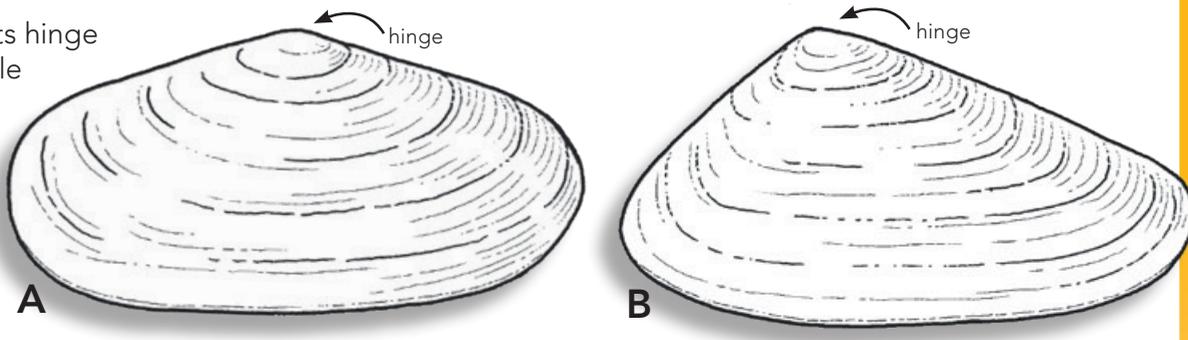


Can you see the NZ dotterel nest? See page 11

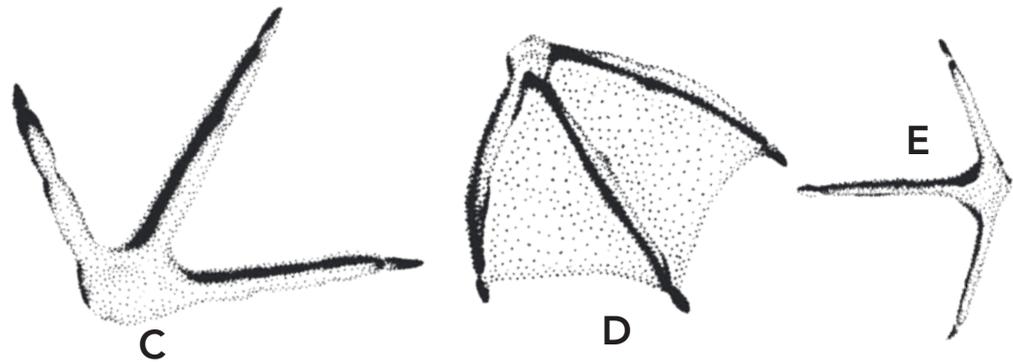
# Beach Detectives

ANSWERS  
SEE PAGE 21

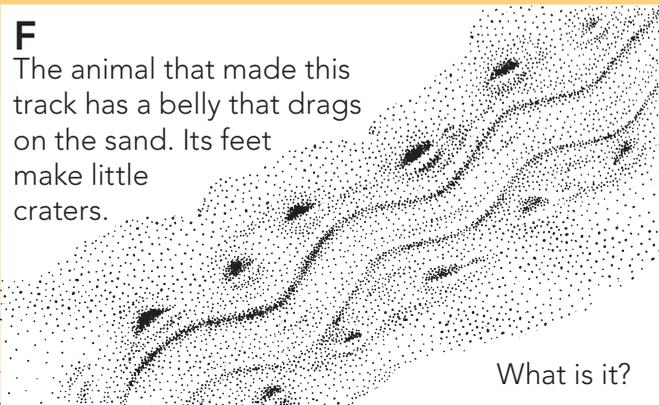
A pipi has its hinge in the middle of its shell. Which of these two shells is a pipi, and which is a tuatua?



Whose footprint is whose? Clue: Red-billed gulls have webbed feet. Variable oystercatchers are bigger than NZ dotterels

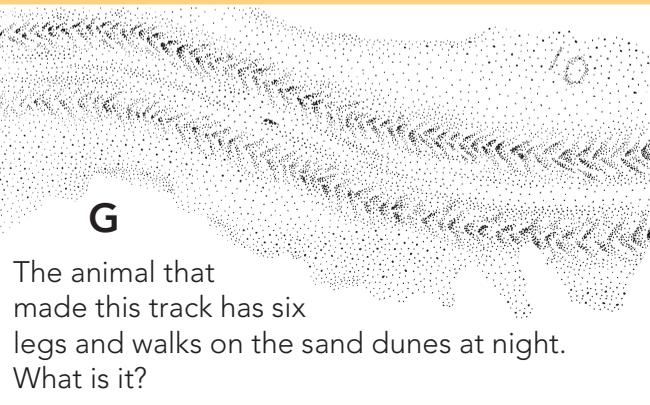


F The animal that made this track has a belly that drags on the sand. Its feet make little craters.



What is it?

G The animal that made this track has six legs and walks on the sand dunes at night. What is it?



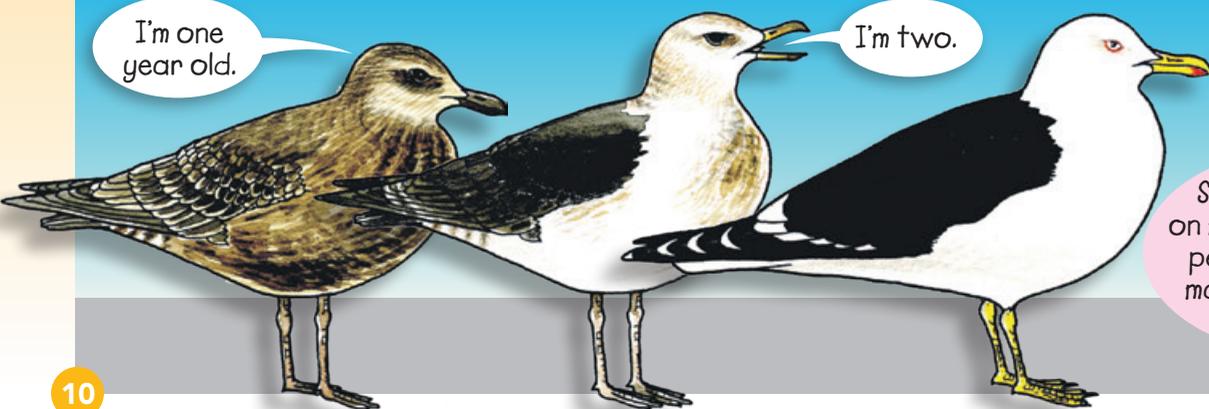
We're all blackbacked gulls or karoro!

I'm one year old.

I'm two.

I'm four. I'm grown up.

See the red spot on my beak? My chick pecks the spot to make me sick up its food.



# Care for our Beaches

Add your own colours



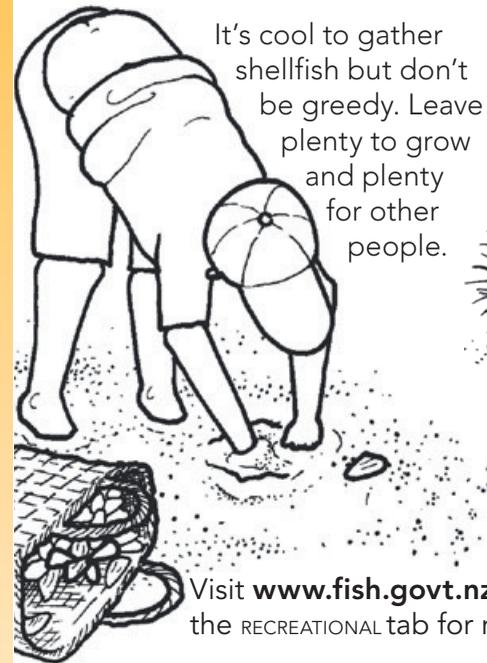
Boogie board the surf – not the dunes! Sand boarding kills plants.



Walk on the paths not on the plants.



It's cool to gather shellfish but don't be greedy. Leave plenty to grow and plenty for other people.

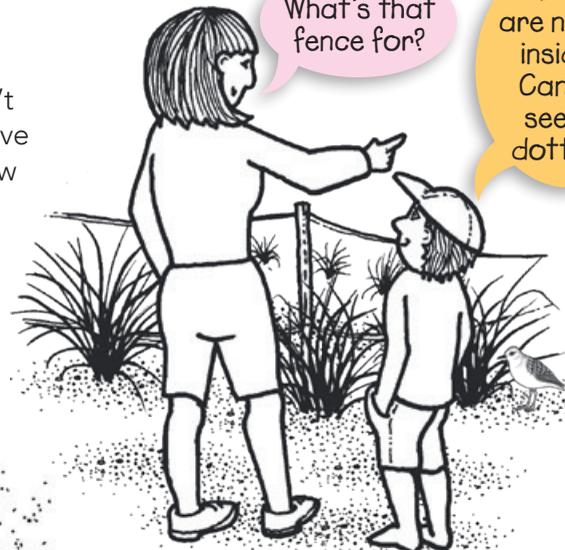


What's that fence for?

Birds are nesting inside it. Can you see the dotterel?

Control your dog.

Or leave me at home. Sigh.



Teach other people.

Visit [www.fish.govt.nz](http://www.fish.govt.nz) and click the RECREATIONAL tab for more info.

Join a Beach Care group.



Can you see the nest now? It's on page 13

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# Shore Birds Quiz

ANSWERS  
SEE PAGE 21

A

Luc Hoogenstein



Who am I?

B



What's this red-billed gull saying?  
1. Hello!  
2. This is **my** place!  
3. Where's the chips?

Luc Hoogenstein

C

Luc Hoogenstein



Why has this NZ dotterel got orange breast feathers?  
1. It's spilt food down its front  
2. It's ready to breed  
3. It's sunburnt

D



I'm carrying a fish for my chick. What bird am I?

Craig McKenzie

E



I've got some white feathers on my tummy. My mate there is all black. That's why we are called **variable**

**G**  
How can you tell a South Island Pied Oystercatcher from a black-and-white Variable Oystercatcher?

F

This is a South Island pied oystercatcher. Where does it nest?  
1. Sandy beaches  
2. Up trees  
3. Stony South Island riverbeds



Luc Hoogenstein

## Kiri & Willie Wordfinder

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

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Words can be found written across, down, backwards and diagonally. Put a line through each word as you find it. The left-over letters, in order, spell the name of a native sand dune plant.

### WORDS TO FIND:

AWESOME	POOPED
BEAK	PROBLEM
BUCKET	QUAD BIKE
DUNES	RED BILLED
FEEDING	SHELLFISH
FENCE	SPRINTED
GROSS	SWAMPED
GULL	SWOOPED
HENRY	TAMA
INQUISITIVE	TONI
KIRI	TOREA
KIWI	WEKA
NEST	WILLIE
PINGAO	WITH



ANSWERS  
SEE PAGE 21



There it is!

## Jokes!

What do you get if you cross a parrot with a centipede?

**A great walkie-talkie!** Phil Bilbrough

Where does seaweed look for a job?

**In the 'Kelp-wanted' ads!**

What happens when you throw a green rock into the Red Sea?

**It gets wet!**

What happens when you throw a red rock in the Black Sea?

**It sinks to the bottom!**

What did Cinderella wear when she went swimming in the ocean?

**Glass flippers!**

Which bus crossed the Atlantic Ocean?

**Christopher ColumBUS!**

What did one wave say to the other wave?

**Nothing. It just waved!**

What did one tidepool say to the other tidepool?

**Show me your mussels!**

What puts the white lines on the ocean?

**An ocean liner.**

What do you call a witch at the seaside?

**A sandwich!**

What witch is good when it's dark?

**A lights witch!**

# Sand, Surf and Sea



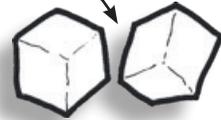
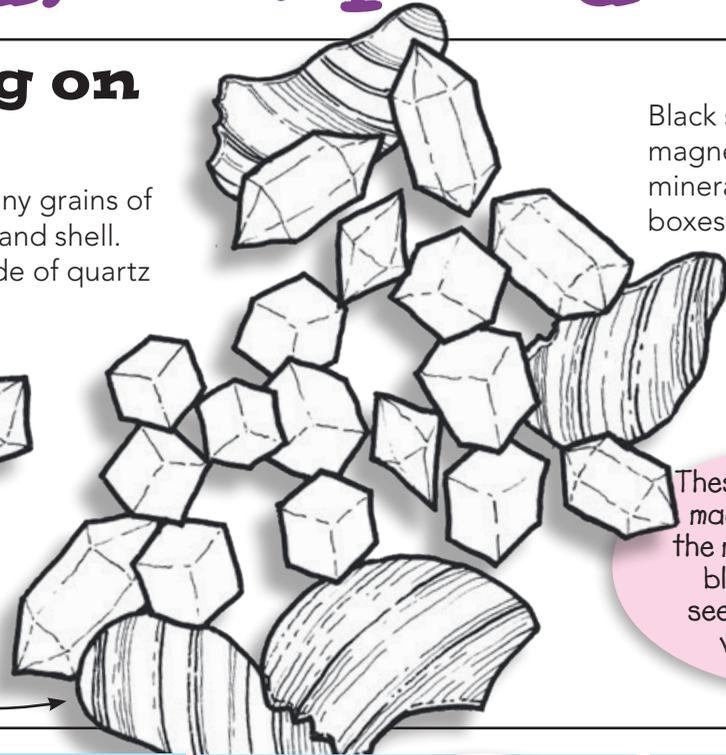
## Spying on Sand!

Sand is made of tiny grains of smashed up rock and shell. White sand is made of quartz crystals.

Black sand grains are magnetite, a heavy, iron-based mineral. Its crystals are square boxes (cubes).



Broken shell makes odd-shaped pieces of different colours.



These are sand grains made bigger. Colour the magnetite crystals black. Can you see the hidden word?



## The Salty Sea

Has the sea always been salty?

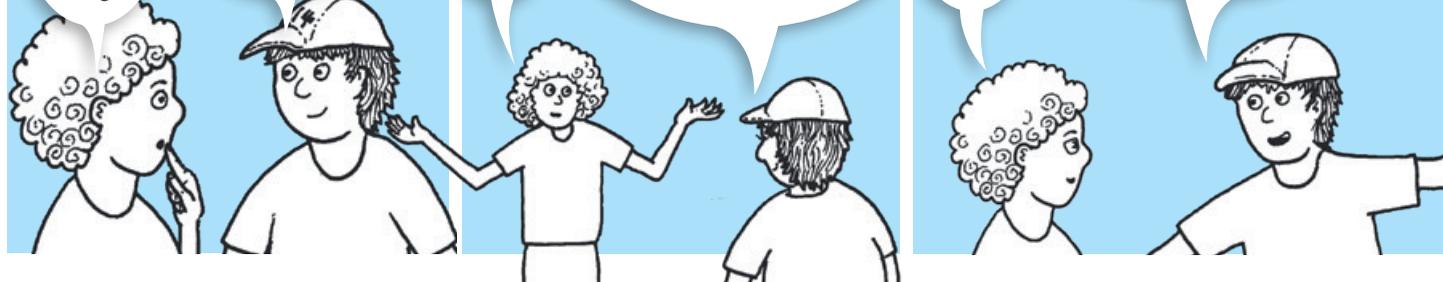
No. The earliest seas were fresh water.

So where did the salt come from?

For millions of years, rain has been dissolving salt out of rocks. The salt washes down streams into the sea, making the sea about 3.5% salt.

Does that mean the sea is getting saltier?

Yes, but only very, very slowly. If you took all the salt out of the sea, you could build a salt wall 300km tall, 1.6km thick right round the equator!



## What makes the Tides? Ruru explains:

If I drop off my perch...

...I'll fall to the ground.

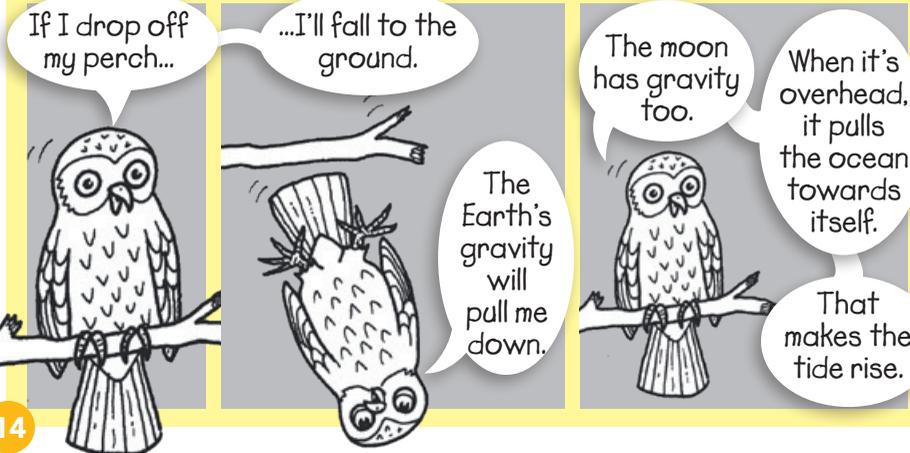
The moon has gravity too.

When it's overhead, it pulls the ocean towards itself.

The Earth's gravity will pull me down.

That makes the tide rise.

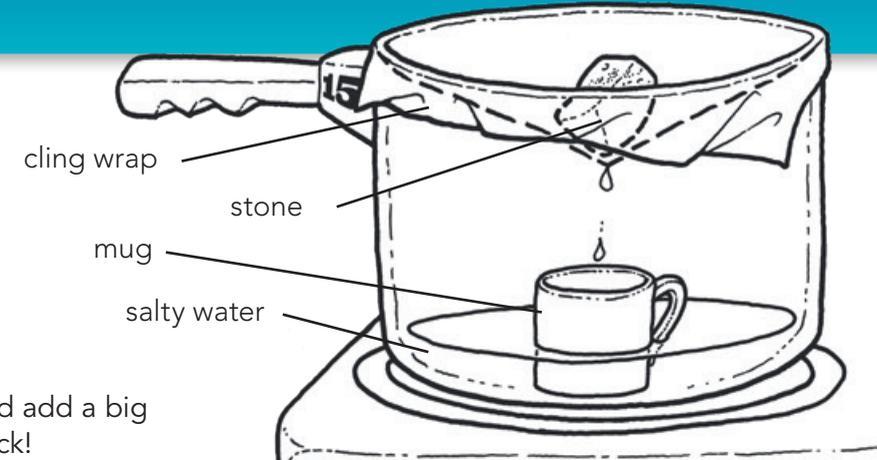
As the moon moves away across the sky its pull gets weaker, so the tide goes down in the place where you are. The moon travels around the Earth every day. It makes two low tides and two high tides, one when the moon is directly overhead and another when the moon is on the other side of the Earth.



# Turn salt water into fresh

## You will need:

- A large pot
- A heavy mug
- Salt
- Cling wrap
- A grown up to help (this could be dangerous!)



## What to do:

- Put a cup of water in the pot and add a big teaspoonful of salt. Taste it – yuck!
- Stand the empty mug in the middle of the pot.
- Stretch cling wrap tightly across the pot and put a stone in the centre, making the cling wrap sag.
- Put the big pot on a small element on the stove and heat it. Let it boil for 5 minutes.

## What's happened?

When the salty water was heated, some water turned into steam. The steam rose up under the cling wrap, cooled and turned back into water. Then it ran down the cling wrap towards the stone and dripped into the mug. The salt was left behind in the pot.

Can you see the steam running down the cling wrap?

## Be careful! Steam burns.

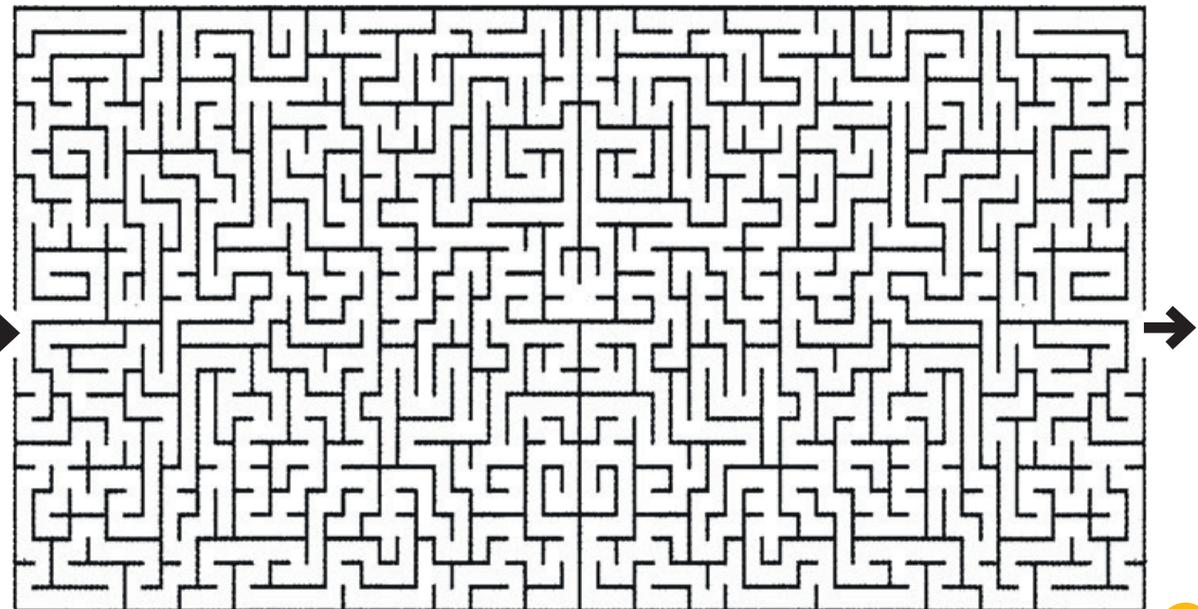
Let the pot cool. Carefully lift off the cling wrap. Is there water in the cup? Taste it. It is clean and fresh.

## This could help you survive!

Imagine you're adrift on the ocean. You've drunk all your water and you could die of thirst. Drinking too much seawater will kill you. But you can turn it into fresh water!

You'd need a container of sea water, a mug or cup, cling wrap or a plastic bag and the hot sun to act like the stove. It might be slow but the drops of fresh water could save your life!

# MAZE



# Ask an expert



## What's the biggest NZ native spider?

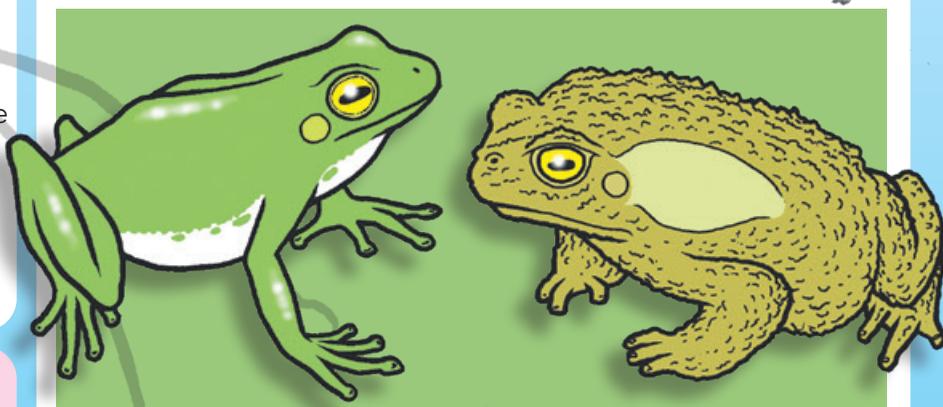
Asks Erina Brown

It is *Spelungula cavernicola* and it lives in caves in the Nelson and Buller regions. It spins a silk thread which it uses like a bungee cord, dropping down on a cave weta then bouncing back up, carrying the weta away to eat.

life-sized silhouette

## What is the difference between frogs and toads? Does NZ have any native toads?

Asks Sally



### Frogs

- need to live near water
- smooth, moist skin
- slender body
- long back legs for jumping
- no poison glands

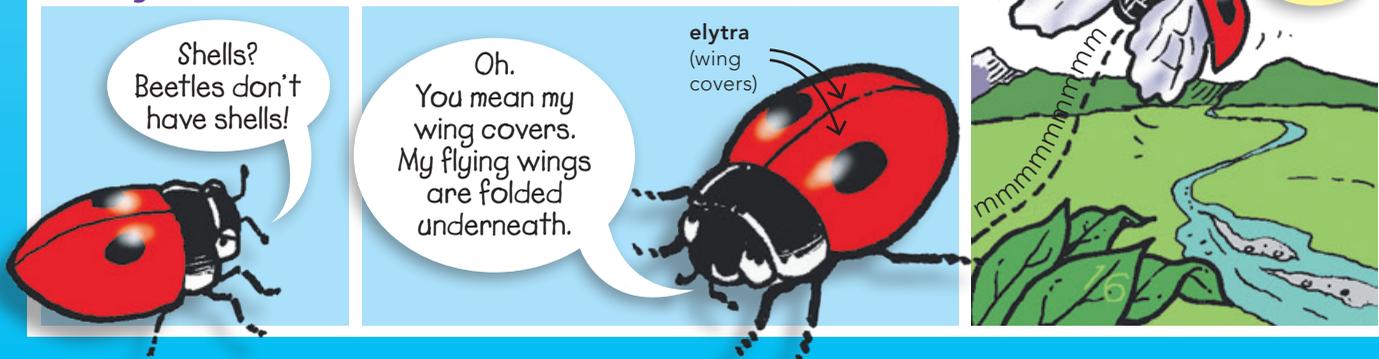
### Toads

- can live in dry places
- dry, warty skin
- short and fat
- smaller back legs
- poison glands behind eyes

Frogs and toads are amphibians. They must find water or damp places to lay their eggs and for their tadpoles to swim in. We don't have any toads in New Zealand. We have four native frog species and three Australian frogs.

Frogs everywhere are in trouble. A fungus is attacking them and some species have become extinct.

## Why do beetles have shells? Asks Ilya Mowl



Have you got a question? Send it to [kcc@forestandbird.org.nz](mailto:kcc@forestandbird.org.nz) and we'll answer it.

# Shore Birds Wordfinder

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

Words can be found written across, down, backwards and diagonally. Put a line through each word as you find it. The left-over letters, in order, spell the name of a native sand dune plant.

### WORDS TO FIND:

- |              |               |
|--------------|---------------|
| BEACHES      | QUAD BIKES    |
| BLACKBACKED  | RED BILL      |
| CAT          | SANDHOPPERS   |
| CHICK        | SCARAB        |
| COAST        | SHELL         |
| DIVEBOMB     | SKINK         |
| DOGS         | SPINIFEX      |
| EGG          | STOAT         |
| FENCE        | TERN          |
| FLY          | TIDE          |
| GULL         | TOREA         |
| KATIPO       | WHITE FRONTED |
| NEST         | WORM          |
| NZ DOTTERELS |               |

ANSWERS SEE PAGE 21

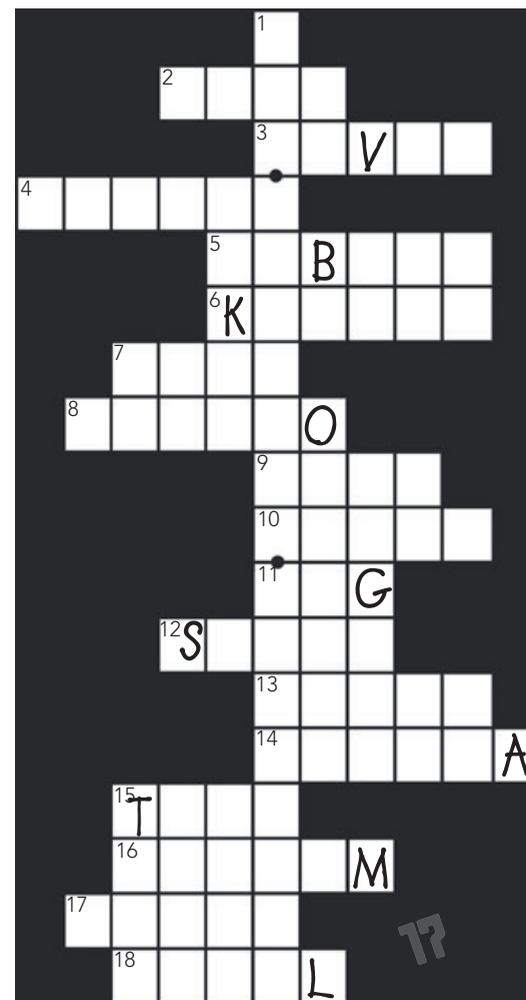
## CLUEWORDS:

ANSWERS SEE PAGE 21

Use the clues to fill in the empty squares. If you get stuck, look on the pages shown in the clues.

### CLUES:

1. Dottie is a \_\_\_ / \_\_\_ / \_\_\_ (p2)
2. What colour is a red-billed gull's back? (p4)
3. Wind blowing across the sea makes \_\_\_
4. White sand is made of \_\_\_ crystals (p14)
5. Red-billed gulls have \_\_\_ feet (p10)
6. A native spider that lives at the beach (p8)
7. Rosie is a red-billed \_\_\_ (p2)
8. Tane Mahuta's eyebrows – a native dune plant (pp8-9)
9. Where does a bird lay its eggs?
10. Big piles of sand at the beach, where spinifex and pingao grow (pp8-9)
11. Always keep this pet under control if you take it to the beach (p11)
12. An enemy of shore birds (pp2-3)
13. Maori name for oystercatcher (p2)
14. A native shellfish (p10)
15. The twice-daily rise and fall of the sea is the \_\_\_ (p14)
16. A non-native dune plant (p9)
17. The name of the red-billed gull on pages 2 and 3
18. Sand is made of tiny grains of rock and \_\_\_ (p14)



# Contributors' Corner



Brian Cox, 7

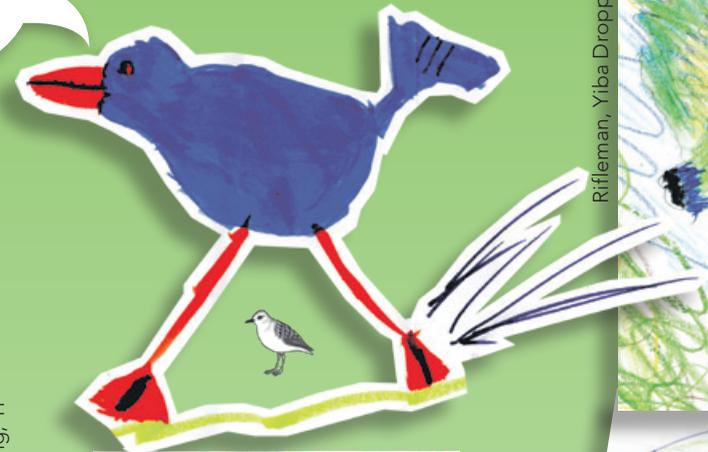


Gecko, Isabella Adamson, 9

Send all contributions to:  
**KCC, PO Box 631, Wellington**  
 or  
**kcc@forestandbird.org.nz**



Kereru, Caleb Heersping, 11



Pukeko running, Sylvie Adamson, 7



Rifleman, Yiba Droppers, 9



Thresher shark, Boaz Heersping, 7

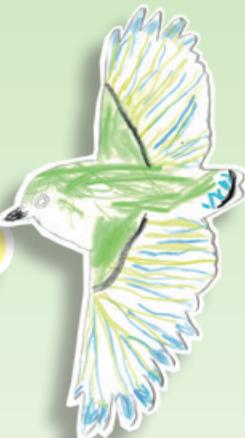


Great white shark, Sam Martin

Tui and kowhai flowers, Tyla Price



18



Rifleman, Lewis Coleman-Mason, 6



kakariki

kea

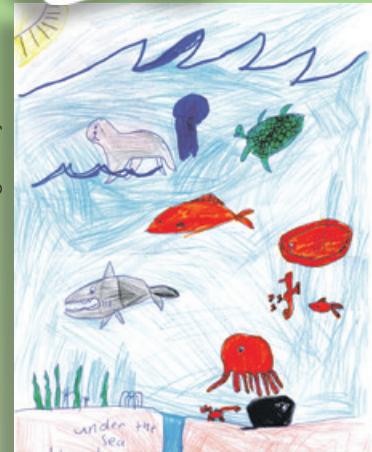
kaka

Ben Volpicelli drew all these parrots, and included interesting biological facts about each bird.



Gecko, Noah Cook, 8

19



Under the sea, Hazel Montgomery, 6



Karearea, Reuben Fellows, 9

## Spot the difference

Find ten differences between the two pictures.

ANSWERS  
SEE PAGE 21



## Win a cool book!

Craig Potton Publishing has given us some cool books as prizes for our competition. For younger members there are copies of their new book **at the beach** and for older members, copies of **Not for parents: How to be a World Explorer** from Lonely Planet.

Hiding amongst the pages of this magazine are little NZ dotterel pictures like this:



To enter the competition, count them all (including this one!), write down the number you have counted and send it to the address below:

Email your entry by December 10 to [kcc.competition@forestandbird.org.nz](mailto:kcc.competition@forestandbird.org.nz)

or post to:  
**KCC Competition,**  
**PO Box 631,**  
**Wellington 6140.**

Remember to include your name, address and age.



## at the beach

explore & discover the New Zealand seashore

By Ned Barraud & Gillian Candler

Craig Potton Publishing  
 \$19.99

The stage is set with beautiful and accurate illustrations of the sandy beach, rock pools and mudflats, which lead readers to detailed coverage of:

- crabs, sea stars, kina and sea anemones
- shellfish
- seaweeds, sponges and sandhoppers
- fish, jellyfish and shrimps
- birds

Aimed at children 5–8 years old, but with appeal for anyone curious about New Zealand's natural environment, **at the beach** is a must for the home, bach, classroom and library. It comes with a removable, waterproof quick-reference guide to common seashore animals.

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Imogen Bunting, Don Fraser and Wil Gould were the lucky winners of the native parrot competition. They received copies of *Sirocco: The Rock Star Kakapo*.

And who are our native parrots? They are **kaka, kea, kakapo** and **kakariki**.



Liam Gilroy

# Nature Nut

Liam is a KCC member, the Junior Editor of *Wild Things* and a self-confessed Nature Nut.

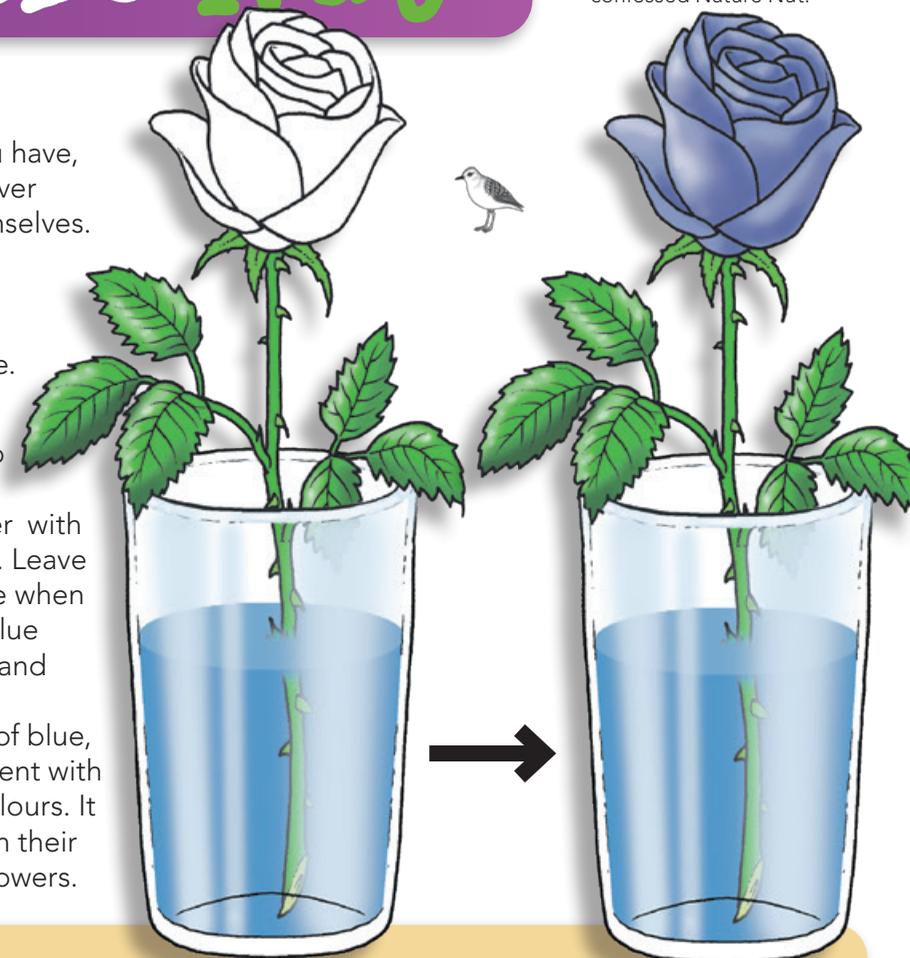
## Blue Roses

Have you ever seen a blue rose? If you have, it wasn't naturally blue. Roses have never been able to become blue all by themselves. Gardeners and scientists keep trying to breed a blue rose but they haven't managed yet. But there is one way to get a blue rose.

### You do it like this:

Find a white rose to pick. With a sharp pair of scissors cut the stem with a diagonal slant. Put it in a glass of water with 10 to 20 drops of blue food-colouring. Leave it overnight. The rose will be light blue when you wake up. Leave it in the glass of blue water all day. The rose will get darker and darker blue.

If you use red food colouring instead of blue, the rose will turn red. Try this experiment with other white flowers and other food colours. It shows how plants can draw water from their roots, up their stems right into their flowers.



## ANSWERS

### P10: Beach Detectives

- A = pipi
- B = tuatua
- C = variable oystercatcher
- D = red-billed gull
- E = NZ dotterel
- F = skink
- G = sand scarab beetle

### P13 Wordfinder: SPINIFEX

### P17 Wordfinder: PINGAO

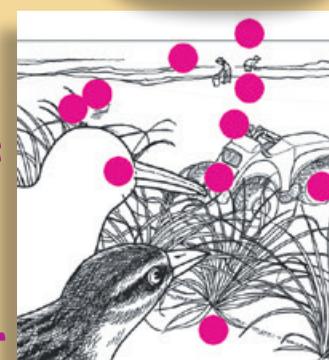
### P12 Shore Birds Quiz:

- A. Young black-backed gull
- B. 2: This is my place!
- C. 2: I'm ready to breed
- D. White-fronted tern
- E. Variable **oystercatchers**
- F. On stony riverbeds in the South Island. South Island pied oystercatchers fly north in summer to feed in harbours.
- G. A black and white Variable Oystercatcher has a smudgy line between the black and white on its chest, and no white in front of its wings.

### CLUEWORDS:

- |                |           |            |
|----------------|-----------|------------|
| 1. NEW ZEALAND | 6. KATIPO | 13. TOREA  |
| 2. GREY        | 7. GULL   | 14. TUATUA |
| 3. WAVES       | 8. PINGAO | 15. TIDE   |
| 4. QUARTZ      | 9. NEST   | 16. MARRAM |
| 5. WEBBED      | 10. DUNES | 17. ROSIE  |
|                | 11. DOG   | 18. SHELL  |
|                | 12. STOAT |            |

Spot the difference



There's a hidden page number on every page. Can you spot them all?



# Join the Kiwi Conservation Club

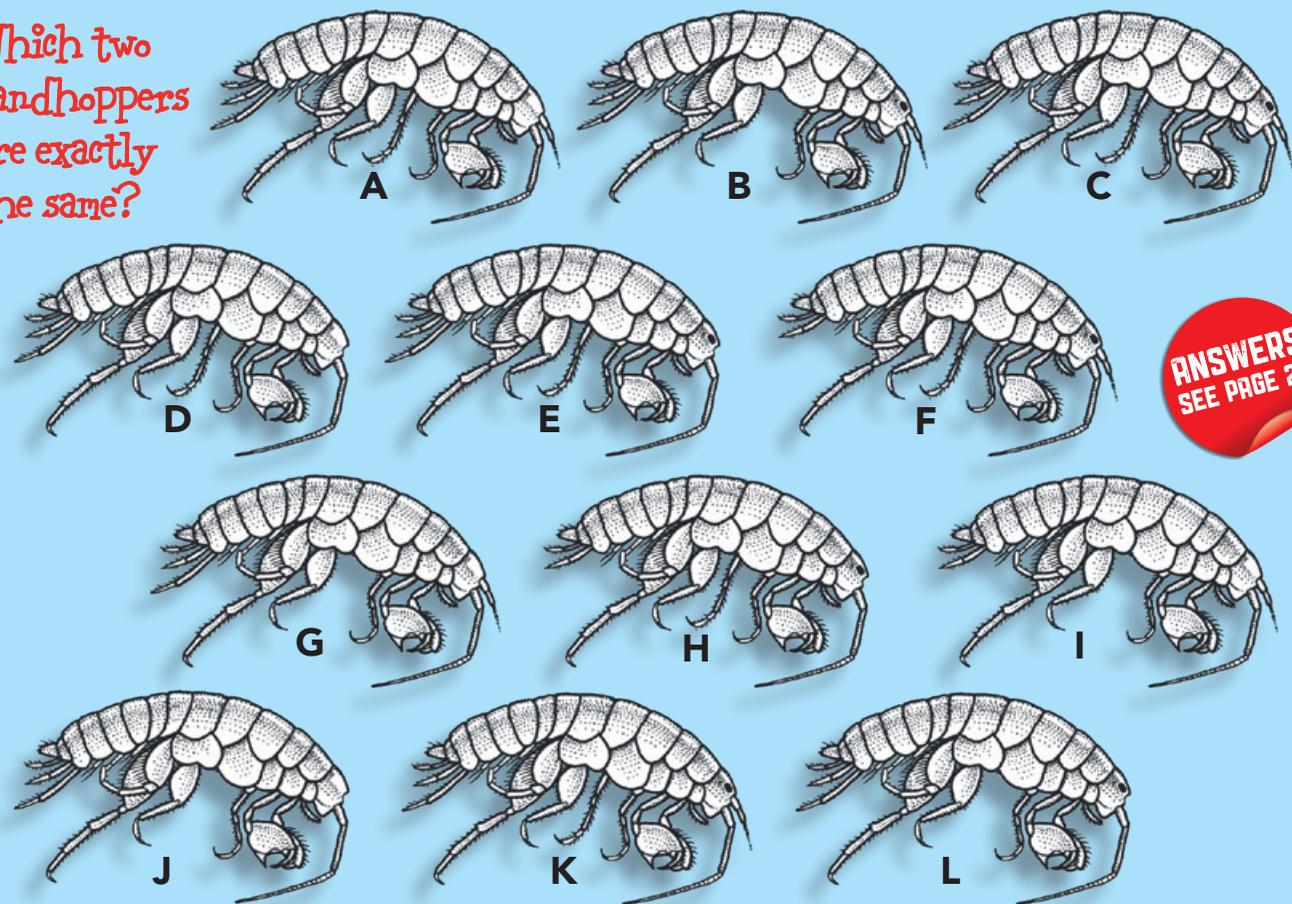


You'll receive *Wild Things* magazine five times a year and get to explore the outdoors with a local KCC group.

It's easy to join or give a gift membership. Just go to [www.kcc.org.nz](http://www.kcc.org.nz) or phone 0800 200 064 for more information.



Which two sandhoppers are exactly the same?



ANSWERS  
SEE PAGE 23



# Eye Spy

with  
Michelle  
Harnett

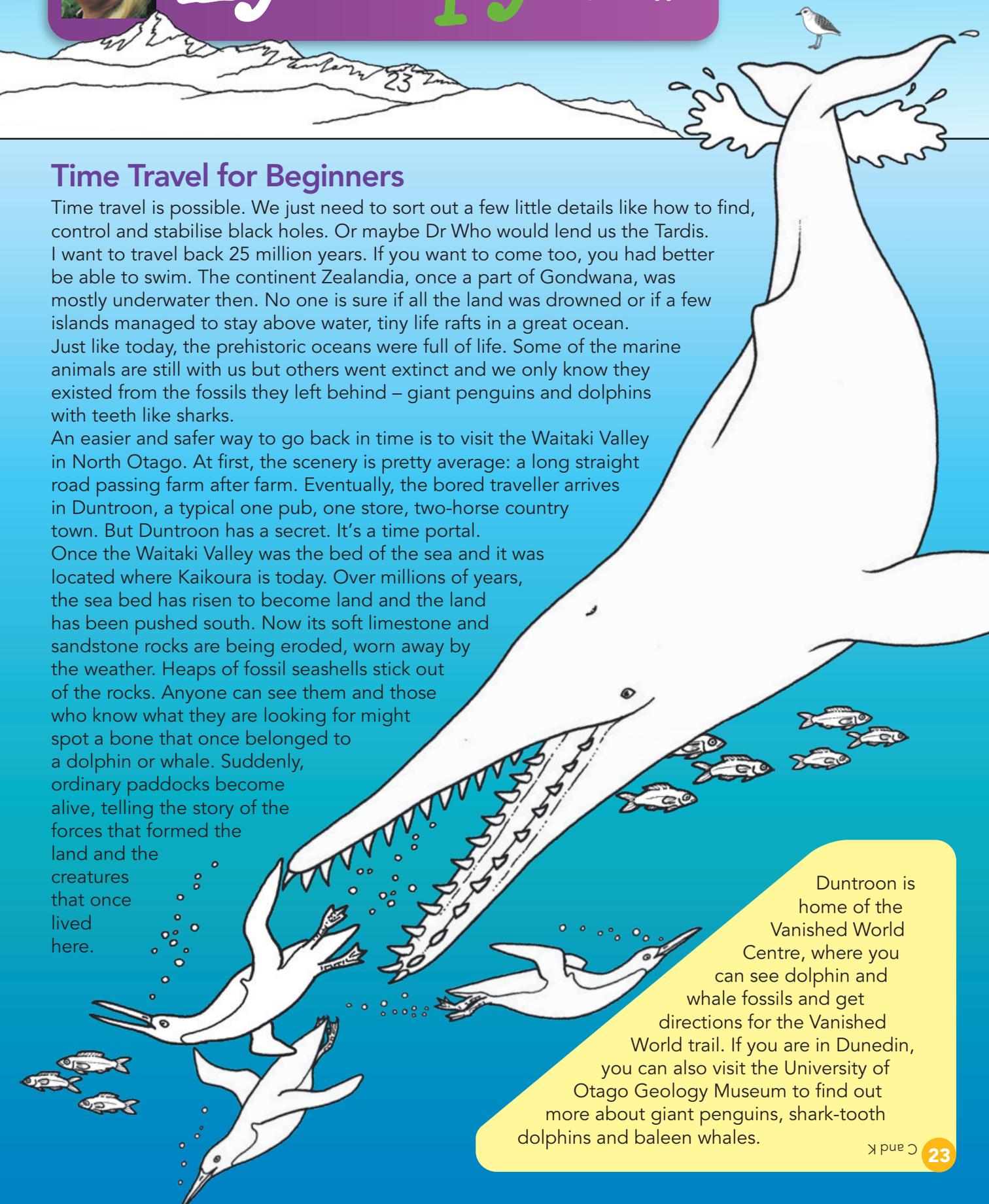
Michelle is studying to be a science writer. You can also read her adventure stories online at [www.disruptednarrative.co.nz](http://www.disruptednarrative.co.nz)

## Time Travel for Beginners

Time travel is possible. We just need to sort out a few little details like how to find, control and stabilise black holes. Or maybe Dr Who would lend us the Tardis. I want to travel back 25 million years. If you want to come too, you had better be able to swim. The continent Zealandia, once a part of Gondwana, was mostly underwater then. No one is sure if all the land was drowned or if a few islands managed to stay above water, tiny life rafts in a great ocean. Just like today, the prehistoric oceans were full of life. Some of the marine animals are still with us but others went extinct and we only know they existed from the fossils they left behind – giant penguins and dolphins with teeth like sharks.

An easier and safer way to go back in time is to visit the Waitaki Valley in North Otago. At first, the scenery is pretty average: a long straight road passing farm after farm. Eventually, the bored traveller arrives in Duntroon, a typical one pub, one store, two-horse country town. But Duntroon has a secret. It's a time portal. Once the Waitaki Valley was the bed of the sea and it was located where Kaikoura is today. Over millions of years, the sea bed has risen to become land and the land has been pushed south. Now its soft limestone and sandstone rocks are being eroded, worn away by the weather. Heaps of fossil seashells stick out of the rocks. Anyone can see them and those who know what they are looking for might spot a bone that once belonged to a dolphin or whale. Suddenly, ordinary paddocks become alive, telling the story of the forces that formed the land and the creatures that once lived here.

Duntroon is home of the Vanished World Centre, where you can see dolphin and whale fossils and get directions for the Vanished World trail. If you are in Dunedin, you can also visit the University of Otago Geology Museum to find out more about giant penguins, shark-tooth dolphins and baleen whales.

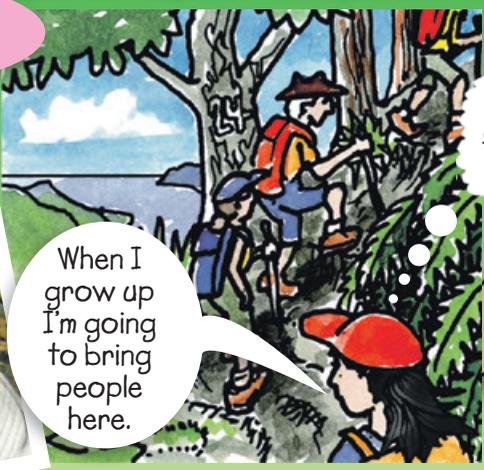


# Ellie Butcher

**GROWN-UP KCC KIDS**



I was a KCC kid. I loved tramping.



When I grow up I'm going to bring people here.

I'll build a lodge for them to stay in.



But when she was older, Ellie wanted to know more about nature. She went to Canterbury University and studied for an Honours degree in Environmental Science. Then she went to Borneo to count the wildlife in an oil palm plantation.



Wildlife? What wildlife?

Making oil palm plantations can destroy the rainforest and its wildlife.

Nature isn't just beautiful, it's valuable. Orangutans spread seeds in their poos, bees pollinate flowers.



We need to understand how much nature does for us.



So Ellie went to Oxford University in England to study biodiversity, conservation and management. Now she works for the Zoological Society of London. She has just written a book and you can read it free online. Put **priceless or worthless zmag** into your search engine.



I want people to love and value nature like I do.



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**NEXT MAGAZINE'S TOPIC: Insects**

**Wild Things**

EDITOR/WRITER: Ann Graeme  
 ILLUSTRATOR: Tim Galloway  
 ART DIRECTOR: Rob Dileva, Dileva Design  
 Printed by APN Print, Tauranga  
 ISSN 2230-2565

**Forest & Bird**  
 GIVING NATURE A VOICE

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Supported through the Environmental Enhancement Fund by the

