

# The Gulls of Sulphur Bay

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Level 2

This text is levelled at Gold 2



## Overview

Sulphur Bay, at the southern end of Lake Rotorua, is a wildlife reserve. Its hot springs make the area popular with many water birds, but the sulphur in the springs also causes some problems for them. This article describes how the gulls live in this unique environment. There are two other items in this *Junior Journal* linked to Lake Rotorua. They are “The Gulls of Mokoia Island” and a retelling of the legend of Hinemoa and Tūtānekai.

“The Gulls of Sulphur Bay” requires students to “confidently use a range of processing and comprehension strategies to

make meaning from and think critically about” text (from *The Literacy Learning Progressions*, page 14). This text provides opportunities for the students to make connections between pieces of information in the text and the visual language features to identify and summarise the main ideas, ask questions and look for answers, and use multiple sources of information to clarify meaning.

There is an audio version of the text as an MP3 file at [juniorjournal@tki.org.nz](mailto:juniorjournal@tki.org.nz)

## Text characteristics

Key text characteristics relating to the reading standard for after three years at school are shown in the boxes with a solid outline.

The possibly unfamiliar contexts and settings of the volcanic environment of Sulphur Bay

Visual language features including headings, bold print for words that are defined in the glossary, a cross-section diagram, labelled photographs, a map, and a glossary that are clearly explained and linked to the body text

A mix of explicit and implicit content within text and visual language features that requires students to make connections between ideas in the text and their prior knowledge in order to make simple inferences

**Red-billed gull (tarāpunga)**

**Map of Lake Rotorua**

New Zealand, Lake Rotorua, Mokoia Island, Rotorua, Sulphur Bay

**Why is Sulphur Bay important?**

Sulphur Bay is a **wildlife refuge**. The Department of Conservation (DOC) takes care of this area. DOC works to get rid of animals here that eat birds' eggs and chicks. This means that black-billed gulls are more likely to grow to become adults.

At Sulphur Bay, there is a rocky area of land called Sulphur Point. More than sixty species of birds live there. As well as the gulls, there are other water birds, such as shags, mallard ducks, and banded dotterel. You can see the birds from a walkway nearby, but you need to ask DOC if you want to go onto Sulphur Point. This gives the birds even more protection from people and animals.

**Black-billed gull (tarāpuka)**

**What are the problems for the gulls living at Sulphur Bay?**

The gulls of Sulphur Bay like living in this warm area, but it can cause some problems for them. Sometimes you can see gulls hopping around on sore feet. This is because the sulphur in the water eats away the webbing (like skin) between the gulls' toes.

There is too much sulphur in the water for fish to live here. The birds must find food in other parts of the lake, where the water is fresher and cooler. In the evening, the birds return to roost (sleep or rest) on the warm rocks.

A variety of sentence structures, including complex sentences, and the use of words and phrases such as “This is what makes” and “this means that”, to connect ideas within sentences.

Some unfamiliar words and phrases, including subject-specific vocabulary, the meaning of which is supported by context or visual language features

**English (Reading)**

Level 2 –

- Language features: Show some understanding of how language features are used for effect within and across texts.
- Structure: Show some understanding of text structures.

**Science (Living world)**

Levels 1 and 2 –

- Life processes: Recognise that all living things have certain requirements so they can stay alive.

**Suggested reading purpose***(What can the students expect to find out or think about as a result of reading this text?)*

- To find out about the gulls that live in Sulphur Bay, Rotorua, and why they live in this environment

**Suggested learning goals for this text***(What opportunities does this text provide for students to learn more about how to “read, respond to, and think critically” about texts?)*

**Select and adapt** from the suggestions below according to your students’ strengths, needs, and experiences – their culture, language, and identity. (*Reading and Writing Standards for Years 1–8, Knowledge of the Learner, page 6*).

- The students make connections between information in the text and their prior knowledge to identify main ideas.
- They ask questions and look for answers in the text.
- They use multiple sources of information to clarify the meaning of unfamiliar words and ideas.
- They summarise information about how the gulls live in a difficult environment.

**Text and language features****Vocabulary**

- Subject-specific vocabulary that may be unfamiliar and challenging to decode, such as: “Department of Conservation”, “species”, “plant materials”, “protective”
- Words that relate to birds, such as “gulls”, “shags”, “mallard ducks”, “banded dotterel”, “webbing”, “roost”
- Words that relate to Rotorua and geothermal activity, such as “smelly chemical”, “sulphur”, “melted rock”, “magma”, “surface of the Earth”, “geysers”
- The use of words and phrases to signal links between ideas, such as “This is what makes”, “This means that”, “As well as”, “such as”, “where”.

**Possible supporting strategies**

Before reading, feed in words and information about the thermal features of Rotorua (see *Introducing the text*).

Identify some key words and concepts about birds, and gulls in particular, that your students will need to understand as they read the text. Have them think, pair, and share words associated with birds. Create and display a chart showing “What we know about birds”. Include the following headings: Parts of a bird’s body, Habits of birds, Where birds live, What birds eat.

Monitor the students’ **word-solving** attempts by noticing their use of words from the text during discussion. Prompt them to remember the strategies they can use, often in combination, for example, decoding and working out the meanings.

When decoding:

- break words into smaller chunks (“Ro-to-ru-a”, “chem-i-cal”, “De-part-ment”, “dot-ter-rel”, “pro-tec-tive”).

When working out the meanings of unfamiliar words and phrases:

- look for definitions close by in the text
- use the glossary to find the meanings of words in bold print
- refer to the labelled diagram.

For students who need more support, have dictionaries available to confirm or clarify word meanings. Have bilingual dictionaries, where appropriate, available for English language learners.

There are many words and phrases that signal links between ideas. If appropriate, select one type of link and explain how it links the ideas. For example, “This is what makes the hot pools and geysers at Rotorua.”, (Page 13), “This means that ...”, (Page 14), “This gives ...”, (Page 14). Some students may need support to understand that “This” is referring to information in the previous sentence.

**Text features**

- The visual features, including headings and subheadings, the labelled cross-section diagram, the photographs, the map, and the glossary and the use of bold print to indicate words that are defined in the glossary.

If necessary, discuss visual features of articles, such as subheadings, diagrams, maps, and glossaries, and how these features support the reader.

Remind the students that the words in bold are in the glossary.

**Specific knowledge**

- Some knowledge of birds and their behaviour and life cycle
- Some understanding of the challenges of wildlife conservation
- Some understanding of volcanoes or geothermal activity.

Refer to the chart mentioned above that explores key vocabulary and concepts about birds.

Prompt the students to make connections to other texts about conservation, for example, *Too Many Possums* (Ready to Read, Gold), “Catching Mustelids” and “A New Home for Mokokoko” (JJ 43).

See *Introducing the text*.

**Metacognition**

Effective readers are metacognitive. They are aware of the processes and strategies they draw on and are able to explain how they use these to successfully make meaning and think critically. Examples of metacognitive behaviours, or strategies teachers can use to promote metacognitive behaviours, are threaded through the notes and indicated by

**HOW YOU CAN SUPPORT YOUR STUDENTS TO BE METACOGNITIVE**

Ask questions: *How did you know that bit was wrong? Or: I noticed that you reread that bit when you got confused. How did rereading help you?*

Use prompts: *Think about what you can do to find help with the meaning of that word. Look at the rest of the sentence. How did it help you?*

## Introducing the text

- If the students have little prior knowledge of Rotorua and its volcanic activity, it would be helpful to show them a short video clip.
- Talk about what you see at Rotorua and introduce key vocabulary.
- Have the students look through the article and identify what makes it a non-fiction text. Remind them to use the headings and photographs to suggest what they are likely to find out.
- Discuss the visual language features, such as the headings and subheadings, the labelled diagram and photographs, the map, the use of bold print for some words, and the glossary, and how they help the reader.
- Together, read the title and page 12. Clarify that “gulls” is another name for what we call “seagulls”, but the gulls in this story live inland. What does this paragraph tell us about why the gulls live in Sulphur Bay?
- For students who may find this text challenging (including English language learners) use the headings to preview the content. After reading page 12, give pairs of students the headings for the rest of the article. Tell the pairs to read the headings and make suggestions about the content in each section. Have all of the pairs share and discuss their thoughts.
- Share the reading purpose and learning goal(s).

## Reading and discussing the text

Instructional strategies you can use to support the students to achieve the learning goals are in the right-hand column. **Select from and adapt** the suggestions below according to your students’ needs.

### What to look for, prompt, and support as the students work towards achieving their learning goal

#### Page 13

The students use the headings to hypothesise about what they will find out in each section (and throughout the text).

The students make connections between the diagram, the text, and the introductory discussion to explain how the water heats up.

The students identify the three types of gulls that live in Sulphur Bay and infer that their names are related to their appearance.

The students ask questions to clarify meaning and look for answers in the text.

The students summarise information about how the gulls live in a difficult environment.

#### Page 14

The students make connections between ideas in linked sentences, for example, they reread to find out or check that “this area” (in the second sentence) refers to Sulphur Bay and that “This means” (in the fourth sentence) refers to DOC’s work in getting rid of predators.

The students make connections to their knowledge of bird life cycles and predators, and of the endangered black-billed gull (from page 13), to explain why the gulls need to be protected.

The students think critically about why people need to get permission to visit Sulphur Point.

#### Page 15

☑ The students can identify Sulphur Bay on the map and say how the map helps them.

The students use the heading to identify that there are other problems for the gulls, besides predators.

The students make connections to their prior knowledge of what birds’ feet look like and of their own skin between their fingers or toes to visualise “webbing” and how it would affect the gulls if it were being eaten away.

The students infer from the first and last sentences in this section (and possibly the last sentence on page 12) that the gulls come back to roost because of the warm rocks.

### How you can support students to read, respond, and think critically

Encourage the students to study the diagram and ask questions before reading. Help them understand that Earth is made up of layers – the centre of the Earth is so hot that rock is melted. The surface of the Earth is cold and solid and is called the crust. Ask the students to explain the diagram to a partner. Listen in and provide support as necessary.

They may notice as they read on that there are no black-backed gulls shown in the photographs. Black-backed gulls (karoro) are the common gulls we usually see at the beach. Some live inland at Sulphur Bay.

Provide support as necessary.

Begin a summary chart to record the advantages or problems of living in Sulphur Bay and how the gulls live in this environment.

☑ *This sentence says that DOC takes care of “this area”. What area does “this” refer to? How do you know? What did you do to check?* For students who need support with making connections between sentences, ask them to reread the sentences linked by “this”. Explain that “this” refers to a specific noun in, or a larger part of, the previous sentence.

*What does this section tell us about why DOC’s work is important? Where would DOC’s protection fit on the advantages and problems chart?*

*I’m wondering why people need to get permission from DOC ... Add their findings to the chart.*

Allow time for the students to study and discuss the map. If necessary, clarify that the map of the lake is a “close up” or a “zoom in” of the area shown in the New Zealand map.

☑ *What does the map show? How does it help you?*

*Remember to read the heading so that you know what this section is about. What might be the problem here? Read it to confirm.*  
Add information to the summary chart.

☑ *How does the author help you to work out what webbing is?*

*Imagine how it would feel if the skin between your toes was being eaten away!*  
Add this to the problems side of the chart.

*I wonder why the gulls don’t go and live where they catch their food...*

*What could we add to the chart?*

## Page 15 continued

The students monitor their understanding of the text and ask questions about aspects they are unsure of.

The students summarise the negative aspects of living at Sulphur Bay. They may notice that the problems with the webbing and the lack of fish are both caused by sulphur.

## Pages 16–17

The students make connections between pieces of information on page 13 about predators to infer that the gulls' eggs and chicks are more vulnerable than those of most other birds because their nests are on the ground.

The students respond to the reference to dive-bombing and use it to think critically about why DOC might want to restrict the number of people at the bay (and whether this is to protect the birds or the people – or both).

The students think critically about the author's reference to the gulls having their own heated pool and form an opinion about whether having a heated pool full of sulphur is really an advantage.

☑ The students can explain how asking a question and looking for an answer helped them understand something they weren't sure about.

☑ The students identify some challenges in the text and explain how they worked (or tried to work) them out.

Have the students talk with a partner about anything that they are not sure of. They could share the question with the group if it's something they can't work out themselves.

Ask the students to use their own words to summarise the problems for the gulls living at Sulphur Bay. Add any findings to the chart.

Remind the students of the reading purpose: *This heading is about the birds making their nests. I wonder how that will help us find out about the advantages or problems of living at Sulphur Bay.* If necessary, prompt the students to make connections between pieces of information. *Is it a problem that they build their nests on the ground? I remember it said that you had to get permission to visit the area. This may help us with the answer to the question.*

Add to the chart.

Prompt the students to think critically: *I wonder if it would be safe to visit Sulphur Bay in springtime.*

*What do you think it means when it says the gulls have their own heated pool? Is this a good thing? Why or Why not?*

Revisit the reading purpose and learning goal(s).

☑ *How did asking questions and looking for answers help you understand the information better? (for example, how the water gets heated, why the birds have to leave Sulphur Bay to find food, why their chicks might be in danger)*

☑ *What strategies did you use to help you solve any difficulties in this text? If necessary, model or explain some strategies the students could use.*

*What helped you work out what webbing is (or what "roost" means)? How did reading on help you? Or: How did the glossary help you?*

## After reading

- Students can reread the article as they listen to the audio version. Audio versions also provide English language learners with good models of pronunciation, intonation, and expression.
- Provide opportunities for the students to further practise their skills of identifying and summarising main ideas:
  - *Discuss with a partner the advantages and the problems for the gulls living at Sulphur Bay.* The students share their opinions about why the gulls live at Sulphur Bay.

Writing frame for English Language Learners: Have the students refer to their chart and write a short paragraph (two or three sentences) about the advantages or disadvantages of living at Sulphur Bay. Use a writing frame like the example below to support them.

Sulphur Bay is a good place/is not a good place for the gulls to live. This area has/is \_\_\_\_\_. The gulls can \_\_\_\_\_.  
This means \_\_\_\_\_.

For students who need extending, you could ask them to write two paragraphs (one about the advantages and one about the problems) and a conclusion, using a writing frame like the one below for the conclusion.

Overall, I think Sulphur Bay is a good place/is not a good place for gulls because \_\_\_\_\_.

- Have the students work with a partner to identify how DOC protects the birds at Sulphur Bay and to think critically about what would happen if the gulls were not protected. Ask them to write two or three sentences about what could happen to the gulls.
- Have the students choose an aspect about the gulls or about Sulphur Bay that they thought was surprising. Ask them to write two or three sentences describing the aspect and why it surprised them. For students who will find constructing these sentences challenging, you could provide a writing frame. Tell the students about an aspect that you think is surprising and why. Model writing two sentences about it, for example:

I was interested to find out that Lake Rotorua has hot springs as well as cold water. This surprised me because I thought the hot water from the springs would mix with the cold water and make the whole lake warm.

Then erase the interchangeable parts of the sentence (see example below) to create a writing frame.

I was interested to find out that \_\_\_\_\_.

This surprised me because \_\_\_\_\_.

You could extend this task by adding a middle sentence that tracks the evidence for the information:

I know this because the article says \_\_\_\_\_.

(I know this because it says that there are hot springs in Sulphur Bay and that the gulls can find food in other parts of the lake where the water is cooler.)

## Related texts

Texts about birds and their habitats: "Takapu" (JJ 45)