

# Teacher Notes

## Themes

- Habitats and ecosystems
- Animal parenting
- Invasive species

## Key learning outcomes

- Understand the challenges native wildlife face due to introduced species and environmental changes
- Explore the hunting and survival strategies rakali use to find food, care for their young and avoid predators
- Recognise the importance of habitat conservation in assisting the survival of native species like the rakali

## Key curriculum areas

- **Science:** Science Understanding (Biological sciences, Chemical sciences)
- **English:** Language; Literature; Literacy
- **The Arts:** Visual Arts
- **Cross-curriculum Priority:** Aboriginal and Torres Strait Islander Histories and Cultures

## Publication details

*Rakali of the Riverbank*

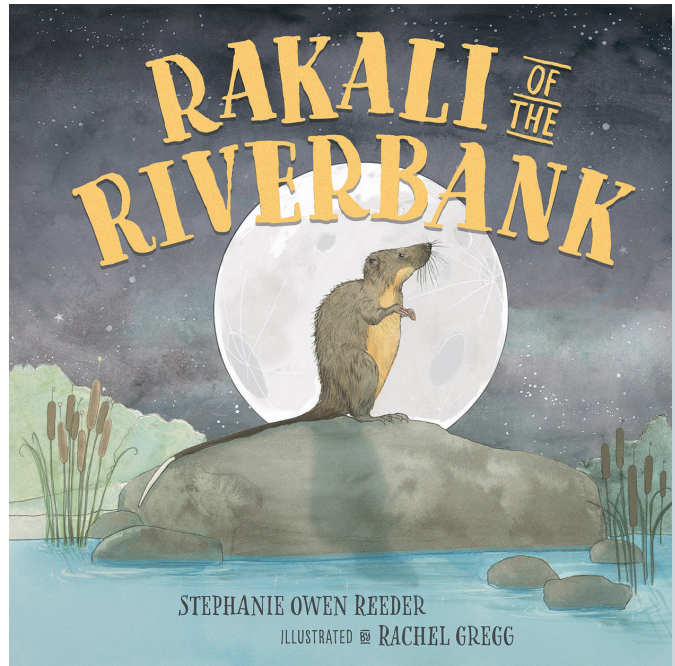
ISBN: 9781486317547

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# Rakali of the Riverbank

Stephanie Owen Reeder and Rachel Gregg

## About the book

As the sun sets, Rakali prepares to patrol the riverbank. He is on a mission to fill his belly, protect his pups and keep his home safe. But he must face feral foxes, disease-carrying black rats and toxic cane toads. Will he make it safely back to his burrow before the sun rises?

*Rakali of the Riverbank* is an engaging look at a night in the life of an Australian native water rat, and the challenges that these unique and charming creatures face.

## Recommended for

Readers aged 5 to 9 (Years 1 to 4)



PUBLISHING

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## About the author and illustrator

Dr **Stephanie Owen Reeder** is the author of over 20 historical and environmental books for children, including *Swiftly: The Super-fast Parrot* (CSIRO Publishing, 2022) and *Sensational Australian Animals* (CSIRO Publishing, 2024). She has won both the CBCA Book of the Year Award and the NSW Premier's History Award.

**Rachel Gregg** works as an illustrator, photographer, performer and educator on Gundungurra Country. She was awarded the Ian Wilson Memorial Fellowship (May Gibbs Children's Literature Trust, 2019). Rachel is also a wildlife rescuer, has six animal companions and her nickname is Rat!

## Pre-reading questions or activities

### Habitat

What do you think the native rakali needs in its habitat to survive? What challenges or threats in this environment might make survival more difficult?

### Nocturnal life

A lot of Australia's native animals, like the rakali, are active at night. Why do you think certain animals need to move around and hunt during the night?

## Discussion questions

### Science

1. *'He paddles with his webbed hind feet, steers with his strong tail and feels for prey with his sensitive whiskers.'* How has the native rakali evolved and adapted to its environment to survive? What physical features or behavioural adaptations help it find food, stay safe and care for its young?
2. What are some of the threats the rakali faces in this story? How do the invasive species and environmental changes impact the ecosystem?
3. Did you see all the different parts of the food web in the rakali story? What role do you think the rakali plays in this ecosystem?
4. Why is it important to protect native species like the rakali? What efforts can we make to support the conservation of habitats like those of the rakali?

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## English

1. How does the author help the reader to understand what it's like to be a nocturnal creature like the rakali? What vocabulary and language features has she used to make the reader feel like they are a part of the rakali's night-time adventure?
2. The author chose to make some of the words in the story bigger and used a different font to make them stand out more. Why do you think she chose to emphasise these words and how do you think it adds to the story?

## Activities

### Science

#### *Rakali food web*

1. Using the book, and conducting extra research as a class, create a list of creatures that would be found in the rakali's habitat.
2. Sort the different creatures into three categories (from the perspective of the rakali): prey, predators and invasive species.
3. Once students have sorted the creatures, they can begin to illustrate their food web, using arrows to indicate the transfer of energy from one organism to another.
4. Finally, use colour coding to indicate the invasive species present in the food web.

#### *Water-repellent fur*

In the end pages the author tells us that the rakali is one of two amphibious mammals in Australia; the other is the famous platypus. They both have many special physical adaptations that allow them to succeed in water as well as on land, such as webbed feet. Today we are going to investigate how the fur of the rakali is specially adapted to survival in the water.

#### Materials

- 1 small square of fabric
- 1 small square of fabric coated in beeswax (if you cannot find or purchase a piece of beeswax fabric, you can lightly coat a small square of fabric with vegetable oil and dry it out)
- 1 cup of water
- Small spray bottle or plastic pipette

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- 2 empty jars
- 2 rubber bands
- Paper towel (in case of spills)

## Method

1. Pass around the two fabric samples and ask the students to describe how each one feels, using adjectives (e.g. soft, smooth, rough).
2. Place each piece of fabric over the top of an empty jar and fasten it with a rubber band.
3. Now using a method of your choosing, spray, drop or pour water on the plain fabric and observe the results. Continue to spray, drop or pour more water on the fabric to recreate the results.
4. Next, spray, drop or pour water on the coated fabric and observe the results. Again, continue to spray, drop or pour more water on the coated fabric to recreate the results.

## Discussion

1. What happened to the water on the plain fabric? What happened to the water on the coated fabric?
2. How do you think this experiment is related to the fur of the rakali?
3. Why is water-repellent fur crucial to the rakali's ability to live in water?

## English

### *Nocturnal adventures*

It was so much fun to follow along as the rakali went about its business during the night. Wouldn't it be great if we could follow some other native animals on their night-time adventures?

Your task is to select a nocturnal creature native to Australia and write a narrative that follows them on their night-time activities.

Some things to think about:

- Where does this story take place and what is the habitat like? Where does it start and where does it end?
- Try including descriptions of your animal hunting and finding food, of their unique physical features and of their unique behavioural adaptations.
- The 'problem' or 'complication' of your narrative could be a predator, invasive species or a change in the environment.

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## *A sequence of threats*

The rakali faces many obstacles and threats throughout the night. Can you remember all of them, and place them in order?

1. On a blank page draw each of the threats in the order they were encountered by the rakali. (Cane toad, fish trap, carp, rakali intruder, fox, non-native rats.)
2. Next, using sequential language write a short sentence under each image.

## The Arts

### *Light up the darkness*

In this beautifully illustrated story, the night-time adventures of the rakali come to life in a unique and unexpected way. Instead of the deep blues and blacks typically associated with night scenes, illustrator Rachel Gregg cleverly uses a light pastel palette, filling each page with soft blues, pinks, yellows, oranges and greens. Despite the brightness and vibrancy, the artwork still captures the essence of night-time, creating a dream-like atmospheric feel. This technique is often seen in nocturne painting, where artists depict the night using subtle, luminous tones rather than darkness.

Now, using the same pastel watercolour palette, try painting your own night-time landscape inspired by the artwork in this book. Once your painting is complete, you can add animals to bring your artwork to life!

## Aboriginal and Torres Strait Islander Histories and Cultures

### *First Nations nomenclature*

The author explains that “*Indigenous people throughout Australia have different names for the water rat, including bud-bud (from the Ngarigu language), gurumu (from the Yolngu language) and wampi (from the Ungaringyin language). The term rakali comes from the Ngarrindjeri people of the Murray River area of South Australia. In 1995, the Australian Nature Conservation Agency chose rakali as a more endearing name than water rat for these magnificent creatures.*”

With your class, conduct some research and see if you can find other Australian creatures that carry names from First Nations languages. How many can you find? Do these names mean something?

Using the information you unearth through your research, create a poster for the classroom that has different First Nations names for Australian animals.

The poster should include:

- images of the animals
- First Nations’ names of the animals and which languages they come from
- where possible, an explanation of the names.

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## Australian Curriculum Links (Version 9.0)

Year level	Learning area: Science	Other learning areas
Years 1/2	<p><b>Science Understanding: Biological sciences</b></p> <ul style="list-style-type: none"> <li>Identify the basic needs of plants and animals, including air, water, food or shelter, and describe how the places they live meet those needs (<a href="#">AC9S1U01</a>)</li> </ul> <p><b>Science Understanding: Chemical sciences</b></p> <ul style="list-style-type: none"> <li>Recognise that materials can be changed physically without changing their material composition and explore the effect of different actions on materials including bending, twisting, stretching and breaking into smaller pieces (<a href="#">AC9S2U03</a>)</li> </ul>	<p><b>English: Language: Text structure and organisation</b></p> <ul style="list-style-type: none"> <li>Explore how texts are organised according to their purpose, such as to recount, narrate, express opinion, inform, report and explain (<a href="#">AC9E1LA03</a>)</li> </ul> <p><b>Language: Language for expressing and developing ideas</b></p> <ul style="list-style-type: none"> <li>Experiment with and begin to make conscious choices of vocabulary to suit the topic (<a href="#">AC9E2LA09</a>)</li> </ul> <p><b>English: Literature: Literature and contexts</b></p> <ul style="list-style-type: none"> <li>Discuss how language and images are used to create characters, settings and events in literature by First Nations Australian, and wide-ranging Australian and world authors and illustrators (<a href="#">AC9E1LE01</a>)</li> </ul> <p><b>English: Literacy: Texts in context</b></p> <ul style="list-style-type: none"> <li>Discuss different texts and identify some features that indicate their purposes (<a href="#">AC9E1LY01</a>)</li> </ul> <p><b>Literacy: Interacting with others</b></p> <ul style="list-style-type: none"> <li>Use interaction skills including turn-taking, speaking clearly, using active listening behaviours and responding to the contributions of others, and contributing ideas and questions (<a href="#">AC9E1LY02</a>)</li> <li>Use interaction skills when engaging with topics, actively listening to others, receiving instructions and extending own ideas, speaking appropriately, expressing and responding to opinions, making statements, and giving instructions (<a href="#">AC9E2LY02</a>)</li> </ul> <p><b>The Arts: Visual arts</b></p> <ul style="list-style-type: none"> <li>Experiment and play with visual conventions, visual arts processes and materials (<a href="#">AC9AVA2D01</a>)</li> <li>Use visual conventions, visual arts processes and materials to create artworks (<a href="#">AC9AVA2C01</a>)</li> </ul>
Years 3/4	<p><b>Science Understanding: Biological sciences</b></p> <ul style="list-style-type: none"> <li>Compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals (<a href="#">AC9S3U01</a>)</li> </ul> <p><b>Science Understanding: Chemical sciences</b></p> <ul style="list-style-type: none"> <li>Examine the properties of natural and made materials including fibres, metals, glass and plastics and consider how these properties influence their use (<a href="#">AC9S4U04</a>)</li> </ul>	<p><b>English: Language: Text structure and organisation</b></p> <ul style="list-style-type: none"> <li>Describe how texts across the curriculum use different language features and structures relevant to their purpose (<a href="#">AC9E3LA03</a>)</li> </ul> <p><b>English: Literature: Examining literature</b></p> <ul style="list-style-type: none"> <li>Discuss how an author uses language and illustrations to portray characters and settings in texts and explore how the settings and events influence the mood of the narrative (<a href="#">AC9E3LE03</a>)</li> </ul> <p><b>English: Literacy: Interacting with others</b></p> <ul style="list-style-type: none"> <li>Listen for key points and information to carry out tasks and contribute to discussions, acknowledging another opinion, linking a response to the topic, and sharing and extending ideas and information (<a href="#">AC9E4LY02</a>)</li> </ul> <p><b>The Arts: Visual arts</b></p> <ul style="list-style-type: none"> <li>Experiment with a range of ways to use visual conventions, visual arts processes and materials (<a href="#">AC9AVA4D01</a>)</li> <li>Use visual conventions, visual arts processes and materials to create artworks that communicate ideas, perspectives and/or meaning (<a href="#">AC9AVA4C01</a>)</li> </ul>
All	<p><b>Cross-curriculum Priority: Aboriginal and Torres Strait Islander Histories and Cultures</b></p> <ul style="list-style-type: none"> <li>First Nations Australian societies are diverse and have distinct cultural expressions such as language, customs and beliefs. As First Nations Peoples of Australia, they have the right to maintain, control, protect and develop their cultural expressions, while also maintaining the right to control, protect and develop culture as Indigenous Cultural and Intellectual Property (<a href="#">A_TSIC1</a>)</li> </ul>	

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## Related books from CSIRO Publishing

For younger readers:

- *Cassowary Dad* (<https://www.publish.csiro.au/book/8116>)
- *Swiftly: The Super-fast Parrot* (<https://www.publish.csiro.au/book/8062>)

For older readers:

- *Sensational Australian Animals* (<https://www.publish.csiro.au/book/8094>)

## Other CSIRO resources

CSIRO has developed and delivered a broad range of high-quality STEM education programs and initiatives for nearly 40 years. Our programs aim to inspire the pursuit of further STEM education among students and the community, to equip the emerging workforce with tomorrow's skill sets, and to strengthen collaboration between industry and classrooms across Australia. For more information visit: <https://www.csiro.au/en/Education>