

Teacher Notes

Themes

- Saltmarsh wetlands
- Migratory birds/animal life
- Interdependence of nature

Key learning outcomes

- Discover and explore the saltmarsh wetland ecosystem.
- Learn about life cycles and interdependence of saltmarsh animals and natural elements.
- Understand the importance of saltmarshes to the natural environment.

Key curriculum areas

- **Science:** Science Understanding (Biological sciences)
- **English:** Language; Literacy
- **HASS:** Geography
- **The Arts:** Visual arts
- **Cross-curriculum Priority:** Sustainability
- **Cross-curriculum Priority:** Aboriginal and Torres Strait Islander Histories and Cultures

Publication details

Secrets of the Saltmarsh

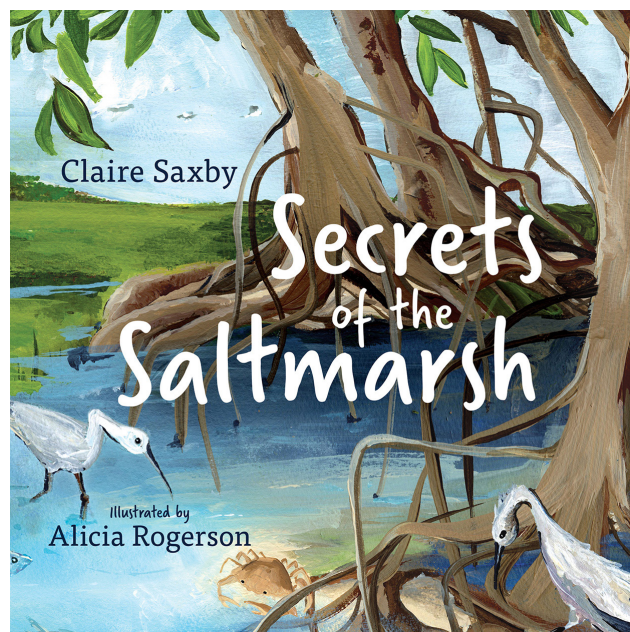
ISBN: 9781486317141

These teacher notes are licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 Licence (CC BY-NC-SA). They may be reproduced free of charge but may not be offered for commercial sale.

Teacher notes prepared by Kathryn Beilby.

CSIRO Publishing
Private Bag 10
Clayton South, VIC 3169, Australia

Website: www.publish.csiro.au
Tel: 1300 788 000 (local call in Australia)
Email: publishing.sales@csiro.au



Secrets of the Saltmarsh

Claire Saxby and Alicia Rogerson

About the book

You will find me where land meets sea ...

Saltmarshes are full of energy and life. They provide food and shelter for migratory birds as well as microscopic plants and animals. They also protect our coastlines. Most of all, saltmarshes are places of discovery and wonder.

With lyrical text and captivating illustrations, *Secrets of the Saltmarsh* offers a close-up look at the fascinating world of saltmarsh wetlands.

Recommended for

Readers aged 5 to 9 (Years 1 to 4)



PUBLISHING

Teacher Notes

About the author and illustrator

Claire Saxby is an award-winning writer of fiction, non-fiction and poetry for young people.

Alicia Rogerson is an artist and illustrator who spends her days painting and dreaming.

Pre-reading questions or activities

1. Ask the class if they know what a saltmarsh wetland is. Display images and ask students to describe what they see. Brainstorm and record their responses.
2. Working with a classmate or small group, list some animals or plants that you think might inhabit a saltmarsh environment. Share your ideas with the class. Go back to this list after reading the story and add to it if necessary.

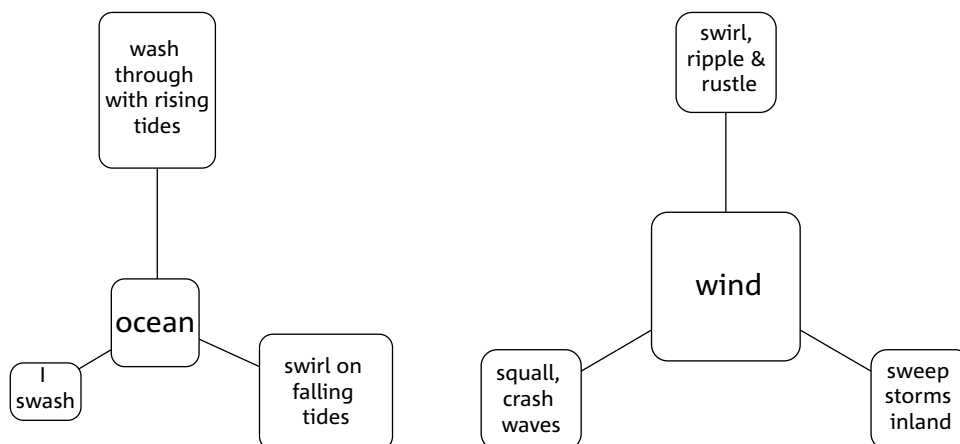
Further discussion may be required about what is already on the class list but may not necessarily be a part of a saltmarsh ecosystem as discussed in this book.

Discussion questions

Science

1. Discuss the natural elements in the book that are found in the saltmarsh: *land, ocean, water, wind, sunlight*. As a class, create mini concept maps to explain how each of them interacts with the saltmarsh.

See examples below:



Teacher Notes

2. What do you know about carbon? (Years 3/4)
As a whole class, research carbon and carbon dioxide. How does it work and why is it important to the natural environment? Why is carbon sometimes called blue carbon?
Handy website: Climate Kids, <https://climatekids.nasa.gov/carbon/>
3. In the book we learn that mangrove trees are neighbours to the saltmarsh. How do mangrove trees support the saltmarshes?
They are home to many creatures. They break up the waves entering the saltmarsh and their roots help to keep the soil together.
4. What does the tiny beaded glasswort plant do in a saltmarsh?
It holds tight to the edges of the high-tide line and survives underwater for hours. It wilts, withers and dies and builds soil for new plants.
Why do you think the author calls it a pioneer of the saltmarsh?

English

1. The saltmarsh is described in the first few pages. As the story is read a second time, identify the characteristics of a saltmarsh and record on a large screen/whiteboard in dot points.
 - *Where land meets sea*
 - *Wet and salty*
 - *Some unique plants grow there*
 - *Feed and shelter animals*
 - *Home to birds*
 - *Migratory birds visit*
 - *Ocean tides fill and empty*
 - *Land and water*
 - *Need sunshine and rain*
 - *Clean the air and the water*
 - *Store carbon*
 - *Always changing*
2. *Secrets of the Saltmarsh* is a narrative non-fiction book written in the 'first person' where each of the elements talk about themselves and how they interact with the saltmarsh. How does this help your understanding of how the ecosystem works? (Years 3/4)

Teacher Notes

HASS

1. Look at the map of Australia in the back of the book or on a large screen. Where is the closest saltmarsh located near your school or home?
2. What happens in each of the seasons in the saltmarsh? How important is this seasonal cycle to maintaining a healthy saltmarsh environment?

Summer	Autumn	Winter	Spring
<i>Flowers blossom</i>	<i>Migratory birds leave</i>	<i>Tiny ones and crabs</i>	<i>New shoots appear</i>
<i>Birds forage and hunt</i>	<i>Plant growth slows</i>	<i>break down waste and</i>	<i>Migratory birds arrive</i>
<i>Insects swarm</i>	<i>Seeds form</i>	<i>build up soil</i>	

Activities

Science

1. Visit a local saltmarsh. What do you observe there? Focus on one particular area and draw what you can see.
2. Create a table of the animals that are found in the story. Use the headings from the book: birds, little ones, tiny ones.
Then choose one animal from the table to research. Draw the animal and write down three interesting facts.

Birds	Little ones	Tiny ones
<i>Whimbrel</i>	<i>Water beetle</i>	<i>Phytoplankton</i>
<i>Egret</i>	<i>Crab</i>	<i>Copepod</i>
<i>Curlew sandpiper</i>	<i>Spider</i>	<i>Zooplankton</i>
<i>Red-necked stint</i>	<i>Worm</i>	<i>Bacteria</i>
<i>Spoonbill</i>	<i>Snail</i>	
<i>Grassbird</i>	<i>Mangrove jack fingerlings (fish)</i>	

Teacher Notes

3. Look carefully at the life cycles in the book. Each cycle of life shows a different aspect of the natural world found in a saltmarsh: insect, plant, fish, bird, crab.
Choose one of the migratory or native birds from the story to create your own life cycle. In your life cycle diagram, you will need to use the following words: *egg, hatchling, fledgling, adult*.
4. On the page with the heading ***I am water***, the text cleverly describes the water cycle. Are you able to draw your own water cycle from the description? Check your drawing with classmates and/or find an image of a water cycle to compare. (Years 3/4)

English

1. There are some powerful verbs used to describe the wind. Identify the verbs and use them in sentences or a poem of your own.
Tickle, skit, ripple, rustle, squall, crash, sweep, bluster, blow.
2. A glossary helps explain unfamiliar words. Look at the glossary in this book and discuss the words that are explained. Are there any other challenging words you could add to this glossary?

HASS

1. A number of birds migrate to the wetlands during the Australian summer, including the curlew sandpiper, whimbrel and the red-necked stint. Find out more about each of these three birds and on a map of the world track their journey from their home country to an Australian saltmarsh.

Sustainability

1. As a class, research and brainstorm a list of threats to saltmarsh wetlands. (Years 3/4)
Climate change, feral animals, pedestrians, offroad vehicles, livestock, building development, change in tides, exotic weeds/plants.

Aboriginal and Torres Strait Islander Histories and Cultures

1. Saltmarshes are important to Aboriginal and Torres Strait Islander peoples for a number of reasons. Speak to an Elder to find out more about their connection to this vital ecosystem.

Visual Art

1. Using crayons and a watercolour wash, create your own saltmarsh wetland. What important elements will you include?

Worksheet: Insect life cycle

Label each stage of an insect's life cycle in the illustration below. Use the book *Secrets of the Saltmarsh* to help you. Then colour it in.

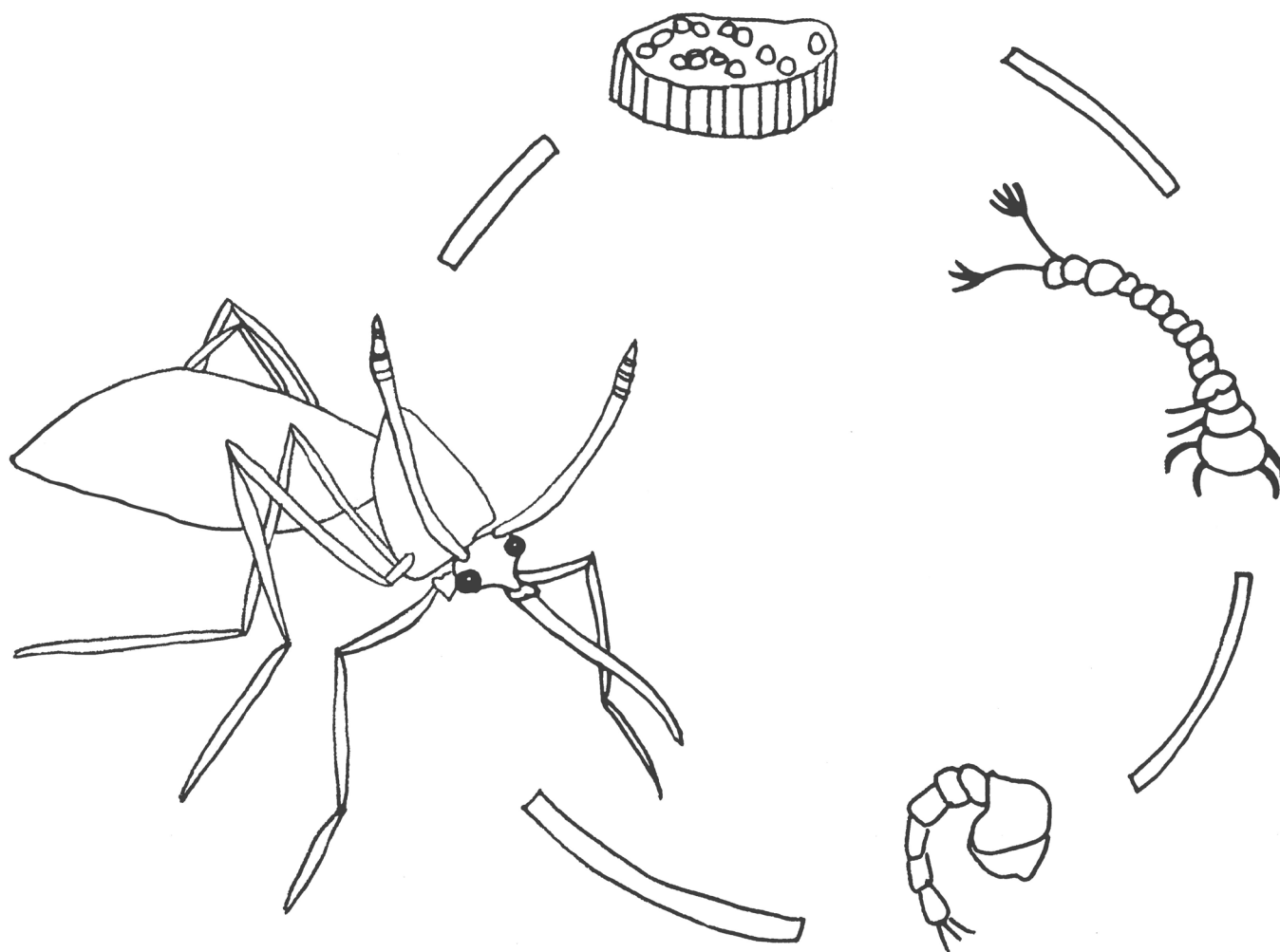


Illustration © Alicia Rogerson.

Australian Curriculum Links (Version 9.0)

Year level	Learning area: Science	Other learning areas
Years 1/2	<p>Science Understanding: Biological sciences</p> <ul style="list-style-type: none"> identify the basic needs of plants and animals, including air, water, food or shelter, and describe how the places they live meet those needs (AC9S1U01) 	<p>English: Language: Text structure and organisation</p> <ul style="list-style-type: none"> explore how texts are organised according to their purpose, such as to recount, narrate, express opinion, inform, report and explain (AC9E1LA03) identify how texts across the curriculum are organised differently and use language features depending on purposes (AC9E2LA03) <p>English: Literacy: Texts in context</p> <ul style="list-style-type: none"> discuss different texts and identify some features that indicate their purposes (AC9E1LY01) identify how similar topics and information are presented in different types of texts (AC9E2LY01) <p>English: Literacy: Interacting with others</p> <ul style="list-style-type: none"> use interaction skills including turn-taking, speaking clearly, using active listening behaviours and responding to the contributions of others, and contributing ideas and questions (AC9E1LY02) 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 (AC9E2LY02) <p>HASS: Knowledge and understanding: Geography</p> <ul style="list-style-type: none"> the natural, managed and constructed features of local places, and their location (AC9HS1K03) how places can be spatially represented in geographical divisions from local to regional to state/territory, and how people and places are interconnected across those scales (AC9HS2K03) the interconnections of First Nations Australians to a local Country/Place (AC9HS2K04) <p>Visual Arts: Creating and making</p> <ul style="list-style-type: none"> use visual conventions, visual arts processes and materials to create artworks (AC9AVA2C01)
Year 3	<p>Science Understanding: Biological sciences</p> <ul style="list-style-type: none"> compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals (AC9S3U01) 	<p>English: Language: Text structure and organisation</p> <ul style="list-style-type: none"> describe how texts across the curriculum use different language features and structures relevant to their purpose (AC9E3LA03) <p>English: Literacy: Texts in context</p> <ul style="list-style-type: none"> recognise how texts can be created for similar purposes but different audiences (AC9E3LY01) <p>English: Literacy: Interacting with others</p> <ul style="list-style-type: none"> use interaction skills to contribute to conversations and discussions to share information and ideas (AC9E3LY02) <p>HASS: Knowledge and understanding: Geography</p> <ul style="list-style-type: none"> the representation of contemporary Australia as states and territories, and as the Countries/Places of First Nations Australians prior to colonisation, and the locations of Australia's neighbouring regions and countries (AC9HS3K03) the ways First Nations Australians in different parts of Australia are interconnected with Country/Place (AC9HS3K04) <p>Visual Arts: Creating and making</p> <ul style="list-style-type: none"> use visual conventions, visual arts processes and materials to create artworks that communicate ideas, perspectives and/or meaning (AC9AVA4C01)

Teacher Notes

Year 4	Science Understanding: Biological sciences <ul style="list-style-type: none"> explain the roles and interactions of consumers, producers and decomposers within a habitat and how food chains represent feeding relationships (AC9S4U01) 	English: Language: Text structure and organisation <ul style="list-style-type: none"> identify how texts across the curriculum have different language features and are typically organised into characteristic stages depending on purposes (AC9E4LA03) English: Literacy: Analysing, interpreting and evaluating <ul style="list-style-type: none"> identify the characteristic features used in imaginative, informative and persuasive texts to meet the purpose of the text (AC9E4LY03) English: Literacy: Interacting with others <ul style="list-style-type: none"> 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 (AC9E4LY02) HASS: Knowledge and understanding: Geography <ul style="list-style-type: none"> the importance of environments, including natural vegetation and water sources, to people and animals in Australia and on another continent (AC9HS4K05) Visual Arts: Creating and making <ul style="list-style-type: none"> use visual conventions, visual arts processes and materials to create artworks that communicate ideas, perspectives and/or meaning (AC9AVA4C01)
All	Cross-curriculum Priority: Aboriginal and Torres Strait Islander Histories and Cultures <ul style="list-style-type: none"> First Nations communities of Australia maintain a deep connection to, and responsibility for, Country/Place and have holistic values and belief systems that are connected to the land, sea, sky and waterways. (A_TSICP1) 	Cross-curriculum Priority: Sustainability <ul style="list-style-type: none"> Sustainable patterns of living require the responsible use of resources, maintenance of clean air, water and soils, and preservation or restoration of healthy environments. (SS2)

Related books from CSIRO Publishing

- *A Shorebird Flying Adventure* (<https://www.publish.csiro.au/book/8006>)
- *The Great Southern Reef* (<https://www.publish.csiro.au/book/8042>)

For older readers:

- *Ocean Animals: The Weirdest, Smartest and Sneakiest Sea Creatures* (<https://www.publish.csiro.au/book/7881>)

Teacher Notes

Double Helix magazine

Packed with fun, exciting and quality articles, Double Helix magazine is created to inspire young readers. It covers a range of topics across science, technology, engineering and maths.

Learn more on our Teachers page: <https://doublehelixshop.csiro.au/en/Teachers>. Subscriptions can be purchased via the Double Helix website: <https://doublehelixshop.csiro.au/Subscribe>

Double Helix blog

Looking for interesting science, technology, engineering and maths ideas? For our latest news, hands-on activities, quizzes and brainteasers, visit the Double Helix blog: <https://blog.doublehelix.csiro.au>

There is plenty of free content that can be used at school or home to support learning.

Double Helix Extra

Sign up to receive a fortnightly Double Helix email newsletter, including a quiz, brainteaser, news and a hands-on activity: <https://doublehelixshop.csiro.au/eNewsletter>

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>