



In association with:



SAVING OUR SPECIES

# Learning about southern bell frogs of NSW

Interactive presentation



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# Part 1: All about frogs



**Southern bell frog**  
(David Paul/Museums Victoria)

## Important for our environment

Frog skin is **permeable**  
(lets water in and out).

This means they can be affected by pollution and are sensitive to changes in the environment.

They are often called **environmental indicators...**

... if no frogs are around where they should be, something could be wrong with the environment.



**Peron's tree frog**  
(Helen P Waudby/OEH)

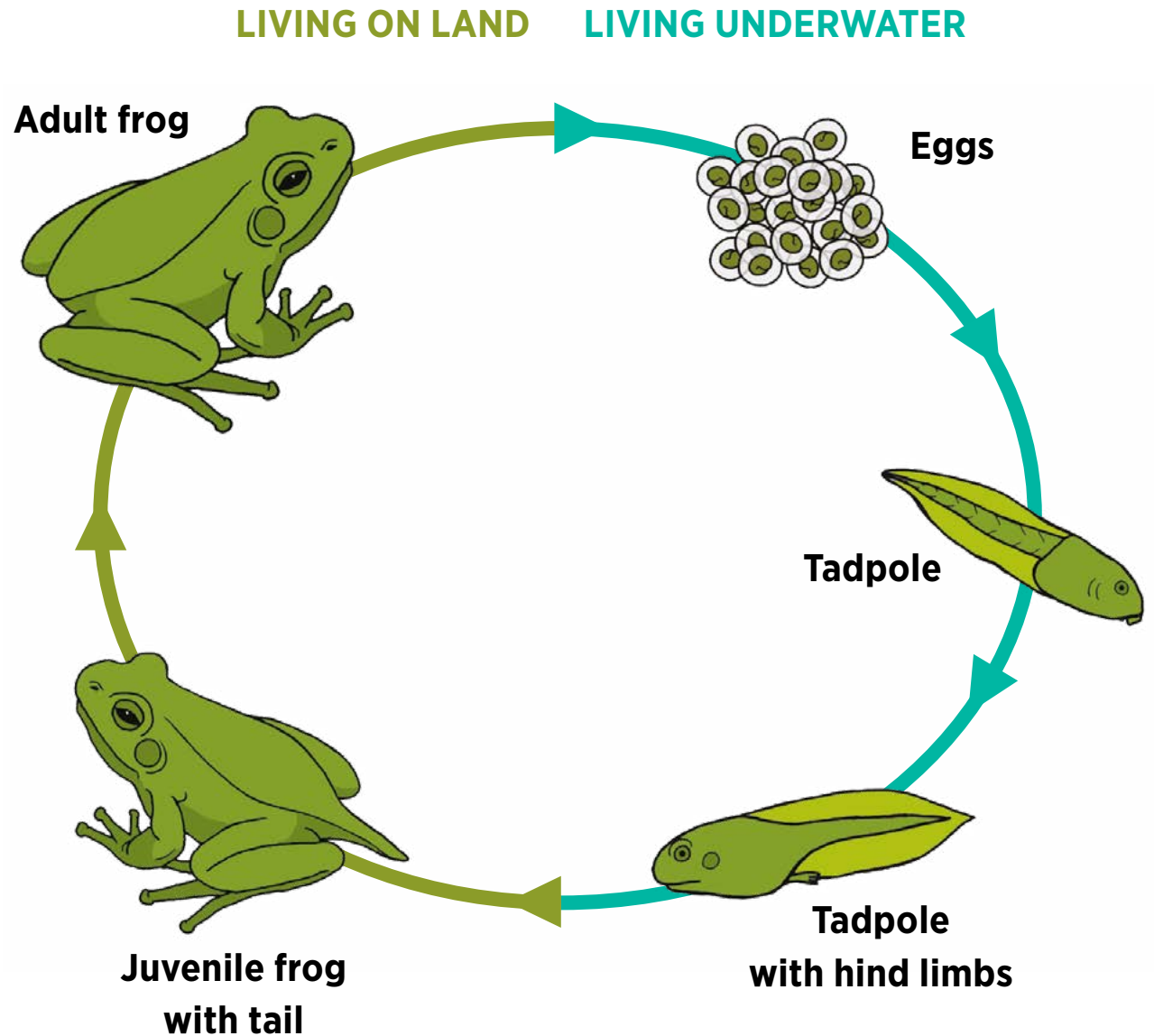
## A frog's life cycle

Frogs start life in the water as an **egg** and hatch into a **tadpole**.

They go through a process call **metamorphosis**. This is when they change their body to survive on land.

They absorb their tail into their body, develop strong legs to walk or hop, and lungs to breathe.

Once completed, they are called **frogs**.



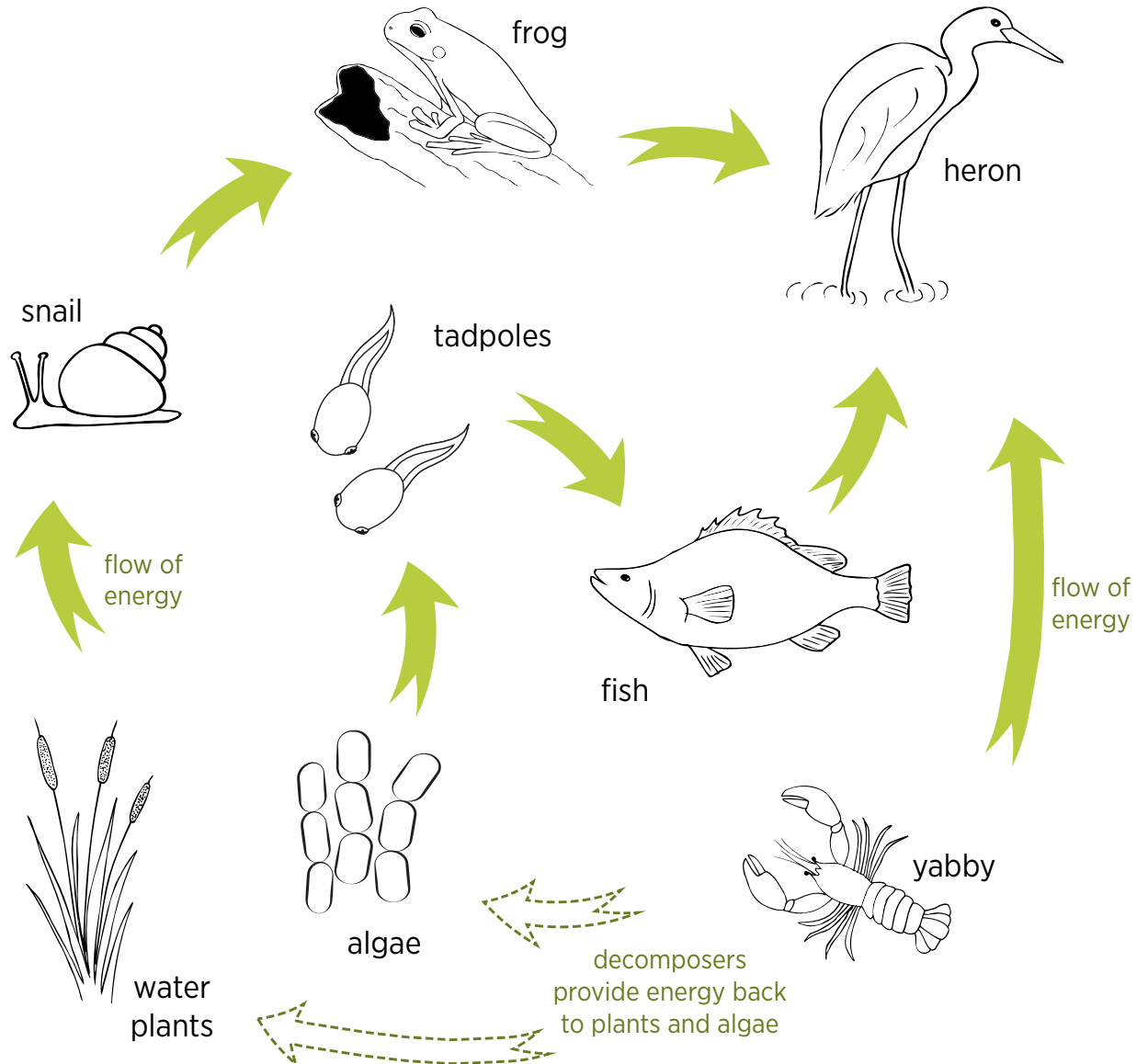
## Wetland food chains

Wetlands are important **ecosystems**. They contain a variety of plants and animals.

Plants provide the energy (arrows) for the **herbivores** (plant eaters) and **omnivores** (plant and animal eaters).

The **carnivores** (meat eaters) then eat other animals in the food chain.

Lastly we have **decomposers** (fungi, bacteria, insects and arthropods such as yabbies) that turn waste into energy. This energy helps aquatic plants and algae grow.



## **Frogs in the wetland**

Below are six frogs that can be heard in the wetlands of south-west NSW during spring and summer. Look at their colour, listen to their calls. What's different?

**Southern bell frog**

**Barking marsh frog**

**Spotted marsh frog**

**Giant banjo frog**

**Peron's tree frog**

**Plains froglet**

Click on the **+** to show each frog's details and play their calls.

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# Where to next?



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# Part 2: Southern bell frogs



**Southern bell frog**  
(David Hunter/OEH)



## What does a southern bell frog LOOK like?



## What does a southern bell frog SOUND like?

Adult males make a long,  
growling call:

waaaaaah, waaaaaah  
rah-rah-rah-rah-rah

Known as **growling grass  
frogs** in some places.

Males call mainly from  
October to December as  
they try to attract a female  
to mate with...

...the louder the better!



(David Hunter/OEH)

## What does a southern bell frog EAT?

Southern bell frogs are not too fussy about what they eat.

They mostly eat insects and other **invertebrates** (animals without backbones).

Sometimes they also eat small **vertebrates** (animals with backbones), including other frogs!



Southern bell frog eating a young barking marsh frog

(Helen P Waudby/OEH)

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# Where to next?



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# Part 3: Southern bell frog habitat



## Where do southern bell frogs live?

Southern bell frogs are **endemic** to south-eastern Australia (meaning they are only found here).

They were found across much of the southern tablelands and slopes of NSW but their populations have reduced.

*View the map of where southern bell frogs have been spotted in NSW.*



## Their natural environment

Southern bell frogs can live in a variety of natural and artificial wetland habitats, including:

- swamps
- lakes
- streams
- riverine floodplains
- farm dams
- garden ponds
- quarries
- irrigation channels
- rice bays.



**Floating vegetation supports lots of frog species**

(Helen P Waudby/OEH)

# Where's Billy the southern bell frog?

Tap on Billy to reveal his message.





## Examples of habitat

Black box and  
lignum wetland

Shallow seasonal  
wetland

Red gum wetland with  
giant spike-rush

Red gum and nitre  
goosefoot wetland

Moira grass wetland

Maturing rice crop

Click on the **+** to show photos of  
each habitat example.

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# Where to next?



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# Part 4: Threats and recovery



## Southern bell frog numbers

Southern bell frogs are a threatened species classified as **endangered** in NSW (numbers are so low they are close to becoming extinct).

The only known populations left in NSW are found about west of Deniliquin to the South Australian border.

Their **distribution** (places where they are found) and **abundance** (numbers of frogs) have both reduced over the past 20-30 years.



Searching for tadpoles  
(Helen P Waudby/OEH)

## Why are southern bell frogs threatened?

**River regulation** means that key breeding and refuge wetlands are no longer receiving regular flooding and drying.

**Removal of habitat** such as aquatic plants.

**Predation** of tadpoles by feral fish such as European carp and gambusia.

**Pesticides and chemicals** entering the water.

**Chytrid fungus** (pronounced kit-rid) covers the skin, suffocating frogs.



River regulator on the Lachlan River  
(OEH)

## Looking after southern bell frogs

Have lots of healthy and **connected wetlands** with good vegetation.

Manage **stock access** to wetlands so that good vegetation is kept in the water and around the banks.

**Dry out breeding wetlands** every now and then to **kill pest fish** like European carp and gambusia.

Ensure that **irrigation channels** contain **good vegetation**.



Surveying for tadpoles by doing sweeps with a net

(Helen P Waudby/OEH)

## Research and conservation

**Scientists** are collecting data to find out how many southern bell frogs are around.

They do this by conducting and reviewing:

- surveys
- audio recordings
- landholder or citizen scientist reports.



**Acoustic recorder used to monitor frog calls**

(Helen P Waudby/OEH)

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