

# Fish School

## **Focus Questions**

Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

- 1. What is the status of the southern purple spotted gudgeon?
  - a. Endangered
  - b. Extinct
  - c. Vulnerable
- 2. What type of fish are the students growing in the ponds?
- 3. What is aquaponics?
- 4. Why is the purple spotted gudgeon also called the zombie fish?
- 5. What did you learn watching this story?

## **Activity: Class Discussion**

Students will discuss the BTN Fish School story in pairs and then share their thoughts with the class.

- What do you THINK about what you saw in this video?
- What does this video make you WONDER?
- What did you LEARN watching the the Fish School story?
- Think of three questions you would like to ask the kids in the BTN Fish School story.



Discuss the Fish School story as a class using the following questions to guide discussion:

- How are the students in the BTN story helping to protect the southern purple spotted gudgeon?
- How is the native fish breeding program helping the students in other areas of their learning?
- What are some threats to native fish species?
- Why is it important to protect native fish species?

#### **EPISODE 18**

21<sup>st</sup> June 2022

#### **KEY LEARNING**

Students will explore the importance of protecting native fish species.

#### **CURRICULUM**

#### Science - Year 4

Living things depend on each other and the environment to survive.

Science knowledge helps people to understand the effect of their actions.

Living things have structural features and adaptations that help them to survive in their environment.

#### Science - Year 5

Living things have structural features and adaptations that help them to survive in their environment.

### Science – Year 6

The growth and survival of living things are affected by physical conditions of their environment.

### Geography - Year 5

The influence of people, including Aboriginal and Torres Strait Islander Peoples, on the environmental characteristics of Australian places.

The environmental and human influences on the location and characteristics of a place and the management of spaces within them.

## **Activity: Glossary**

Students will brainstorm a list of key words that relate to the BTN Fish School story. Here are some words to get them started.

NATIVE	SPECIES	ENDANGERED
AQUACULTURE	AQUAPONICS	SUSTAINABLE

# Activity: Native Fish profile

Students will choose an endangered native fish species to research in more detail.

### Research

Students will research a native fish species that is under threat and create a profile. Students can use the Animal Profile at the end of this activity.

- Illustration or photo
- Scientific and common name
- Appearance
- Habitat
- How does it survive in its environment? What are some of its adaptations?
- Conservation Status
- Threats
- Unique features
- Interesting facts



### Share

- Share and compare your findings with your classmates.
- Present your research in an interesting way.
- Think of ways to raise awareness about the native fish species that are under threat.

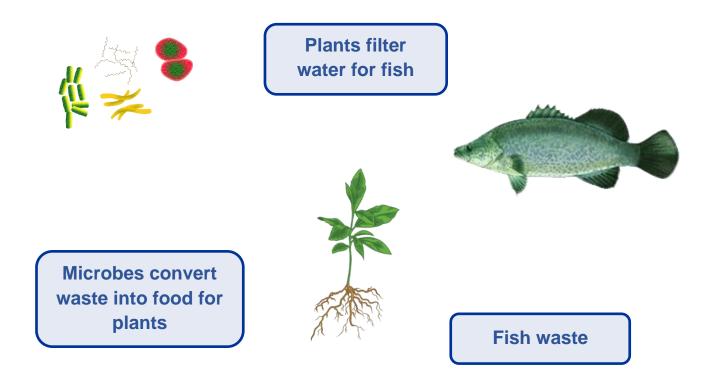
## Action

- What steps can you take to help threatened native fish species?
- Grow native fish in your backyard. Find out more <u>here</u>.
- Consider breeding native fish at school.

## **Activity: Aquaponics Cycle**

The students in the BTN Fish School story have an aquaponics program at their school. Investigate what aquaponics is – watch the <u>BTN Aquaponics School</u> story to learn more about it. After students have watched the story, clarify their understanding of what aquaponics is.

Ask students to arrange the following images and processes and add arrows to create a diagram demonstrating the cycle of aquaponics. Students will then investigate each step of the cycle in more detail explaining the biological and chemical mechanisms behind it.



### Questions to investigate

- What is the aquaponics cycle? Include as many of the following words in your description as possible: animal waste, bacteria, absorb, nutrients, oxygen, nitrogen and ammonia. Draw a diagram to demonstrate the cycle in aquaponics.
- What do plants need to grow? What are the four main basic needs of a plant? If you have ever taken care of plant, describe what you have done to care for your plant.
- What do fish need to survive?
- What are the advantages and disadvantages of aquaponics for food production?
- What are the benefits of aquaponics compared to traditional farming?

### **Further investigation**

There are many fish that can be successfully raised in aquaponics systems which are suited to the climate in Australia. These include Barramundi, Silver Perch, Trout, Golden Perch, Catfish, Murray Cod, Jade Perch, Australian Bass, Black Bream, Eels and Yabbies. Students can choose a fish that can be raised in an aquaponics system in Australia and create a profile on them.

## Activity: Who am I?

Students will make their own *Who am I?* game to learn more about native fish.

- Students will research and write 5 clues to correspond with each fish/crustacean in the Who am I? worksheet at the end of this activity, with the first clue being the hardest and the last clue being the easiest.
- Include clues about special features, appearance, adaptations and any threats.
- Students will test their game on a partner.



## **Activity: Dreaming stories**

The students in the BTN story were learning about Ngurunderi - a Dreaming story explaining the creation of the Murray River. Explore the Ngurunderi Dreaming story and complete one or more of the following activities.

## Storytelling

Read the Ngurunderi Dreaming story and watch the animation from the BTN River Kids story.
Students can practise their storytelling skills by taking it in turns to read the story aloud to a partner, small group or the class.

#### Illustrate

Illustrate your favourite part of the Ngurunderi Dreaming story.
Think of a creative way to produce and display your drawings. It could be a storyboard or Canva.

### Write

Write a summary of the story.
What is the story about? Explain in your own words why the Murray River is important to Ngarrindjeri people.

#### **Your stories**

The stories we tell reveal a lot about our culture and what we value.

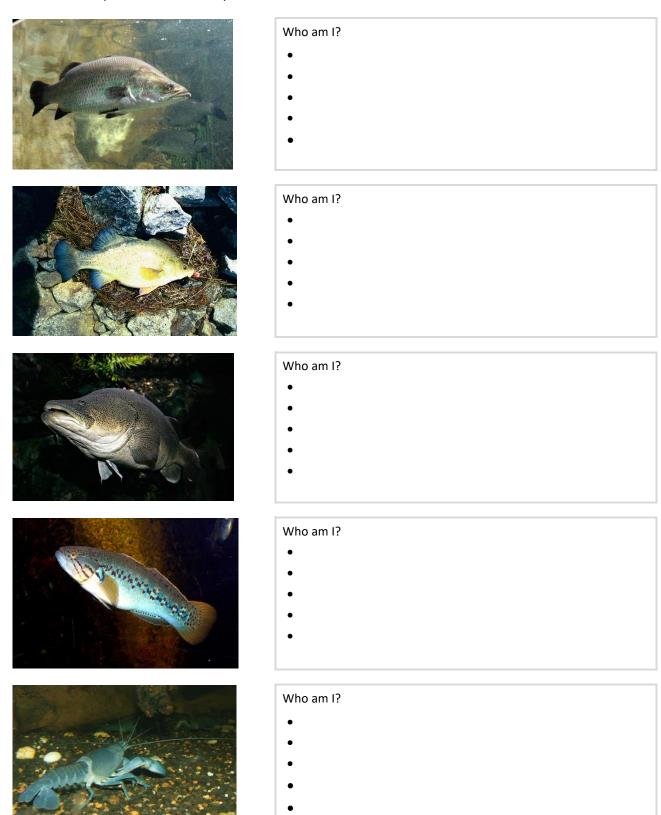
Think of a story that is important to you and your school or family. Does your story have a message or purpose? Record your story using pictures and/or words. Share your stories with the class.

## **Useful Websites**

- Adelaide school students helping bring endangered fish species back from brink of extinction ABC
   News
- <u>Supporting Native Fish</u> Enviro Data SA
- Aquaponics School BTN
- Key threats to native fish Murray-Darling Basin

# Who am I?

Choose 5 native fish/crustacean species or use the five below. Write 5 clues to correspond with each fish. Include clues about the animal's appearance, habitat, unique features and conservation status. Cut up the cards and test a partner to see if they can match the fish to the clues.



Images: 1. Barramundi 2. Golden Perch 3. Murray cod 4. Southern purple spotted gudgeon 5. Yabby

