

Lesson Plan

Victorian Curriculum: Level 5 - 6

Science understanding – Biological sciences (VCSSU074/75)

Science Inquiry Skills – Communicating (VCSIS08)

Intercultural Capability – Cultural Practices (VICCCB009/10)

Topic: Sustainability	Learning outcomes
	<p>Students will be able to:</p> <ul style="list-style-type: none"><li data-bbox="613 808 1393 955">• Understand the growth and survival of living things are affected by physical conditions of their environment and restoration and rehabilitation can improve population growth.<li data-bbox="613 1003 1446 1113">• Appreciate that environmental recreational fishing rules and regulations support the sustainability and protection of our fisheries which is influenced by indigenous cultural practices.

Time required: 60 minutes

Classroom set up: Students can complete online or in classroom setting. Students to work individually or in pairs to read through and complete materials attached.

Extension: Students can choose 5 more species from the Victorian Recreational Fishing Guide and record the name, minimum legal length and bag limit.

Tasks:

- Indigenous Culture
- Sustainability
- Rehabilitation and Restoration



Indigenous culture

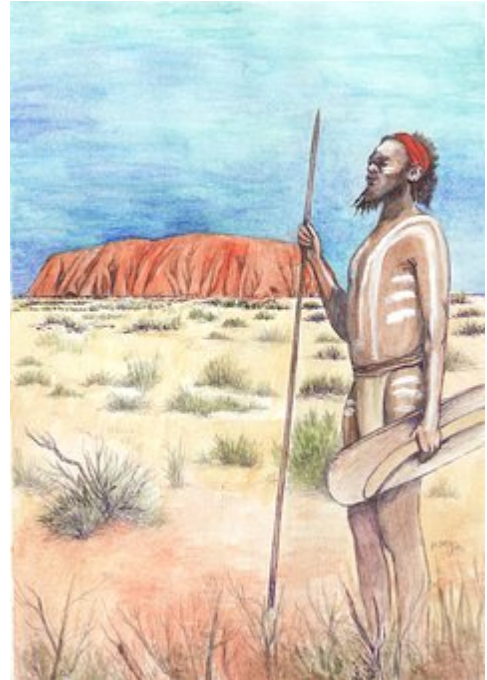
Aboriginal and Torres Strait Islander people lived in a system whereby they were a part of the land functioned in a way that nurtured the environment to support their local clans for generations with enough food, water and adequate care for the elders.

A strong understanding of environmental science and observation of wild animal hunting techniques guided aboriginal farmers fishing, hunting and agricultural practices.

Fires were used to clean land and develop seasonal crops, utilizing native species and those with medicinal benefits. Aquaculture techniques in the form of fish traps were developed in rivers and streams using rocks to herd the fish into pools of different heights to account for frequent floods and droughts. These banks and trenches were used as a sustainable and ongoing form of fishing for thousands of years in aboriginal culture.

This wisdom understood that the life of the clan relies on the quality of the land and resembles a conservationist mindset, therefore, serving clans with convenient, abundant, and predictable food sources that sustained generations for thousands of years.

Our understanding of aboriginals sustainable farming and fishing techniques can assist us in preserving our native species and protecting their environments in our modern society.



Sustainable fishing

Sustainable fishing refers to the regulation and protection of fish species to avoid over-fishing and ensure there are enough fish for the future.

The image below shows an indigenous fishing trap. Draw a line to show the movement of the fish into or away from the trap to represent what is **most** sustainable. Remember for a sustainable fishing future some fish must swim free!



Explain why your fishing trap is sustainable:

The Victorian Recreational Fishing Guide

In Victoria people continue to use fishing as a way of hunting for food or as a competitive sport and a way to relax in nature.

To ensure our native freshwater and saltwater fish populations are protected we use the Victorian Recreational Fishing Guide to guide us in sustainable and responsible fishing practices.

Inside all fish, crustaceans and molluscs are protected under a specific set of rules that limit the size and number you can take in one day.

Minimum legal size:

The minimum legal length the fish can be taken from the water.

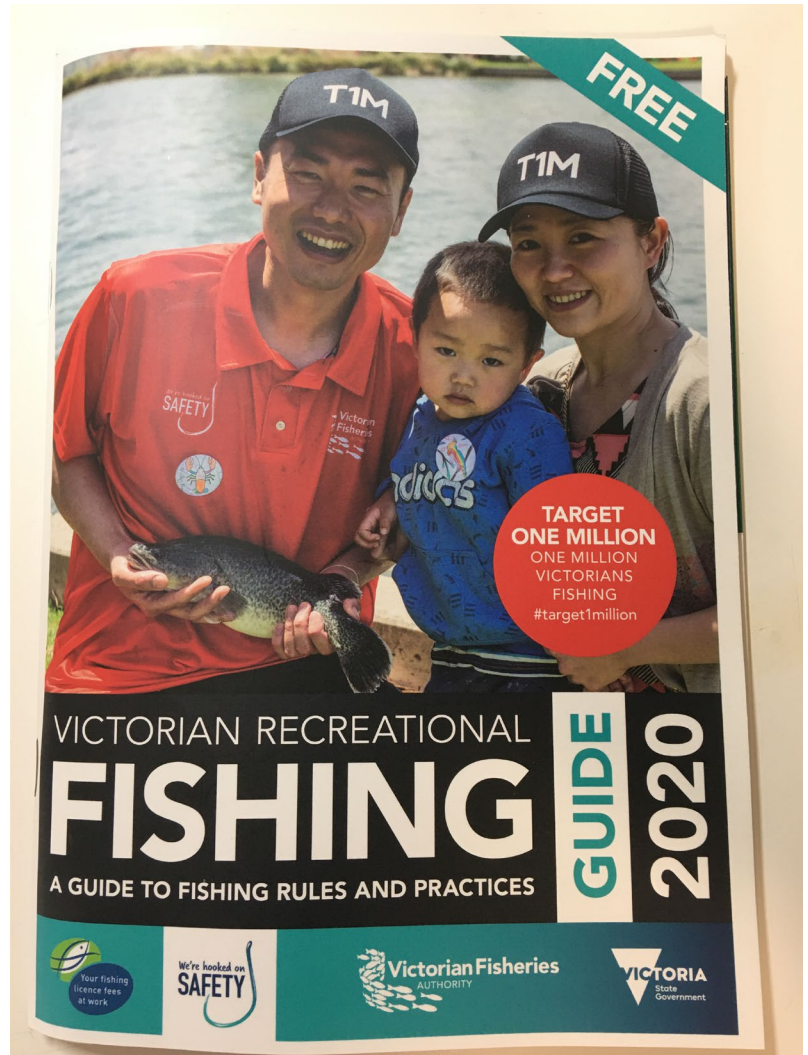
Bag limit:

The maximum number of species you can take in one day.

By following these rules and practicing safe handling and dispatching of fish, you can increase the chances of released fish surviving in the wild and contributing to a healthy fishing future.

Let's try!

Visit: [What's that fish?](#) and complete the work sheets in conjunction with [Victorian Fisheries Authority Recreational Fishing Guide](#).



Rehabilitation and Restoration

Sustainable, responsible, and ethical fishing practices are a fantastic start to preserving and protecting our aquatic ecosystems and their fish populations. However, to promote further expansion of these populations we can focus on rebuilding their habitat through rehabilitation and restoration.

All fish, crustaceans and molluscs need a place to live – a home, which we call a habitat of which many exist within one ecosystem, for example Port Phillip Bay which includes habitats such as;

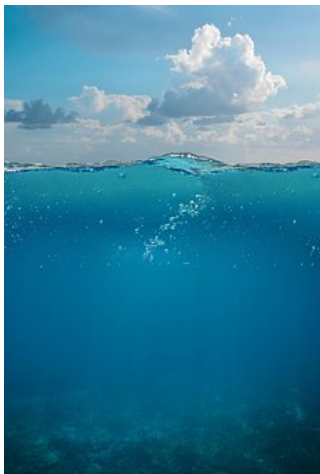
Sea grass beds



Sandy flats



Open ocean



Coastal Shores



Rocky Reefs



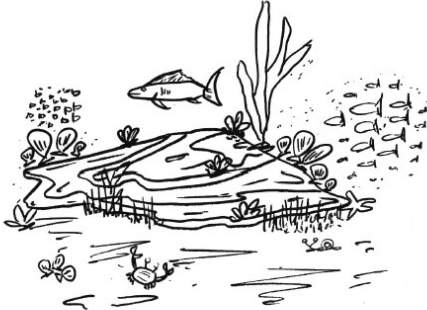


Mud flats



In recent years, overfishing, pollution and disease caused the shellfish population in Port Phillip Bay to drop and with it the habitat that they form, known as shellfish reefs had almost completely disappeared. Recently, a project has begun to restore this habitat using recycled sea food shells and limestone rock to form a base on which oysters and mussels can grow on. In just a few years the reefs are home to a diverse range of species and forming a healthy, sustainable ecosystem once again.

The image below shows the yearly change in population size and species on the restored shellfish reefs in Port Phillip Bay.

Year 1	
Year 2	
Year 3	

Your turn!

Restore a habitat of your choice and draw the positive changes that occur over time.

Year 1	
Year 2	
Year 3	

In your opinion, at what year is the ecosystem most healthy and why?

If this ecosystem continues to be monitored and managed to ensure its protection and continual restoration, explain how it might look in the 10th year?

Extension

Species	Minimum Legal Length	Bag Limit
1.		
2.		
3.		
4.		
5.		

