

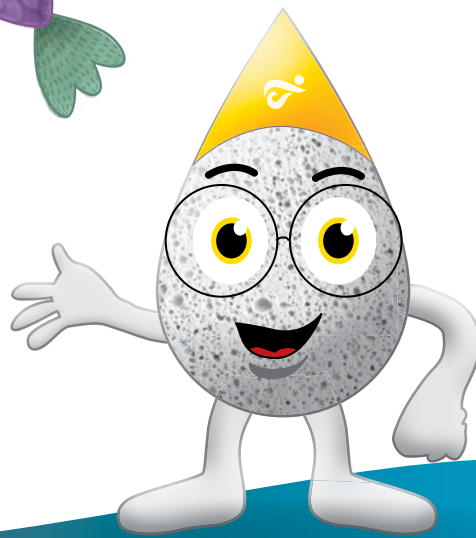
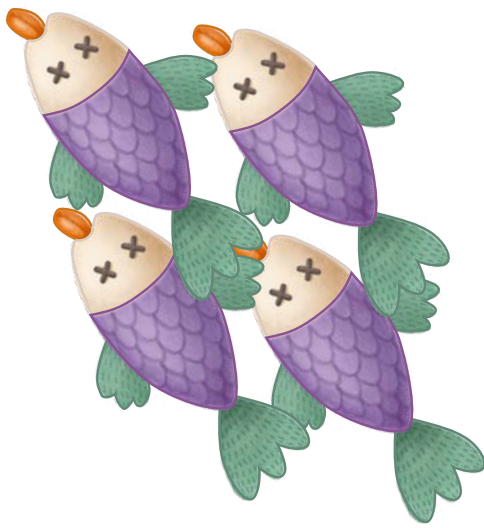
BEACH

WATER SKILLS FOR LIFE

SUSTAINABLE FISHING PRACTISES

MODULE

12



9 LESSONS

LEVEL 4

SUSTAINABLE FISHING PRACTISES

DESCRIPTION

When it comes to catching fish, we have numerous options including nets, rods, trawling and even our bare hands. Fishing sustainably ensures we respect our fishing habitats and guarantee we leave enough fish in the ocean for future generations. In many indigenous cultures, people have fished sustainably for thousands of years. Today's sustainable fishing practices reflect some lessons learned from these cultures.

ACHIEVEMENT OBJECTIVES

Science

Living World:

Ecology: Explain how living things are suited to their particular habitat and how they respond to environmental changes, both natural and human-induced.

Planet Earth & Beyond

Earth systems: Develop an understanding that water, air, rocks and soil, and life forms make up our planet and recognise that these are also Earth's resources.

Health & Physical Education

Personal Health and Physical Development

Safety and Risk Management: Students will access and use information to make and action safe choices in a range of contexts

Healthy Communities and Environment

Healthy Communities and Environment Rights, Responsibilities, and Laws: Students will specify individual responsibility and take collective action for the care and safety of other people in their school and in the wider community

LEARNING INTENTION

- Sustainable fishing practices are important and can help reduce by-catch and leaving more fish for future generations
- Marine protected areas protect certain areas of the ocean from harmful human activity

SUCCESS CRITERIA

- Students will learn about the importance of sustainable fishing and protecting the marine environment
- Students will understand about the issues and impacts associated with overfishing, and marine ecosystems and sustainability
- Students will learn about the rules and regulations around NZ waters and marine life

KEY COMPETENCIES

Participating and Contributing:

- Actively participate in class activities, discussions and group projects

Managing Self:

- Manage behaviour in whole class, group and individual activities
- Have a positive work ethic
- Complete work to the best of my abilities

Thinking:

- Evaluate information for its overall reliability and effectiveness

Using language, symbols and texts:

- Organise information into logical groups.
- Search for key information using a range of sources
- Research and gain understanding of new vocabulary

Relating to others:

- Respect the ideas and opinions of others.
- Work effectively as a group member towards a common goal

RESOURCES

Internet, tv/ active board, youtube clip, MPI website, Student devices, sustainable and unsustainable fishing practices task cards, Fishing rules scavenger hunt worksheet, Sustainable fishing article

ASSESSMENT ACTIVITIES

- NZ fishing rules scavenger hunt activity sheet
- Class discussions
- Create a presentation to demonstrate understanding of sustainable fishing practices and consumerism in response to the problem posed in lesson 2

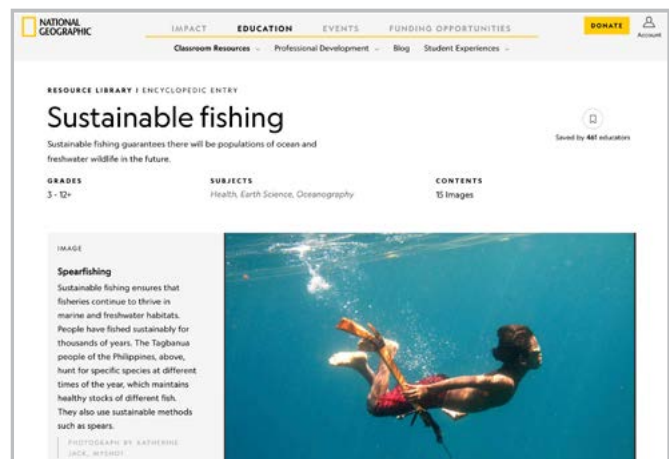
LESSON

1**Tuning In**

Introduce the topic to the students 'sustainable fishing practices'.

Ask the students: What does sustainable mean? How do people catch fish? Where can you buy fish from? How does your whanau get fish? Do you know of any rules there are for fishing? Do you know how many fish you're allowed to catch? Do you know of any fish or shellfish we're not allowed to harvest?

Watch the video [Will the ocean ever run out of fish?](#) and **ask** the students to identify the 'big ideas' from the video. **Ask the students** to read the article [Sustainable fishing](#) from national geographic to help them gain a deeper understanding of why sustainable fishing is essential for our future. **Ask the students** to identify vocabulary they found interesting or are unsure about from the article.

**Activity: Key Vocabulary Search**

Split the students into pairs and ask them to research these words and record their definitions in relation to fishing. **Explain** that this activity will help them develop the necessary knowledge to make sense of the information they will encounter during their own research throughout the module. Come back together and share findings with the rest of the class. Add these key words and the agreed definitions to a vocabulary wall display that can be added to throughout the module.

2 to 5

Finding Out/ Sorting Out

12

LEVEL 4

Students split into groups of 3-4 to conduct an inquiry into sustainable fishing practices. **Pose the problem to students:** 'We are rapidly running out of fish in the sea. There are a number of sustainable and unsustainable fishing practices taking place to meet consumer demand. There are over 7 billion people to feed on our planet. How can we ensure there will be enough fish for future generations?' Ask the students to make a list of questions to guide their inquiry.

Examples of questions include:

- What are sustainable fishing practices?
- How do we know the fish we eat is sustainably sourced?
- What rules should governments enforce for commercial fisheries?
- How can we help the ocean repopulate?

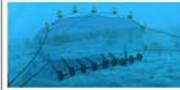




Activity:

Sustainable & Unsustainable Fishing Practices

Give students a pile of cards that contain a range of fishing practices containing the name of the practice, a picture of it and its meaning. **Ask the students** to sort these cards into piles of sustainable and unsustainable fishing practices. Discuss results as a class.

Researching & Collecting Relevant Information

- Students to organise** their own way of collecting and sorting information taking into account the following:
- Tools we will use to research
 - People we can ask for help
 - Where we will keep our research
 - Possible ways we will present our research

Fishing practices		
Bottom trawling		Bottom trawling is classified as an active gear that consists of a large weighted net, which trawls or "drags" along the seafloor, acting as a destructive mechanism that removes coral and other marine species
Cyanide fishing		The blast radius of an explosive device being set off underwater to obtain fish (dynamite fishing). Cyanide fishing is used as a method to capture live fish to supply the international aquarium trade, and more recently, to supply the demand for live reef fish by restaurants. This method involves the spraying of sodium cyanide into the targeted fish's habitat as a means of stunning the fish without killing them. For each fish captured using sodium cyanide, a square metre of coral reef is destroyed.
Dynamite fishing		Dynamite fishing or blast fishing is a technique that detonates explosives underwater in order to easily kill schools of fish and maximize yield. The dead or stunned fish then floats to the surface of the water where they can be easily harvested. Along with the fish, the entire ecosystem, such as coral reefs, and other marine organisms within the blast radius can be destroyed, which in the coral reef's case, can take hundreds of years to rebuild.
Ghost fishing		Ghost fishing is classified as passive gear that occurs when fishing gear has been left or lost in the ocean. The gear can potentially continue to catch or entangle any species of marine life as it drifts through the water or snags on rocky reef, eventually killing the entangled organism through laceration, suffocation or starvation.
By-catch		By-catch is an inevitable aspect of fishing where unwanted fish or other marine organisms including turtles, dolphins and juveniles are caught. This is a by-product of the unselective nature of modern fishing gear, such as bottom trawling which captures everything in the path of the net. Consumer-grade gear such as

Once students have collected research, they must sort through it using the following questions as a guide:

- What information helps answer my questions?
- Do I need to find out more information to answer the question?
- What are my questions now?
- How have they changed?
- What changes do I need to make to my inquiry?

Activity: NZ Recreational Fishing Rules Scavenger Hunt

Using the [NZ MPI website](#), ask students to hunt for information about recreational fishing rules and catch limits. Make sure students select their local area to ensure the correct information is being sought. Provide students with the [Fishing Rules Scavenger Hunt activity sheet](#) to begin their hunt.



Fishing Rules Scavenger Hunt

What is the minimum length for a snapper in our area?	
How many paua can one fisher collect in our area?	
What shellfish have size requirements?	
How many gray mullet can one fisher catch per day?	
What part of the packhorse lobster has to be measured to determine size requirements?	
What shellfish are prohibited from collection?	
How do you report poaching?	
What shellfish can a fisher collect the largest amount of?	
What is the app called that helps people find out what their local fishing rules are?	
Why do recreational fishing rules matter?	

6 **Going Further****to**
8**Creating a presentation and presenting their learning**

Students must decide how they will present their inquiry to the class. Possible presentation formats include google slides, prezi, video, infographic, poster...

The teacher and students must co-construct a criteria that all presentations need to have to make sure the students have a clear understanding of what is expected of them.

Students spend time creating their presentations using the following guiding questions:

- What information is important to share?
- Have I answered all the questions to answer my inquiry?
- Have I checked to see if my presentation meets the success criteria?

Students present their inquiry presentation to the class and wider school (ie. in other classrooms or assembly).

9 **Making Conclusions/
Taking Action**

Discuss the overall learning resulting from this module. In particular ask students to reflect on how they can contribute to helping replenish the world's oceans and build awareness of this importance in our community.

Brainstorm together possible next steps for helping inform our community about sustainable fishing practices and consumerism.