



OCEANWATCH
AUSTRALIA

NSW Seafood Industry Partnerships in Schools to 2030 (SIPS 2030)

Students Instructions



Department of
Primary Industries



Overview

In this series of lessons, we're diving into the world of sustainable seafood. Understanding sustainable seafood is all about learning how to make choices that are better for the environment and for ourselves. It's about protecting our oceans and the creatures that live in them for future generations.

What You'll Be Doing:

Activities: From sorting cards to creating your own sustainable seafood menu, we've got a range of activities lined up for you.

Fact Sheets: These will be your go-to guide for all the information you need during the lessons.

Videos: We've got some videos that will give you a closer look at different aspects of the seafood industry.

Lessons Summary:

Lesson 1 - Understanding Sustainable Seafood - In this lesson, we're diving deep into the world of sustainable seafood. You'll learn about the different ways fish are caught and farmed, and how these methods affect our oceans and the creatures living in them

Lesson 2 - Careers in the Seafood Industry - Ever wondered about the different jobs in the seafood industry? In this lesson, we're taking a closer look at the many career paths you can take, all while keeping our oceans happy and healthy.

Lesson 3 - Exploring Local Sustainable Seafoods - In this lesson, you'll learn about the best local seafood options and how to spot them when you're shopping. Plus, you'll get to design your own sustainable seafood menu.

Lesson 1- Understanding Sustainable seafood

Objective:

We're going to explore the world of sustainable seafood in Australia. You'll learn about the different ways fish and the environmental footprint of the seafood industry compared to other food production systems. Get ready to think deeply about how we can keep our oceans healthy while enjoying the seafood we love!

Learning Intentions. You Will:

- be introduced to the core principles of sustainable seafood, including the importance of protecting marine ecosystems and maintaining a balance that ensures the well-being of future generations.
- learn about various fishing methods used in Australia and globally, and will be able to identify the ecological footprints associated with each method.
- develop the ability to think critically and analytically about the information presented, fostering a deeper understanding of the complex issues surrounding sustainable fishing practices.

Success Criteria: You will be able to:

- actively participate in group activities, demonstrating a collaborative approach to learning.
- effectively use the resources provided, such as the Fishing Method Factsheets, to research and analyse different fishing methods.
- articulate their understanding of the topics covered, presenting well-reasoned arguments and showing a deep understanding of the environmental, economic, and social impacts of different fishing practices.

Key Questions

- What does “sustainable” mean?
- What factors contribute to the sustainability of a food source?
- Why is sustainability important within the fishing industry?
- How do aquaculture and wild caught fisheries differ?

Instructions:

Understanding Sustainability: Before we start, let's understand what "sustainability" means. It's all about using resources in a way that meets our needs today without messing things up for people in the future.

Your Mission:

We have two different ways to tackle this activity:

- **Slide Show:** We'll go through a slide show together. As you see each slide, jot down whether you think the practice shown is sustainable or not.
- **Card Sorting:** You'll work in small groups with a set of cards. Each card describes a fishing practice. Your job is to sort them into two piles: sustainable and unsustainable. Talk about your choices with your group - there are no wrong answers, it's all about your thinking!

Main Activity:

Now it's time to become experts on sustainable fishing! We are going to explore different ways fish are caught and farmed, and see how each method works and the gear fishermen use.

Here's how we'll do it:

- 1. **Video Time:**
 - Watch: We'll watch a video on how eels are caught using pots in Hawkesbury River.
 - Discuss: After the video, we'll chat about what we saw.
- 2. Get to Know the other fishing methods:
 - **Fishing Method Factsheets:** Use these to learn about different fishing methods like trawling, longlining, pole-and-line fishing, and aquaculture.
 - **Fishing Methods Worksheets:** You will pick a number between 1 and 5 to rate the potential impact of each fishing method.
 - **Food production systems:** Using the same Fishing Methods Factsheet use the graph at the bottom to compare different food production systems and how the impact the environment. Think about how other food production systems compare to fisheries in terms of water usage, soil erosion etc. Then complete a the table in the **Fishing Methods Worksheet** rating them from 1 to 5 in terms of their environmental impact.
- 3. Activity Discussion:
 - Share your key finding from your research and discuss your ratings for both tables with your classmates.
 - Discuss about how technology can mitigate ecological impact in the fisheries industry as well as in the food production systems.
 - Share: Later, you'll share what you learned with the class. So take good notes!

Extension Activity: Mapping Fishing Methods.

Website: Check out OceanWatch Master Fishermen Website (<https://oceanwatchmasterfisherman.org.au/>) to find examples of different fishing methods and grab a [printable map](#) of NSW.

Task: Use the website to find out where different fishing methods are used in our local area. Use your map to mark the spots where each fishing method is used. You can draw little symbols or pictures to represent each method.

Lesson 2 - Careers in the Seafood Industry

Objective:

In this lesson we're going to explore a number of jobs that are all about keeping our seafood industry sustainable. We'll learn why it's super important for these jobs to focus on sustainability. It's all about making sure our oceans stay healthy for generations to come.

Learning Intentions:

You will:

- Gain insight into the variety of careers available in the sustainable seafood industry in Australia.
- Understand the role of sustainability in different job roles within the seafood industry.
- Develop the ability to critically analyse and discuss the current challenges and opportunities in the Australian sustainable seafood industry.

Success Criteria:

- Identify and describe various careers in the seafood industry, understanding the importance of each role in promoting sustainability.
- Engage in thoughtful discussion about the challenges and opportunities present in the sustainable seafood industry.
- Reflect on a specific career within the seafood industry, understanding its importance, and how it contributes to sustainability.

Key Questions

- What are some careers in the seafood industry?
- What makes a job in the seafood industry sustainable?

- What skills and education do you need for a sustainable career in the seafood industry?
- How can people working in the seafood industry help the environment and society?
- What are some career pathways in the seafood industry?

Starter Activity:

Discussion: Let's kick things off with a chat. Can you list some jobs that are part of the seafood industry here in Australia? Why do you think it's important for these jobs to be done sustainably? Share your thoughts!

Vide Time!

Next, we're going to watch a video about a day in the life of an oyster farmer. It's a peek into what a real job in the seafood industry looks like. Keep an eye out for how they work with the environment!

Main Activity: Career Fact Sheet Carousel.

In this activity we will be exploring different careers in the Australian sustainable seafood industry. Here's how we are going to do it:

Rotate between stations, spending about 3 minutes at each to learn about the skills, educational paths, sustainability practices, and daily impacts of different roles in the fisheries industry using the [Seafood Industry Careers Presentation](#).

Worksheet: Fill in the [Seafood Industry Careers Carousel Worksheet](#) as you move through the carousel and note down the specifics of different job roles, including the training and career pathways associated with them. Now choose a specific career path that interests you and reflect into your potential place in the seafood industry.

Activity Discussion: Challenges and Opportunities: Lead a discussion on the current challenges and opportunities in the Australian sustainable seafood industries, focusing on how these factors might influence future careers in the sector.

Lesson Extension / Stage 6 Research Activity:

Investigate your chosen career role further, focusing on its importance to society, the environment, and the industry, and how someone in that role could contribute to sustainability in the seafood industry. Prepare a short presentation showcasing a 'day in the life' of the chosen role, emphasising aspects related to sustainability and career pathways.

Lesson 3 - Exploring Local Sustainable Seafoods

Objective:

Get to know local sustainable seafood options available in NSW and dive into the world of different sustainable seafood products.

Where in NSW is seafood harvested?

Learning Intentions.

You will:

- Learn about different NSW harvested seafood options
- Develop the skills to create a sustainable seafood menu considering various factors including species, nutrients, locations...

Success Criteria:

You will be able to:

- Research and present local sustainable seafood options effectively.
- Design a sustainable seafood menu, demonstrating an understanding of the principles of sustainability.

Key Questions:

- What are some commercially important seafood species in NSW?
- Where are they harvested?
- What are some common seafood dishes?
- How can you include seafood in your daily life?
- What are some of the health benefits of eating seafood?

Starter Activity :

Compile a list of local and sustainable seafood products that are available in your region. Include a variety of options such as fish, shellfish, and seaweed. Facilitate a discussion or reflect on where the seafood they have listed might come from and what methods could be used to obtain it.

Video Time!

Next, we're going to watch a video about a day in the life of a Prawn Trawler. It's a peek into what a real job in the seafood industry looks like. Keep an eye out for how they work with the environment!

Main Activity :

Part 1: [Watch Seafood presentation](#) and to pick their 3 favourite seafood species in the top part of the [Seafood Menu Worksheet](#) considering factors such as fishing methods, flavour and species.

Part 2: Use the information gathered to design a sustainable seafood menu, incorporating a variety of local and sustainable seafood options. Briefly revisit the concept of sustainability, emphasising the importance of using local and sustainable seafood products. You can get inspired with different cooking methods from [Sydney Fish Market Website](#).

APPENDIX 1

Key terms:

- **Aquaculture:** The cultivation of aquatic organisms in controlled environments for commercial purposes.
- **Bycatch:** Unintended marine species that are caught while targeting specific fish or shellfish.
- **Ecological Footprint:** A measure of the environmental impact of an individual, community, or organisation based on resource consumption and waste generation.
- **Fish Stocks:** Populations of fish that are managed and assessed for sustainable use.
- **Overfishing:** The act of depleting fish stocks faster than they can naturally replenish.
- **Sustainability:** The ability to meet the needs of the present without compromising the future, taking into account environmental, economic, and social considerations.
- **Master Fishermen Program:** A certification program aimed at ensuring best practices in sustainable fishing, typically involving advanced training and assessment.
- **Wild Caught:** Seafood that is caught in its natural environment, as opposed to being farmed.
- **Trawling:** A fishing method where a large net is dragged through the water.
- **Long-lining:** A commercial fishing technique involving the use of a long fishing line with baited hooks.
- **Pole-and-Line:** A method of fishing where each fish is caught individually using a hook attached to a pole.
- **Fisheries Management:** The integrated process that aims to sustainably use fishery resources.
- **Ecosystem-based Management:** A approach to fisheries management that considers not just fish stocks but the wider ecosystem.
- **Traceability:** Methods that allow consumers to trace the origin of their seafood, ensuring it's sustainably sourced.
- **Consumer Responsibility:** The role of consumers in choosing sustainable options to support ethical and ecological practices.

- **Local Catch:** Seafood that is caught and consumed within a specific geographical area, often considered more sustainable due to reduced transport emissions.
- **Seasonality:** The practice of consuming seafood at certain times of the year when it is naturally abundant.
- **Economic Viability:** The long-term financial sustainability of a fishing method or seafood industry segment.
- **Ethical Fishing:** Practices that consider the welfare of marine life, ecosystems, and human communities involved in fishing.
- **Stakeholders:** Groups or individuals with a vested interest in how natural resources are managed, such as fishers, policy-makers, and consumers.
- **Blue Economy:** An economic model that sustainably utilises ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystems.