

Our Amazing Oceans

This cross-curricular, multi-level teaching unit is designed to help students explore and appreciate our unique oceans while learning how fisheries are managed to ensure sustainable seafood for generations to come.

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Best suited for 5-10 year olds



An ocean adventure!

- Tell the students they are going to explore 'our amazing oceans!' Show a large map of Aotearoa and its surrounding oceans. Explain the concept of the EEZ (exclusive economic zone) by drawing around New Zealand (see an example here: www.sciencelearn.org.nz/images/4593-new-zealand-s-eez)
- Explain to students that Aotearoa is a world hotspot for biodiversity. This is easy to observe on land with our iconic species like the kiwi, tuatara and wētā, but the marine environment is just as rich in biodiversity. With over 17,000 known species - and more being discovered all the time - experts estimate that up to 85% of our wildlife can be found in the ocean!
- Ask the class what they think lives in our oceans. List their answers (e.g. fish, whales, dolphins, seaweed). Get them to draw an underwater scene
- Let students know we are lucky in to be surrounded by these 'amazing oceans'. Together, brainstorm how people might use marine environments. What are some of the fun things we do can do in our oceans?

Te hī ika - Māori and fishing

- Share a story from Māori mythology, such as Māui and the fish, emphasising the cultural and historical significance of fishing to Māori. Discuss how traditional fishing practices were based on respect for Tangaroa, the god of the sea, and how these practices shaped sustainable approaches to fishing.
- Explain to students that after the arrival of European settlers in the early 1800s, Māori access to traditional fisheries declined. In 1992, the Māori Fisheries Settlement secured Māori customary fishing rights - both commercial and non-commercial.
- The commercial settlement was provided in the form of quota and half of the fishing company Sealord. Collectively, Māori now own about 50% of commercial fishing quota.
- Explore traditional Māori methods of fishing, like the use of hand-woven nets and the practice of rāhui (temporary bans on fishing to protect resources).

Links

- www.teara.govt.nz/en/te-hi-ika-maori-fishing
- www.learnz.org.nz/sustainableseas181/bg-standard-f/kaitiakitanga-o-te-moana
- www.teohu.maori.nz/settlement-history/
- www.mpi.govt.nz/dmsdocument/56572-Draft-Fisheries-Industry-Transformation-Plan

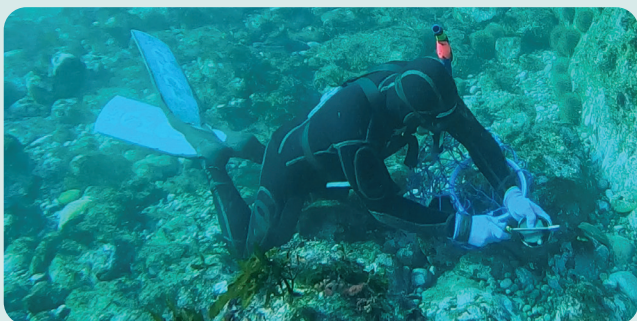




A mat of exotic caulerpa seaweed on the seafloor near Aotea Great Barrier Island. (Photo credit: NIWA)

Threats facing our oceans

- Introduce threats facing our oceans today such as: climate change, pollution, invasive species, and runoff from land. Discuss how overfishing could lead to a collapse in fish populations and why it is crucial to manage our fisheries carefully.
- Play and discuss the following video to find out about an invasive seaweed species called caulerpa that is found in New Zealand and in particular Northland. www.youtube.com/watch?v=GJkqlxcsUw4
- Have students brainstorm in groups about ways they think people can reduce risks facing our oceans. Create a “Support Our Oceans” poster highlighting these solutions.



Managing our fisheries

- Discuss what fisheries management was like before the Quota Management System – there were no caps on the number of fish caught, which allowed overfishing. Too many boats were chasing too few fish, and our fish populations were declining. The QMS was introduced in 1986 to address this problem.

- Explain that the QMS is used to make sure there are enough fish for us now and for future generations. The QMS tells all people who fish (commercial, recreational, and customary) the number of each type of fish they are allowed to catch each year. Our system has often been regarded as world leading and we continue to improve it as new technology and information becomes available.
- Managing our fisheries involves many different people. Discuss the roles played by the government, the seafood industry, and scientists from organisations like NIWA in monitoring fish populations. Encourage students to explore the various jobs involved in keeping track of fish populations.
- Explain that yearly population growth enables us to safely catch fish year after year as the population naturally increases.

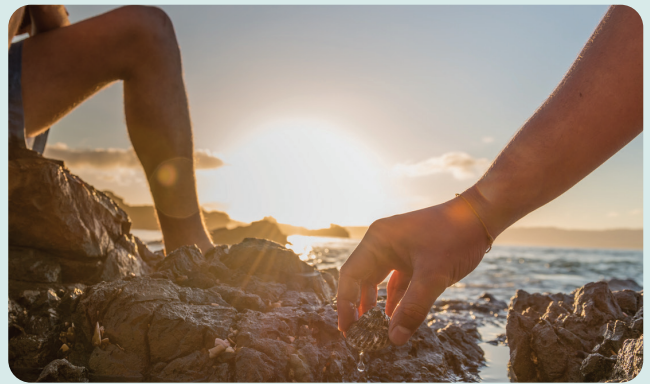
Links

- www.msc.org/docs/default-source/nz/tkot-5---fishery-management/5.3-quota-management-system/qms-worksheet.pdf?sfvrsn=ca69244b_3
- www.mpi.govt.nz/legal/legislation-standards-and-reviews/fisheries-legislation/quota-management-system/



There's more!

- Explain that managing fisheries isn't just about catching fish. It's also about:
 - Making sure fish populations are left to grow, which supports the entire marine ecosystem. This means food for other marine animals to eat – fish, seals, dolphins, whales, sharks, seabirds.
 - Minimising the unintended catch of other species like seabirds, dolphins, and turtles by using sustainable fishing gear and methods.
 - Minimising the catch of fish we don't eat. Fishers avoid nursery areas with juvenile fish—and use specially designed nets and hooks to help avoid catching species they don't intend to catch. They also implement measures to avoid accidentally catching seabirds, sea lions, dolphins, and turtles and other protected species.
- Play 'Catch me if you can!' Students are given paper fish and a quota to catch. Discuss what happens if they exceed their quotas or catch a protected species. You can find more information about this game and printable resources here:
www.seafood.co.nz/teaching-resources



Playing our part

- Encourage students to think about their role in looking after our oceans. Ask them to create a small booklet or poster about one thing they can do to help look after our oceans. Have students present their findings to the class.
- Challenge students to design and construct a measuring device that fishers in their whanau or community can use to easily check size of caught fish.

Reel in your community!

- Invite a local fisher to speak about the quota management system and their sustainable fishing practices.
- Host an ocean themed Inspiring the Future careers talk, invite a range of people who work in fisheries, this could include people from skippers and engineers to marine scientists and fisheries managers.

Seafood New Zealand can suggest and help you find local people to speak to your students, email careers@seafood.org.nz

Links

- www.inspiringthefuture.org.nz

