

QUOTA MANAGEMENT SYSTEM

OVERVIEW

In Aotearoa New Zealand fisheries are managed under the Quota Management System (QMS). The QMS aims to limit the number of fish that can be caught to a sustainable level. Through extensive monitoring of each fishery, Fisheries New Zealand has developed a good understanding of how many fish there are in each fishery and how quickly each fishery can reproduce itself.

Under the QMS a Total Allowable Catch (TAC) is made up of recreational, customary and commercial fisheries. By controlling the number of fish taken by all sectors of the fishing community the QMS works to keep fishing sustainable.

In this lesson we look at some of the key features of the QMS and some of the different viewpoints regarding it's merits and success.

See also slide set [Quota Management System](#).

FOCUS QUESTIONS

- *What are the key features of the Aotearoa New Zealand Quota Management System (QMS)?*
- *What new words and concepts have we learnt?*

LEARNING OBJECTIVES

- Investigate key features of Aotearoa New Zealand's Quota Management System
- Use scientific and fishery management related vocabulary

LOCATION

Indoors

DURATION

50 mins +

LEVEL

Level 3 - 5+

CURRICULUM

Science; Social Science;
Geography; Pūtaiao;
Tikanga-ā-iwi; Hauora

Key competencies:

Thinking; Managing Self;
Using language, symbols &
texts; Relating to others

NEXT STEPS

- EEZ & the Law of the Sea
- Review

PRIOR LEARNING

- Sustainable Fishing & Overfishing
- Science & the Sustainable Catch




MATERIALS

- Slide set [Quota Management System \(QMS\)](#)
- [Teacher Outline](#) (this)
- Access to internet (for film clips and extra learning on worksheet)
- Copies of [QMS Worksheet](#)
- Copies of [Recreational & Customary Fishing Worksheet](#)
- Copies of [Sustainable Oceans and Seas Worksheet](#)
- Something to write with
- Access to internet or copies of illegal fishing articles (page 7) and question cards (page 8)
- [Go fish! Game](#)


PROCEDURE

1. WATCH the short Seafood New Zealand film [World Leading](#) about the Quota Management System [3:52] [slide 24]
2. DISCUSS the Quota Management System [Slide 24 & 25] and how fish stocks are shared amongst fishers [slide 26]
3. READ and ANSWER questions using [QMS worksheet](#) [slide 26]
4. EXPLORE the idea that only commercial fishers can legally sell fish [slides 27 & 28] and what happens when kai moana is taken illegally [slide 29] (we explore this more in Topic 6).
5. READ and ANSWER questions using [Customary and Recreational Fisheries Worksheet](#) [see slide 28]
6. DISCUSS the idea that there are fishery management areas [slide 30]
7. WATCH the film [Sustainable Oceans and Seas](#) film [15:42] and answer the questions on Sustainable Oceans and Seas Worksheet or play the Kahoot quiz called [Marine Stewardship Council NZ Sustainable Oceans and Seas](#) [slide 31]
8. Conduct a SURVEY of people's opinions on the QMS [[Teacher Outline](#)]. Survey people's knowledge and opinions on Aotearoa NZ laws around marine fishing. Simple multi



choice questions that could include: Are they fishers? How often do they fish in the ocean? What is the main reason for fishing/-fun/food/both? Do they know the daily limits and size on fish and shellfish? Should this be more/less? Are recreational fishers allowed to sell their catch? What % of fish is caught by recreational fishers? [slide 31]

9. WATCH the short film [Fishy Business](#) [13:42] and complete the point of view and values continuum activities on [slide 32]
10. REFLECT and DISCUSS – What role do scientists play in looking after fisheries under the QMS? If you didn't use this in topic 3 then have learners complete [A fisheries Scientist Worksheet](#) to explore NIWA scientist Rosemary's story illustrating how scientists contribute to fisheries management in Aotearoa New Zealand.
11. Complete a GROUP ACTIVITY investigating examples of illegal fishing in Aotearoa New Zealand. Provide each group with a copy of one illegal fishing article (page 8). Have them work through the question sheet provided (page 9) and report back.
12. PLAY the [Go Fish! Game](#) (we played this in Topic 3) but with the following rounds:
 - a. **Pre-European/Traditional Maori** (this plays out the same as the Quota system) Start with 16 fish that replenish at 50%. Instead of the 3 fishing boats you have 3 waka which take 1 fish each using traditional methods.
 - b. **A Rāhui** is placed on a fishery. This can be “called” by the teacher at any point in any round. (This could be done as a sign of respect, due to the loss of lives at sea e.g White Island or because there is a reduction in the fish biomass.) Run 3 rounds of 16 fish that replenish at 50%. But NO fishing.
 - c. **MPA (Marine Protected Area)**. This can be “called” by the teacher at any point in any round. A marine reserve has been created next to your fishery. You get a bonus 3 extra fish per round.
 - d. A new coastal boat ramp increases the number of **Recreational fishers**. In addition to the fishing boats create a smaller boat which can take 1 fish a round. There is no limit on the number of recreational boats allowed (this reflects what is happening in the Hauraki Golf).
13. Investigate and deepen the INQUIRY [see also Science & the Sustainable Catch Outline]
 14. What different perspectives exist about the Quota Management System (QMS) (*Do you think the QMS is doing a good job of ensuring fisheries are sustainably fished? What do the commercial fishers think? What do conservationists think?*)
 15. How does the QMS affect you and your whānau? (*Think as a fisher and purchaser of fish*)

- 
16. How has the QMS altered how fisheries are managed over time? *(Might include initial introduction – fisheries were in collapse and now much better managed. Might also include individual fisheries that have declined or boomed under the QMS.)*
 17. Who introduced the QMS? Who has responsibility for making changes to fishery catches under the QMS? *(QMS was a government initiative but was backed (and opposed) by many in the industry. Māori customary regulations enable local communities to implement rāhui and restrictions, taiāpure and mataitai... But otherwise it is Fisheries NZ that has responsibility)*
 18. Who has *responsibility* for ensuring fisheries management results in sustainable fishing? *(ALL OF US! We all play a part – no matter how small! We can do our bit by buying only legal and Marine Stewardship Council certified seafood; ensuring we follow fishing rules...).*
 19. How does the QMS actually work? *(Scientists collect data and fishers make observations. This information feeds in to Fisheries New Zealand and kaitiaki / tiaki who decide on changes needed.)*
 20. Why do we even need the QMS? *Before the QMS many fisheries (like Orange Roughy) were in a state of collapse.*

KEY WORDS

Quota Management System (QMS)
Total Allowable Catch (TAC)
Quota Management Areas (QMAs)
Illegal fishing

CURRICULUM LINKS

Nature of Science (Level 3-5)

- Investigating in science
- Communicating in science
- Participating and contributing



Living World (Level 3-5)

- Ecology

Science (Level 6+)

- Participating and Contributing
- Ecology

Social Science (Level 3-5)

- Understand how groups make and implement rules and laws (Level 3)
- Understand how people make decisions about access to and use of resources (Level 3)
- Understand how formal and informal groups make decisions that impact on communities (Level 4)
- Understand how people's management of resources impacts on environmental and social sustainability (Level 5)

Geography (Level 6, 7, 8)

- Geographic research
- Contemporary New Zealand geographic issue
- Geographic topic at a global scale
- Application of geographic concepts


Pūtaiao

- Uses of Science: Learn about the people and the work they do to produce science knowledge. Apply knowledge of science to community decisions and actions, in order to think about iwi and wider issues impacting on the individual, society and the environment (Level 4+)
- The Natural World: The Biological Environment: Investigate the effect of human actions, and natural processes, on an Aotearoa ecosystem (Level 6+)

Hauora

- Relationships to earth and sky (natural environments) (Level 4+)

Tikanga-ā-iwi (Level 3-5)

- 
- *Kotahi tonu te matua o te tangata Māori, ko Ranginui e tū nei, ko Papa-tū-ā-nuku e takoto nei.* Place and Environment
 - *E tama, e hine, tangata i ākona ki te whare, tū ana ki te marae, tau ana.* The Changing World
 - *E kore e ngaoko te rākau ki te tīkina i te pūtake whakangaoko ai engari, me tiki ki te matamata.* The Economic World



ILLEGAL FISHING ARTICLES

Herald (2017) *Toheroa poachers nabbed and fined*. Retrieved from

https://www.nzherald.co.nz/the-country/news/article.cfm?c_id=16&objectid=11929056

Herald (2019) Hawkes Bay Seafoods and other companies fined over \$1 million for under reporting catch. Retrieved from

https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12207117

Herald (2018) Northland commercial fisherman fined for under-reporting catch. Retrieved from

https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12207117

RNZ (2020) Unreported \$800,000 catch sees prominent Chathams fisherman sentenced.

Retrieved from <https://www.rnz.co.nz/news/national/421196/unreported-800-000-catch-sees-prominent-chathams-fisherman-sentenced>

Herald (2012) Five tonne of fresh snapper dumped. Retrieved from

https://www.nzherald.co.nz/northern-advocate/news/article.cfm?c_id=1503450&objectid=11057387

Scoop (2020) Fishery officers stop suspected illegal snapper sales. Retrieved from

<https://www.scoop.co.nz/stories/BU2001/S00049/fishery-officers-stop-suspected-illegal-snapper-sales.htm?from-mobile=bottom-link-01>

Scoop (2016) Commercial fisherman prosecuted over 38 albatross deaths on West Coast.

Retrieved from <https://www.stuff.co.nz/national/82116704/mpi-to-prosecute-fisherman-after-38-albatross-deaths>



ILLEGAL FISHING GROUP ACTIVITY: QUESTIONS

ILLEGAL FISHING ACTIVITY QUESTIONS

1. What species of fish was the target species?
2. Was the fishing commercial, recreational or customary?
3. What did the fisher do? How did they break the law?
4. In your opinion what should they have done?
5. What was the penalty?
6. Was there anything that surprised you in this story?
7. Did you think the penalty was fair? Why or why not?

ILLEGAL FISHING ACTIVITY QUESTIONS

1. What species of fish was the target species?
2. Was the fishing commercial, recreational or customary?
3. What did the fisher do? How did they break the law?
4. In your opinion what should they have done?
5. What was the penalty?
6. Was there anything that surprised you in this story?
7. Did you think the penalty was fair? Why or why not?