

TĀIKO BLACK PETREL AS BYCATCH

OVERVIEW

Bycatch (or unwanted catch) happens when fish or other marine species are caught by accident while trying to catch another type of fish. Bycatch creatures are distinguished from the target species (the animal the gear is intended to catch) because they are caught unintentionally and usually not sold or used. Habitat damage occurs when the method of fishing negatively impacts the habitat of the target species. Tāiko or Black Petrel are endemic to Aotearoa New Zealand. They are a vulnerable protected species of seabird that sometimes get caught as bycatch.

In this activity learners read about Tāiko (Black Petrel) and either interpret or generate a graph using observed capture data collected by government observers on board commercial fishing vessels.

For more background knowledge and information (including some very informative short film clips) see slide show [Tāiko Black Petrel as Bycatch](#).

FOCUS QUESTIONS

- *How are Tāiko (Black Petrel) impacted by fishing?*
- *What impact do different fishing methods have on marine habitats and non-target species?*

LEARNING OBJECTIVES

- Describe how Tāiko (Black Petrel) can be impacted by fishing
- Investigate how one or more fishing methods impact on marine habitats and non-target species
- Use scientific and fishery related vocabulary

LOCATION

Indoors & Outdoors

DURATION

45 mins +

LEVEL

Level 3 – 5+

CURRICULUM

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

Key competencies:

Thinking; Managing Self; Relating to others

NEXT STEPS

This topic:

- New & modified fishing methods

Other topics

- Fisheries Management



MATERIALS

- [Tāiko Black Petrel as bycatch](#) slide set
- [Teacher Outline](#) [this]
- [Copies of Taiko Black Petrel Worksheet](#) (one per buddy pair)
- Something to write with
- Coloured ribbons, a timer, clipboard and pencil
- Graphing programme
- Internet connection (for film clips)

PROCEDURE

1. EXPLORE the ecology and migration path of Black Petrel [slide 31].
2. WATCH two short films. The first is about the [ecology and migration of Black Petrels](#) and the second about [commercial fishers from Moana New Zealand helping to look after the Black Petrel](#) [4:07] [slide 32].
3. INVESTIGATE Tāiko as bycatch – including where and how often they are caught [slide 33] and recent capture data [slide 34] by completing [Taiko Black Petrel Worksheet](#):
 - If using worksheet A (Level 3-4), learners complete the worksheet followed by questions (answers are provided).
 - If using worksheet B (Level 4-5), learners complete the worksheet and graphing activity (answers are provided).
4. Conduct an EXPERIMENT to see how successfully colourful ribbons detract birds. Conduct a simple timed bird count at the school vegetable garden. Record the number of birds visiting the garden over a ten minute period. Install colourful ribbons on long bamboo stakes. Re-record numbers of birds visiting the same garden with ribbons installed [you will need a little breeze!] Discuss the effectiveness of tori lines [ribbons] keeping birds away (on land and at sea). Graph your findings. You could extend learning by devising and trialling other methods to deter birds!
5. WATCH young [ocean explorers encounter with Tāiko and False Killer Whales](#) [5:32] [slide 34].



KEY WORDS

Bycatch

Fishing method

Trawling

Long lining

Non-target species

CURRICULUM LINKS

Maths (Level 3-5)

- Statistics

Nature of Science (Level 3-5)

- Investigating in science
- Communicating in Science
- Participating and Contributing

Social Studies (Level 3-5)

- Understand how people make decisions about access to and use of resources (Level 3)
- Understand how people's management of resources impacts on environmental and social sustainability (Level 5)

Geography (Level 6, 7, 8)

Relevant achievement standards related to:

- Geographic research
- Geographic issue of a global scale
- New Zealand contemporary issue
- Geographic concept: Sustainability

Pūtaiao

- The Natural World: The Biological Environment: Investigate the effect of human actions, and natural processes, on an Aotearoa ecosystem (Level 6)

Hauora

- Place and Environment: Explain how exploration presents opportunities and challenges for people, places, and environments (Level 4)