

FOOD WEB GAMES

HOW TO USE?

See [teacher outline \(2.5\)](#) for activities and slide set [Food Webs](#) for further context.



MATERIALS

- Desks or pads to write on
- Whiteboard markers or pencils to write with
- Copies of the predator – prey table
- Copies of the creature cards to cut out [one per group]
- Scissors


ABOUT THE ACTIVITY

In this activity we will build a food web. Understanding food webs is important to help predict the potential impact on a community if a new species is introduced or a species lost (e.g. through overfishing, pollution or climate change).

HOW TO PLAY

NOTE: This activity involves drawing on desks with whiteboard pens. Alternatively use pens/ pencils on A3 pads of paper. In groups:

1. Cut-out the marine creatures, with names
2. Use information provided in the table below to start building a marine food web
3. Space marine creatures out as much as possible across the desk or pad
4. Use pens to draw arrows on desk to show “who eats whom” (arrows point away from the one being eaten and towards the predator)
5. Where possible, arrange your food web in trophic levels with producers (plants) at the bottom
6. In groups, identify a: carnivore, herbivore, consumer, producer, top predator
7. Take a photo of your completed food web!
8. Kōrerorero / Discuss the following scenarios:
 - a. If the snapper and crayfish are overfished how does this affect other parts of the food web?
 - b. If snapper are overfished, what will happen to: a) kina and b) kelp

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- c. If snapper are overfished, what will happen if a rahui is put in place preventing the taking of any kai moana?
 - d. After the rahui is lifted, fishing resumes as usual and snapper numbers dramatically drop again. What else could be done to keep snapper numbers healthy?

EXTENDING

Visit the Department of Conservation [food web activities, templates and vocabulary help](#).

NOTE: This activity has been adapted from “Canterbury’s Spectacular Coast” ([Environment Canterbury](#)) and “Fishing” [BLAKE NZ-VR Teaching Resource](#).

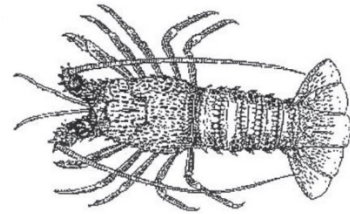
PREDATOR – PREY TABLE

Marine creature:	Eats:	Is eaten by:
Barnacle	Zooplankton and phytoplankton	Spotty and snapper
Crayfish	Kelp, kina, paua	Humans, snapper, octopus
Humans	Pretty much everything	-
Kelp	Uses water, carbon dioxide and sunlight	Kina
Kina	Kelp, seaweed	Crayfish, snapper
Octopus	Crayfish, shellfish	Humans, large fish
Paua	Seaweed	Starfish, crayfish
Phytoplankton	Uses water, carbon dioxide and sunlight	Zooplankton
Seaweed	Uses water, carbon dioxide and sunlight	Paua, kina, crayfish, humans
Shellfish	Zooplankton, phytoplankton	Octopus, starfish, sting ray, snapper
Snapper	Kina, shellfish, small fish, crayfish	Humans
Spotty	Shell fish, barnacles	Large fish (snapper, sting ray), humans
Starfish	Shellfish	Snapper
Sting ray	Small fish (spotty, yellow-eyed mullet), shellfish, crayfish	Humans
Yellow-eyed mullet	Zooplankton, seaweed	Large fish, humans
Zooplankton	Phytoplankton	Filter feeders (shellfish, barnacles), small fish

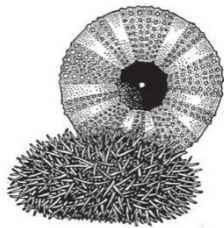
CREATURE CARDS



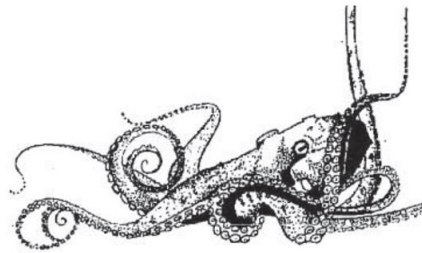
Barnacle



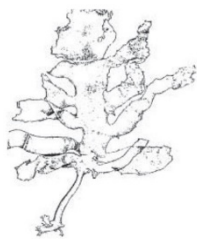
Crayfish



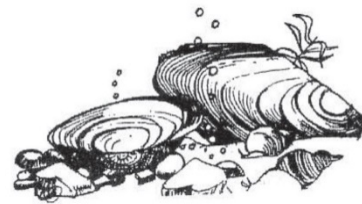
Kina



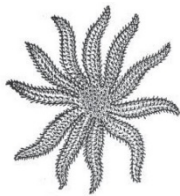
Octopus



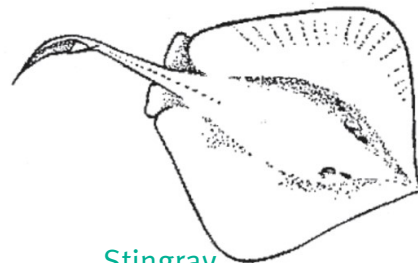
Seaweed



Shellfish



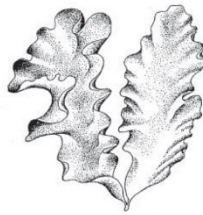
Starfish



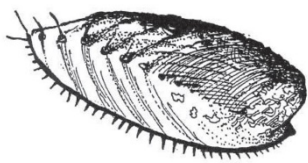
Stingray



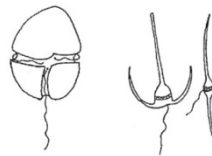
Human



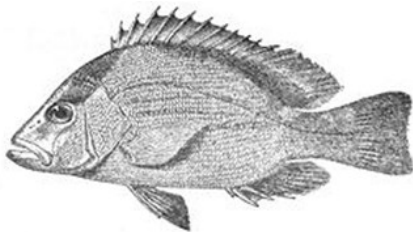
Kelp



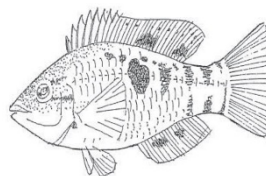
Paua



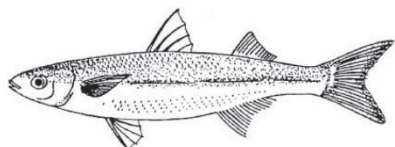
Phytoplankton



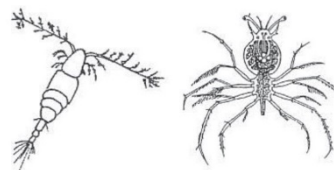
Snapper



Spotty



Yellow-eyed mullet



Zooplankton



TEACHER INFO

Discussion points:

- a. If the snapper and crayfish are overfished how does this affect other parts of the food web?

Have learners highlight, circle or remove organisms that will be affected by a decline in Snapper. Most if not all of the food web will be affected in some way.

- b. If snapper are overfished, what will happen to: a) kina and b) kelp

Kina will increase (because there are less snapper eating the kina) and kelp will decrease (as then there are more kina eating the kelp).

- c. If snapper are overfished, what will happen if a rahui is put in place preventing the taking of any kai moana?

A rahui will allow snapper numbers to recover and the entire food web will benefit.

- d. After the rahui is lifted, fishing resumes as usual and snapper numbers dramatically drop again. What else could be done to keep snapper numbers healthy?

Fishery managers could reduce the total allowable catch of snapper so that less fish are caught.