

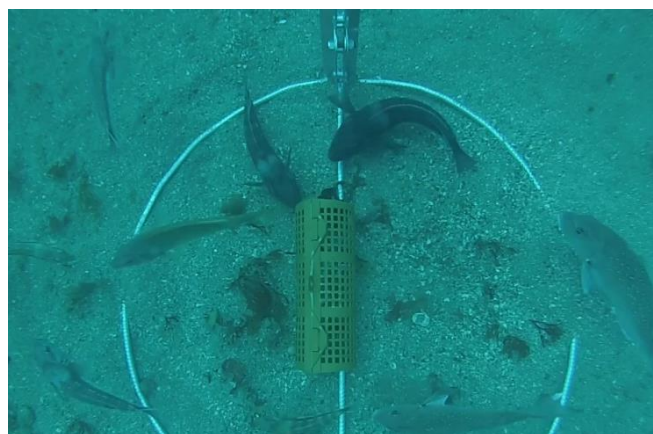
# Spyfish Aotearoa

## Notes for teachers

Spyfish Aotearoa is an online citizen science project which uses video footage of fish within marine reserves to contribute to understanding how effective these reserves are.

Students can have a go at being real scientists, identify and count fish and get involved in marine science. Their classifications will be used to inform marine management and protect our taonga (treasured) species.

These notes will assist teachers and students to use this exciting citizen science project in the classroom.



## Spyfish Aotearoa on Zooniverse:

[www.zooniverse.org/projects/victorav/spyfish-aotearoa](http://www.zooniverse.org/projects/victorav/spyfish-aotearoa)

## Curriculum links

Science: Nature of science, Living world; classification.

Mathematics.

## Suitable age group/year level

Participation in this project is most suited to students with good focus and attention to detail, from Year 6 upwards.

## Introducing the project

Watch the video Spyfish Aotearoa: identifying and counting fishes <https://youtu.be/c3a4a3DYXzA>.

Identifying fish species in the video clips can help develop students' classification and observation skills.

Use the following student resources within this document to help support your students to use the project:

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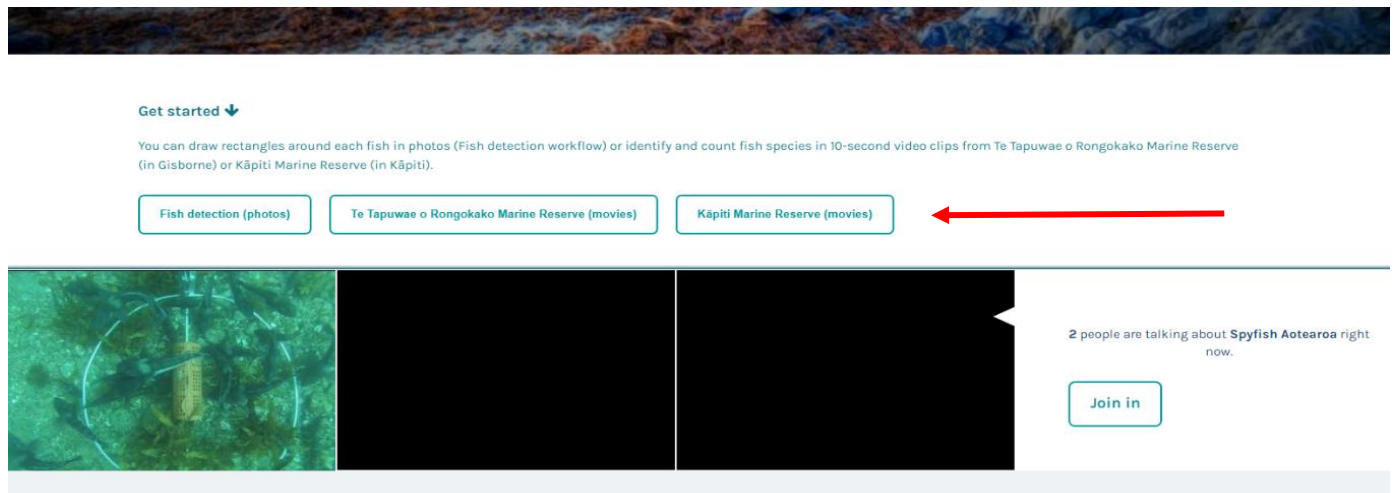
For more information about the project see: [Spyfish Aotearoa » About — Zooniverse](#)

## How to use Spyfish Aotearoa

### Getting started

In the get started section of the [Spyfish main webpage](#), choose which marine reserve data you'd like to explore: **Te Tapuwae o Rongokako Marine reserve** (movies: East Coast region) or **Kāpiti Marine Reserve** (movies: Wellington region). The fish detection (photos) data set is more suited to experienced users.

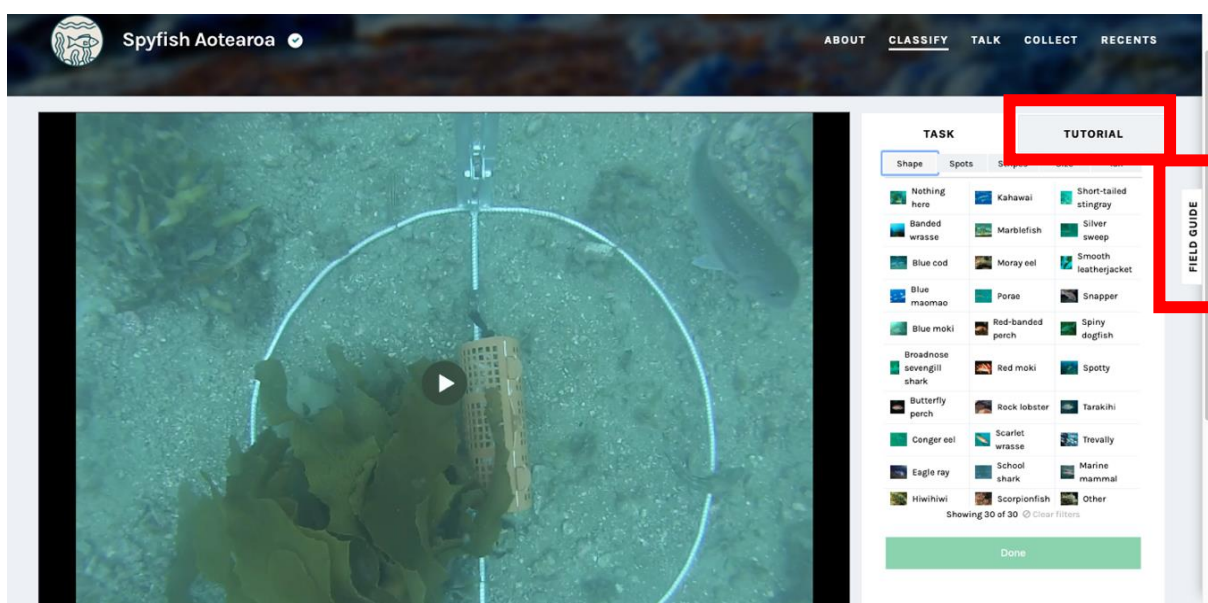
You can register and sign in, but you're also able to classify without signing in. Hit '**Classify**' to start looking at any reserve's footage, without selecting a specific reserve.



### Online Tutorial

Click on the **Tutorial** tab to get a lesson in how to complete an observation. The tutorial will come up automatically when you enter a project.

You can click on fish species in the list on the right side of the screen to see photos, descriptions, and other species they can be confused with. The **Field guide > Species catalogue** provides an overview and a quick reference guide to the fish species.



## Fish identification for beginners

*Some fish you'll see on Spyfish can be tricky to identify!*

Some of the most common fish you'll spot on Spyfish are blue cod and scarlet wrasse.

### Blue cod



Adult blue cod

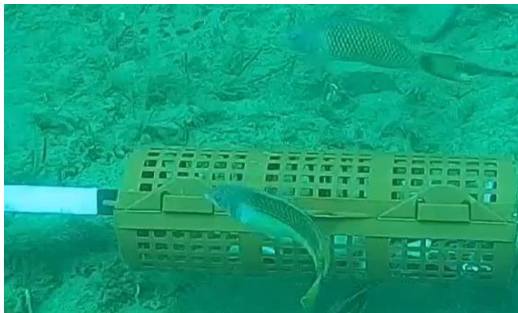


Juvenile blue cod

The photos on the left are both blue cod, at different stages of life. Fish can change colour and patterns as they age!

### Scarlet wrasse

The fish in both photos below are scarlet wrasse. Lighting can make a big difference to the look of a fish. Clues such as the shape, spots, tail, stripes or patterns on the fish can help with identification.



### Banded wrasse

Banded wrasse can vary in colour: the photos below are both banded wrasses.



### Other fish you're likely to see in this project

#### Snapper



#### Tarakihi



Spotty



Smooth leatherjacket



Other common species

Lobster (crayfish)



Eagle ray

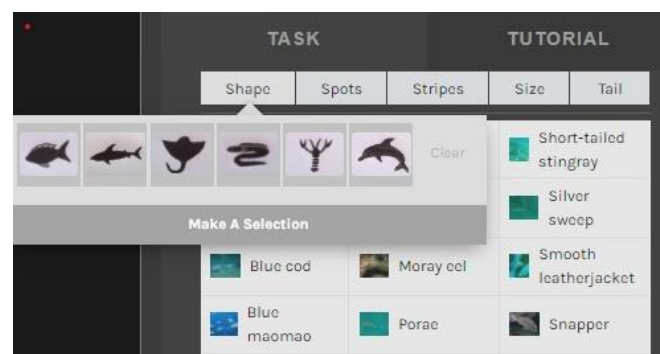


### More information

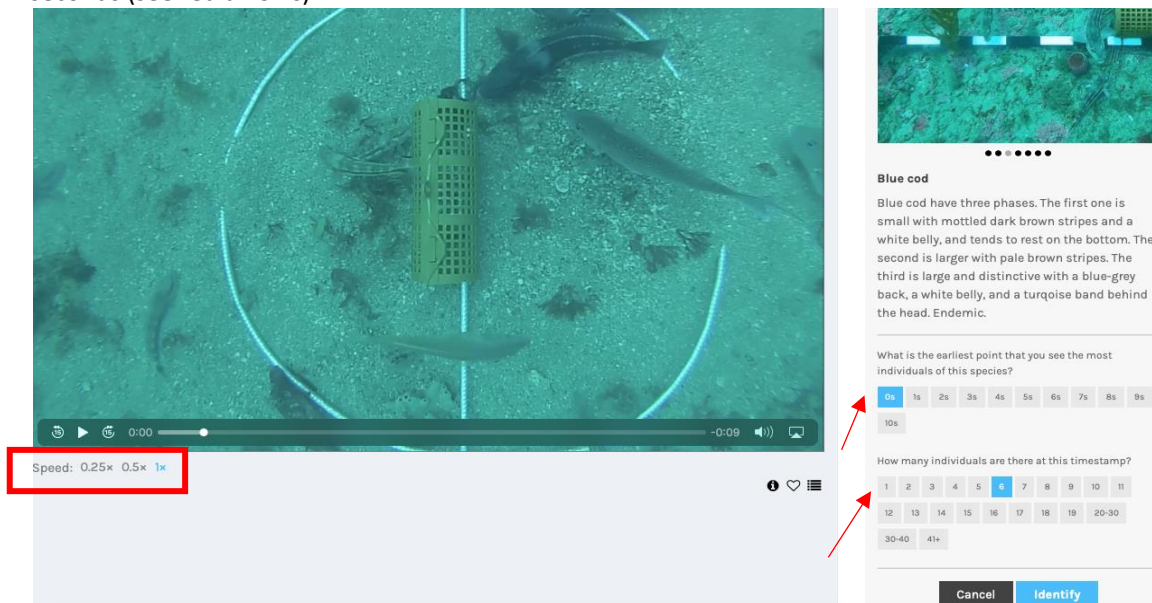
Use the **ID List of scientific and Māori names** tab in the **field guide tab** for more information about the biology and ecology of the fish species.

## How to make a classification on Spyfish Aotearoa

- Head to <https://www.zooniverse.org/projects/victorav/spyfish-aotearoa>
- Select a marine reserve to view footage from or click **Classify**.
- Play the video and pause when you first see a fish. Watch for movement!
- Decide which fish species you can see, using the photos and descriptions of fish species on the right. Take care with your identification: it's important that it's as accurate as possible.
  - Click on a fish to see example photos of that species. You can also use the **Field guide > Species catalogue** tab if you find it easier to scroll through options.
  - The **category tabs** such as shape, spots, stripes, size and tail can also help you determine which fish you see. Click on them to find suggested species.



- Focus on one species/type first. Looking at just this type of fish, watch the video to see when there is the **MAXIMUM** number of this fish at the same time in the video clip. Take note of the time stamp. You may need to play the video in slow motion (see speed selection in the red box below) to adjust speed and make sure of the species and numbers.
- Count the number of this species of fish at this time stamp and click on the number to highlight the time, e.g., 0 seconds (see red arrows).



If you don't see any fish during the video clip, select the 'nothing here' box in the list of fish species.

- When you are happy with your observation and have selected a time and a maximum number, as in the example above, hit **Identify**.
- Then go back to the beginning of the clip and pause when you see a different type of fish.
- Complete the same process until you can't see any different fish species.
- Click **'Done'** to complete your classification.

## Top Tips

- Make your best guess using the main species list pictures, categories and field guide.
- Don't count the tiny fish that are really hard to see.
- Use the play, speed and zoom functions to help look for movement and identify fish.
- The field guide tab of the project has all sorts of information on fish biology, Q&A.
- Check the Frequently asked questions FAQ in the field guide for answers to common questions.
- Click on the 'talk' tab to share an observation you're not sure of, and an expert will check it for you!

## Teaching resources which complement Spyfish Aotearoa

### 1. *Protecting our marine world education resource*

This DOC inquiry unit of learning has a variety of integrated curriculum activities, all about the amazing creatures in Aotearoa's marine world. It includes slideshows, videos, lesson plans, student activities and more!

Protecting our marine world: Education resources ([doc.govt.nz](http://doc.govt.nz))

### 2. *Young Ocean Explorers*

This website is filled with videos, quizzes and resources about our oceans and marine biodiversity.

YOE – Love Our Ocean Home ([youngoceanexplorers.com](http://youngoceanexplorers.com))

### 3. *Science Learning Hub*

This resource hub hosts an oceans topic collection, including articles, interactives and activities for New Zealand primary and secondary students and teachers.

Oceans topic— [Science Learning Hub](#)

## Image Attributions

Pages 1,2, 4 and 5: Screenshots BUV and project – DOC (Crown copyright).

Page 3:

Banded wrasse purple: Kim Westerkov

Banded wrasse green: by Harry Allard

Adult blue cod and scarlet wrasse (right): BUV screenshots by Hiromi Beran

Juvenile blue cod: Francis, M. P.

Scarlet wrasse (left) by Jamie Quirk

Snapper by Brian Mackie, Tarakihi by DOC.

Page 4: Leatherjacket BUV photo by DOC, crayfish by Brian Mackie, spotty and eagle ray by DOC.