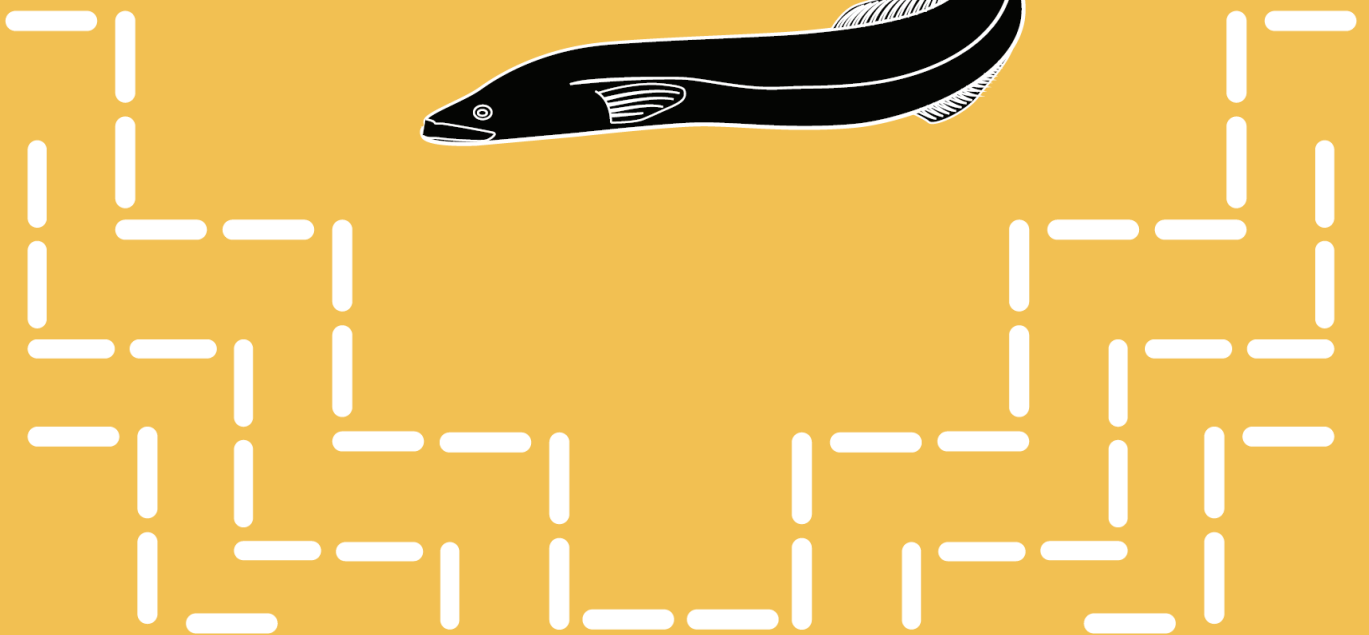


# HE REO WHAKAMANA

An educational resource for tamariki to learn about the health of their local waterway and the freshwater fish who live there.



# NAU MAI, HAERE MAI

## **Nau mai, haere mai ki tēnei rauemi whakaako, welcome to this teaching resource.**

This resource is designed to support kaiako and tamariki to learn about the health of their local waterway and the freshwater fish who live there.

It was created to accompany the **He Reo Whakamana** video series. Each video tells the story of a specific waterway and the tuna who live there. They discuss the impact that human activities have had on the health and wellbeing of the wai and its taonga.

This exercise is a scientific inquiry process underpinned by a te ao Māori perspective. It enables tamariki to identify physical indicators of stream health and consider what the waterway or freshwater fish are trying to tell us about their health and wellbeing.

Te Wai Māori Trust aims to protect and enhance freshwater fisheries and their habitat. He Reo Whakamana pays tribute to our guiding whakataukī:

*He reo tō te wai, he reo anō tō te tangata, kotahi tonu te whakapapa, whakakotahitia.  
Water has a language, and so too do people have theirs, both born of one whakapapa, united.*

This whakataukī acknowledges the importance of using our language and the language of our taonga in decision-making processes. We are excited to provide an opportunity for tamariki to assess the health of their local waterway and use their voice to share their findings, for example with local councils and other decision-makers.

In this teaching resource you'll find information about:

- Setting the scene
- Advice for planning a trip
- The inquiry process
- Information sheet
- Worksheet
- Kupu hou / Glossary

Please feel free to share your findings and experience with us at [info@waimaori.maori.nz](mailto:info@waimaori.maori.nz) or use #HeReoWhakamana.

Ngā mihi mahana,

Te Wai Māori Trust



# SETTING THE SCENE

## **Water quality and stream health is a major issue in Aotearoa, and it's having a significant impact on native freshwater fish populations.**

He Reo Whakamana explores three different freshwater environments associated with historically abundant tuna populations and looks at the negative impact human activities have had on these environments. These include:

- **Waste management:** pollution from leaching toxins into waterways after heavy rains.
- **Farming practices:** pollution from leaching nitrate and run off into streams.
- **Dams and weirs:** alterations to stream courses impact fish migration.
- **Piping:** changes the speed of the water's flow.
- **Wetland destruction:** removes habitat, affects water quality (wetlands help clean water by filtering nutrients and trapping sediment) and reduces resilience of waterways in times of drought.

To set the scene, watch the video series with students and use the issues presented to prompt a discussion about:

- If the waterway or tuna could speak, what would they say about their health and wellbeing?
- What are some of the physical indicators that illustrate this?
- What are some possible reasons for the physical indicators?

### **Planning a visit**

Select an appropriate site for a field trip. Consider season variation, the impact of storms, and any nearby human activity that might have a specific impact on the stream environment.

Consider also the impact of the surrounding environment:

- Native forest cover supports healthy waterways by providing habitat, shade and capturing sediment.
- Urban areas can negatively impact the health of a stream or waterway due to storm water pollution and removal of vegetation.
- Intensive farming can also have a negative impact on the health of a waterway, particularly when there is a lack of protective vegetation or fencing to keep stock out. Contaminants can include animal waste, fertiliser, pesticides and sediment.



# THE INQUIRY PROCESS

## A stream health assessment involves a set of discussions and observations.

There are four steps in this inquiry process:

### **Wānanga – discuss:**

Ask students to make a prediction about the health of the stream based on their observations of where the stream is in the catchment and the effects of land use in the areas it flows through.

Use the stories discussed in the videos to prompt a discussion on the impacts that students might expect to see in the stream environment.

### **Titiro – observe**

Assign a specific section of the stream (50m) for the students to carry out their observations using the worksheet and information sheet (available for download on our website).

### **Whakatau – conclude**

Based on their findings, ask the students to make a conclusion about the health of the waterway and provide two reasons for this.

### **Ki te hoe – take action**

An important aspect of this exercise is taking action – we need to teach our tamariki that their voice matters and can have a positive impact on the future of our waterways.

This last step is about reporting findings to local authorities and decision makers. Use the letter template (available on our website) to help your students write to the local Mayor and report their findings.

Or consider other ways of taking action – like getting involved in planting days or monitoring the waterway over a period of time to track its health.

## Further resources

- Local councils: Some councils have stream health assessment kits available for loan. This will allow you to test for water temperature and water quality and further assess the health of the waterway.
- [Whitebait Connection](#) – education programme and resources available.
- [NIWA](#) – identification guides and further information and resources available.
- [Land Air Water Aotearoa \(LAWA\)](#), – information about water quality trends across waterways.

