



# Te Wairepo York Stream

**Know your stream. Field Guide.**

Belongs to:

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**Healthy  
Streams**

From the Mountains to the Sea  
kūata kōwhiri

## Whakapapa

Ko Maungatapu te Maunga

Ko Wairepo te Awa

Ko Tainui me Tokomaru me Kurahaupō ngā wāka

Ko Ngāti Kuia, Ngāti Koata, Ngāti Tama, Te Ātiawa, Ngāti Rārua

Me Ngāti Toa Rangitira ngā Iwi

Ko Kakati te whare tūpuna

Ko Whakatū, te Marae

E ngā uri o Ranginui rāua ko Papatuanuku, Nga Atua Kaitiaki  
Tangaroa, Tāne-mahuta, Tāwhiri-mātea, Rūaumoko,  
Tutewehiwehi

## Introduction

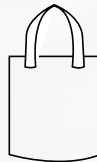
This field guide is a project to encourage you to trace your own path along the waterway. It is brought to you by Nelson City Council's Healthy Streams initiative. The booklet is a starter for finding different patterns in the environment, river systems, leaf veins, insect wings and bird flight paths. It invites you to look at textures in the landscapes, plants and animals you encounter. The pages are designed for you to discover stories and make new ones to share.

### **What to take with you**

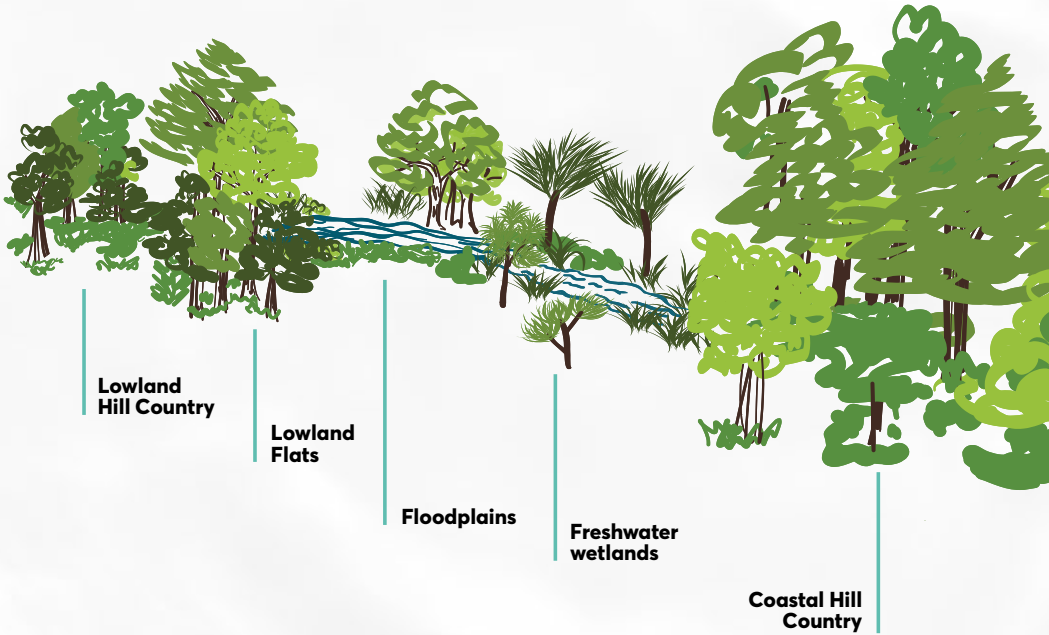
A container with a good seal (for your picnic)

Pen, pencil or crayons ~ whatever you like to draw with





An extra washable bag to collect any rubbish you find

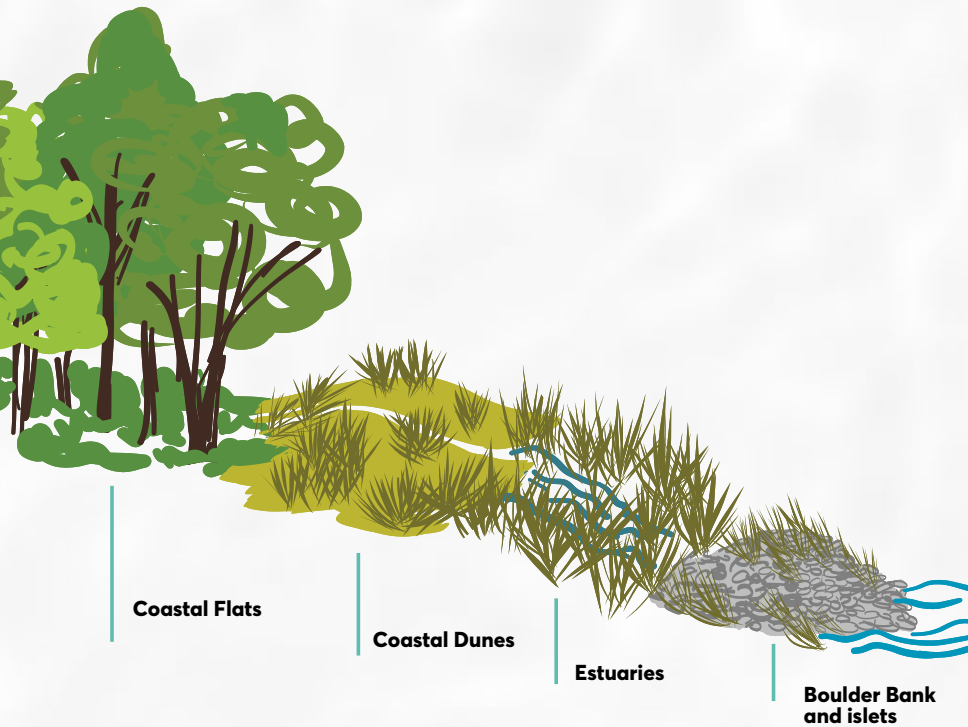


Bring all your senses and remember 'take only pictures and leave only footprints'



## Ecosystems

-  WF7-4, Tawa, kamahi, podocarp forest
-  WF3, Tawa, titoki, podocarp forest
-  SA2-1, Seagrass and mudflats
-  SA2, Searush, oioi, glasswort, sea primrose, rushland/herbfield (Saltmarsh)



## How to look at plants

Look carefully at the shape of the leaves and the edge of the leaf. Is the underside different from the top, how do they attach to the branch (are they opposite or alternate?) and what is the bark like?

Make an impression of some interesting bark by holding the paper against it and rubbing over it with your pencil or crayon.

### What is your favourite tree?

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#### Iconic local trees:

Kahikatea, Tōtara and Tītoki



## Rākau/Trees

Aotearoa is home to many endemic plants and this region is as far south as many of them grow. Check your plant guides and see what interesting species you can find locally from the tiniest orchid to the tallest trees.

### Kōwhai

Known for its brilliant yellow flowers in spring, Kōwhai provides food for many birds and insects. There are eight different kōwhai species from bushes to trees. Some are listed as naturally uncommon with threats to natural redistribution by introduced pest species and stock.



### Tawa

An important canopy and sub-canopy tree previously common around this waterway. Tawa has distinctive light yellow green foliage and large berries with seeds that rely on big birds like Kereru to distribute. Tawa seeds are a food source for maori.



### Māhoe

A small and commonly found tree, Māhoe has berries favoured by birds and is host to an endemic moth species. Māhoe has many uses for Maori including for creating fire. You can tell you are standing beside one when you find the beautiful skeleton leaves on the ground.



## Harakeke

Found from the mountains to the sea; this plant is a taonga (treasure) because every part of it can be used, for everything from construction and containment to adornment, health and food.



Often called flax, Harakeke is really a lily, the flowers are specially shaped to be pollinated by birds.





### **Toetoe**

One of the tall grasses, favouring cliffs dunes and wetland margins. Toetoe has a drooping flower head, a cream coloured plume, and the leaves do not break when tugged firmly. Toetoe also has a white, waxy bloom on the leaf-sheath and conspicuous veins between the midrib and leaf margin.



### **Mamaku**

A gaint tree fern that can grow up to 20m, they can still be found in the upper reaches of Te Wairepo and would have been common in the gullies along the waterway.



### **Pīngao**

A once common plant, Pīngao is found along active sand dunes. Pīngao is highly prized by weavers for the beautiful colour and is the subject of several stories of the boundaries between land and sea.

## Ika/Fish

Below are some fish to look for. The better the water conditions; cool, clear and flowing, the more likley fish will be present. Check your fish guide to be sure. See if you can find the Upokororo or Greyling at Pioneer Park.

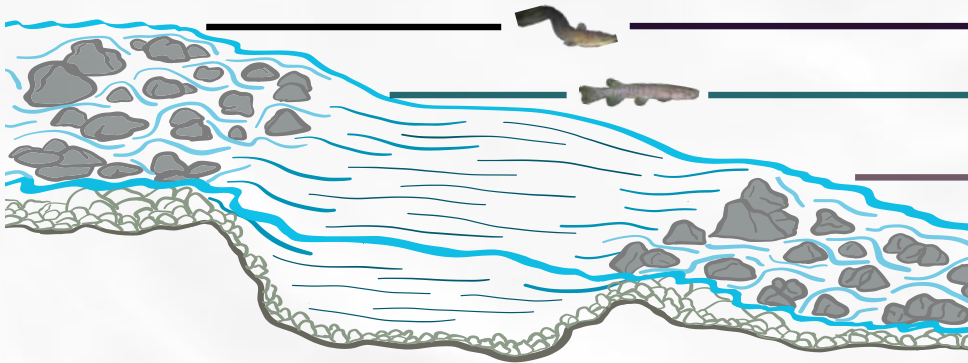
### Tuna / the long finned eel

Tuna is an endemic (only found here) species, with a slow reproduction rate and are listed as at risk declining. You can differentiate this eel from the shortfin by the way her sides wrinkle when she bends. Tuna is a toanga (treasure).



### Banded Kōkopu

These fish are good climbers, able to go up near vertical surfaces if there is a thin film of water. They love shade and are badly affected by toxins and turbidity in the water. They are night feeders so hang out under banks or in pools during the day.



Check out the fish-passage work undertaken to assist fish making their way upstream or downstream. Contact Council if you find any other barriers to stop their progress.



## Kōrua




Kōrua are found in many waterways but not commonly in urban streams because of pollutants introduced from storm-water systems and the potential for higher water temperatures through lack of vegetation. Previously recorded in Te Wairepo; places to look for them are sheltered areas under banks or rocks, pools or lower flow areas.

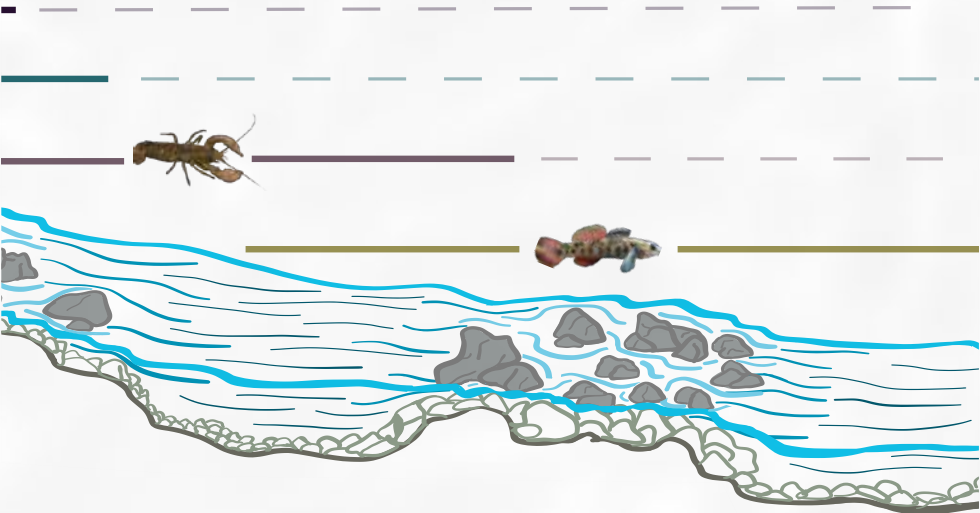


## Redfin Bully

The male has distinctive red fins, however both sexes can be identified by diagonal stripes on their cheeks. Redfins are good climbers although don't venture far inland. They are keen on runs and pools in small bouldery streams.



-  Riffle is shallow and broken around cobbles and boulders
-  Pool has depth and slow flow
-  Run smooth flowing connections between riffles and pools



## Macroinvertebrates

When looking for macroinvertebrates as indicators of stream health, the presence of mayflies will be a sign that the water quality is fairly good or better, but not all mayflies are equal!

Aside from their varying tolerances and requirements for cold, clear, flowing conditions macroinvertebrates supply the food chain.

Without an abundance of these, fish and birds may go hungry!



### Spiny gill mayfly

Large spiny curved gills easily visible on back/sides of body, favours fast flow, good quality freshwater habitats. Uses hairs on legs for filter feeding and swims with a doggy-paddlelike motion.



### Small brown stonefly

This bug walks on the substrate (stream bottom), breathes through anal gills and feeds on algae and detritus. Detritus describes the organic "stuff" that drops in from outside e.g. fallen leaves and decomposing matter.

### Red damselfly

One of three common damselflies in NZ, one other is blue and the third an Australian import now common in the North. They tend to adhere to side vegetation in low flow streams, ponds and lakes. Nymphs can be mistaken for mayflies so pay close attention to head/body shape, movement and tail parts.



## True flies

This collective group refers to Craneflies (sometimes called daddy-long-legs), sandfly, mosquito, midges and miscellaneous maggotlike larvae without visible head part.



## Caddisflies

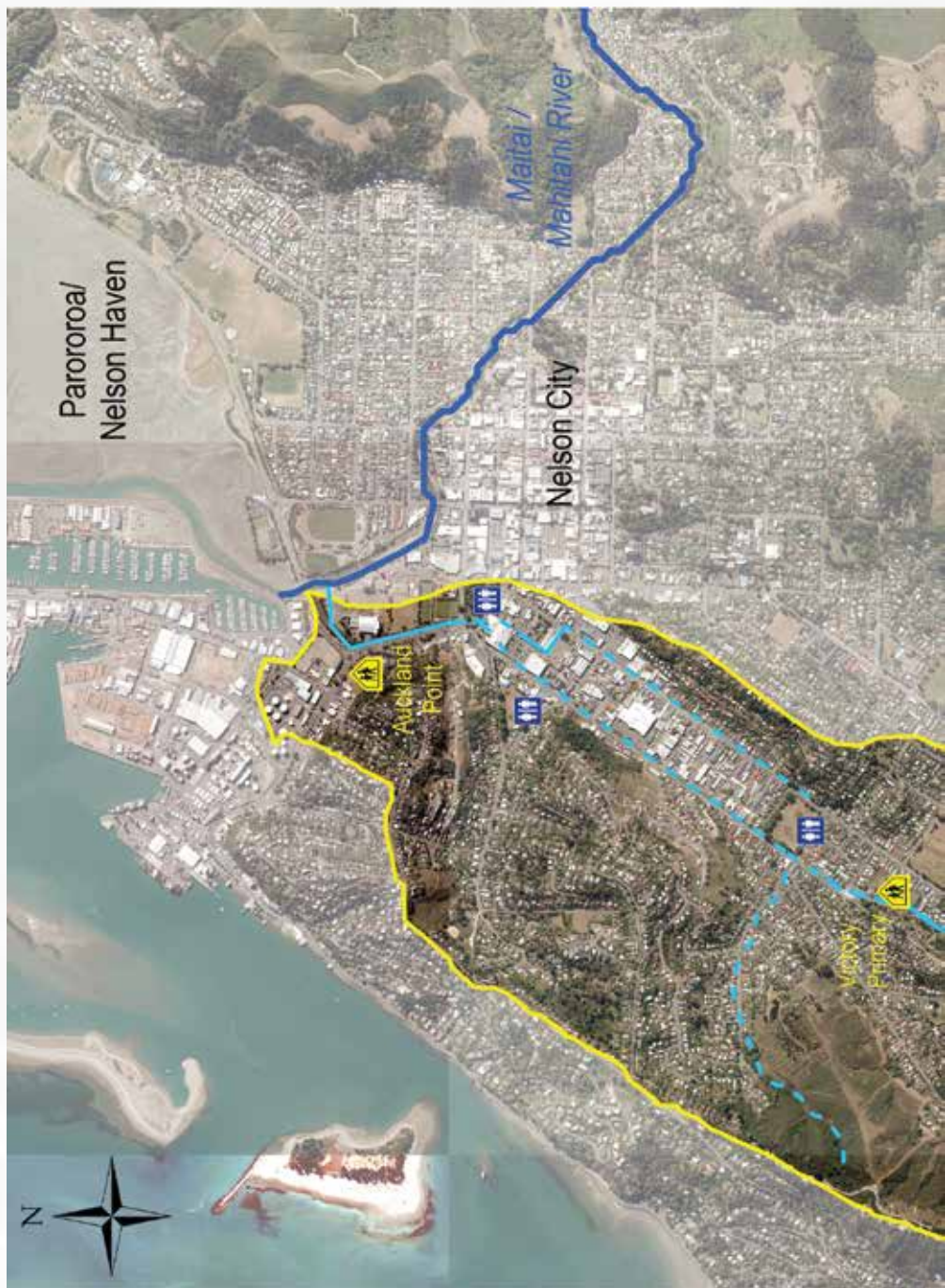
(Oxyethira) this particularly small (3.5 mm) caddis larvae, constructs transparent, mobile cases shaped like an axe-head, that are only visible in the final stage. Found in wetlands, ponds and low-flow streams with limited shade and abundant algae, which they feed on. Not an indicator of good stream health.



Image source: The Entomological Society of New Zealand

Name	Species	Ingoa Māori	Sensitivity score
Spiny Gill Mayfly	Coloburiscus humeralis	Piriwai	9/10
Small brown stonefly	Spaniocerca zelandica	Ngarongaro wai iti	8/10
Red Damselfly	Xanthocnemis	Kihitara	5/10
True Flies	Austrosimulium	Namu	3/10
Caddisflies	Oxyethira	Ngaro waiwai koeko	2/10










## Map legend

Map Legends are a group of symbols to describe important features on the map. Create some symbols of things important to you about your awa. Create your own legend of Te Wairepo/York Stream.





## Manu / Birds

**Tūi**

**Korimako**

**Kōtare**

**Pīwakawaka**



**Tūi**



**Korimako**

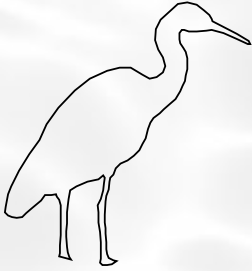


**Kōtare**

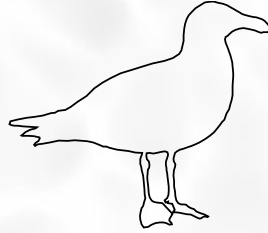


**Pīwakawaka**

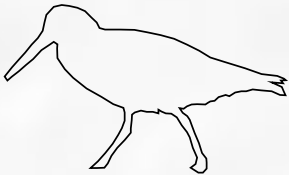
## Manu Moana / Sea Birds



**Matuku / Heron**



**Karoro / Black Backed Gull**



**Tōrea / Oystercatcher**



**Kawau / Shag**

Regular visitors to the estuary and shoreline areas include species that were important tohu (signs) for the early navigators.

It is important to remember to keep dogs on leads and try not to stress or disturb birds when they are nesting (between October and May).

Use the excellent New Zealand Birds Online for bird identification:  
[nzbirdsonline.org.nz](http://nzbirdsonline.org.nz)

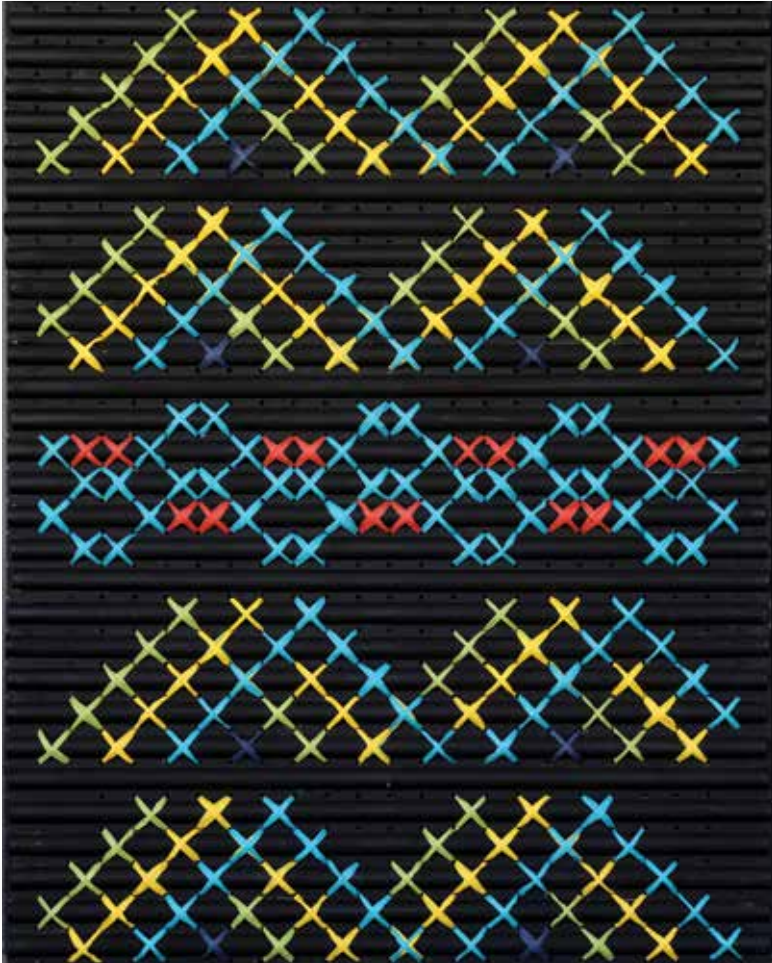


## Mai i ngā maunga ki te moana

The story of a stream's journey from the mountains to the sea.

### Maunga (mountains)

Where the rivers begin.





## Rākau (trees)

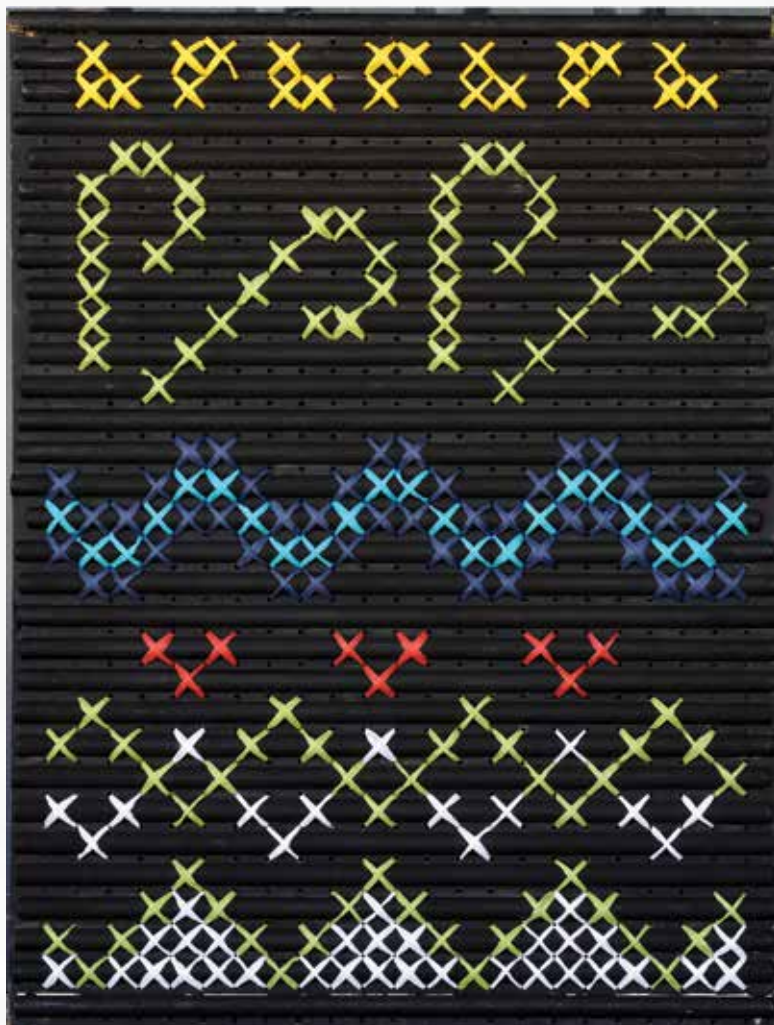
The trees that grow alongside our stream, Te Wairepo.



Designed and created by kōtiro in Ngā Mana Kākano o te Wairepo (Māori medium unit at Victory Primary School).

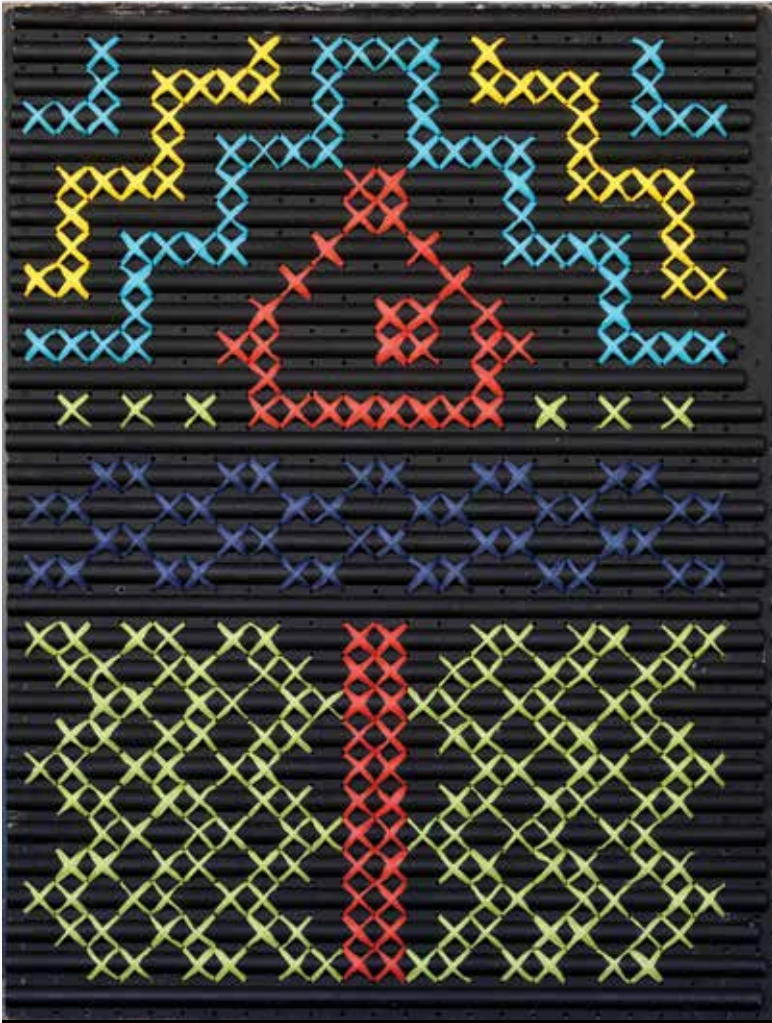
## Manu (birds)

The birds that live alongside our stream.



## **Kura (schools)**

Nelson Intermediate School and Victory Primary School, our places of learning.





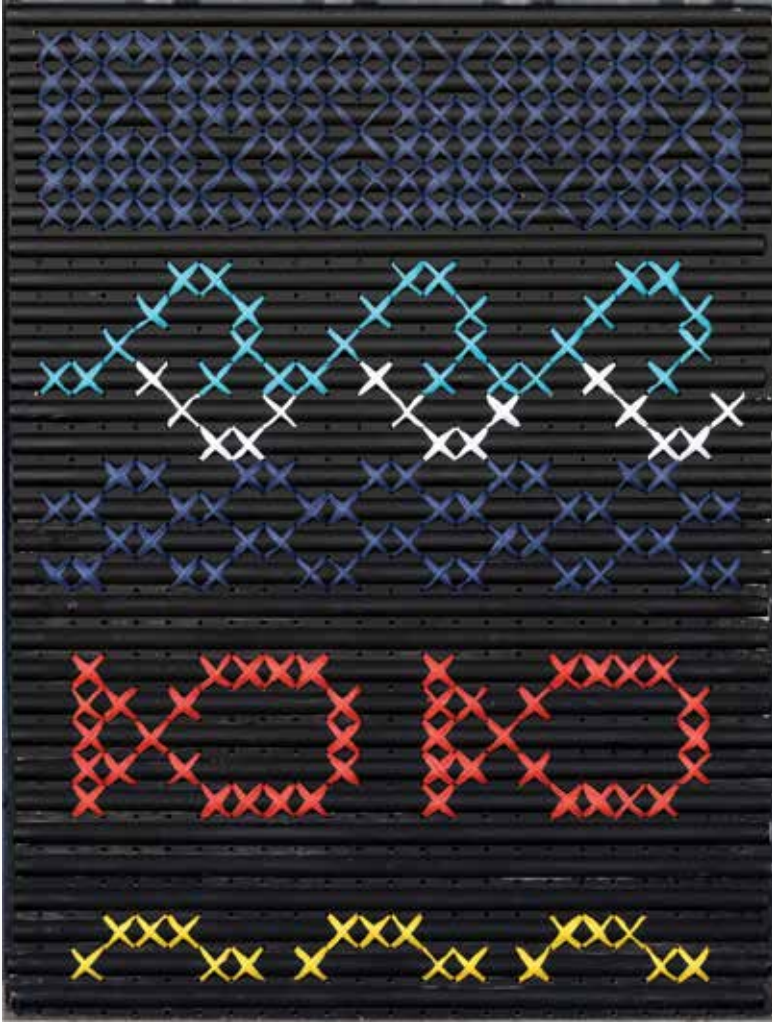
## Ika (fish)

The fish that live or have lived in our streams, rivers and sea.



## Moana (sea)

Our rivers flow to our moana, Te Aorere.



## Places to listen (picnic)

Check the legend on the map to find where you can enjoy the waterway find a spot to experience the water and surrounds.

Look at texture of water where you are: draw lines to describe how it flows, what does it sound like, what can you smell?

Make a list of all the sounds you hear.

Check **whatbird.co.nz**

Remember to take away everything you brought with you.



## Human stories

There have been many people here before us, you may know their stories. Some have left lasting legacies and their children, grand and great, great grandchildren still live in the area.

### Write your own story of the waterway:

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Look up *Huriawa - the Taniwha*



Created by artist Lou-Darcie Louis and students from Victory Primary School

## Blueprint

Record your plans to act in a way that will improve the waterway for those who come along after you.

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### Some suggested actions

- Try to help minimise rubbish to landfill
- Be careful with what goes into stormwater (try sweeping rather than using a hose) "only rain down the drain"



## How to help

Check out Healthy Streams for local activities and opportunities to help take care of our waterways. Look at Project Maitai/Mahitahi for information specific to this awa.

### **healthystreams.nz**

Lots of great information can be found at;  
**nelson.govt.nz/environment/nelson-nature**

Find local groups to share the effort of bringing back the wild by looking under Community > Volunteers

People to connect with can be found through;  
Friends of the Maitai

### **friendsofthemaitai.org.nz**

Victory Community Centre  
**victory.school.nz/community.html**

## Hotline

(for spills or discharge)  
0800 No Pollute

If you see a bird or any other native animal entangled in rubbish, or in unnatural danger, please call the DOC hotline:  
0800 362 468



## More reading and resources

Go to [healthystreams.nz](http://healthystreams.nz) and check the resource section for the Field Guides for further reading and online resources.

Some great sites with lots of great information to get you started are listed below

Nelson City Council: [nelson.govt.nz](http://nelson.govt.nz)

Department of Conservation: [doc.govt.nz](http://doc.govt.nz)

Forest and Bird: [forestandbird.org.nz](http://forestandbird.org.nz)

Land, Air, Water, Aotearoa (LAWA) [lawa.org.nz](http://lawa.org.nz)

NIWA - SHMAK (stream health monitoring)  
[niwa.co.nz/freshwater/tools/shmak](http://niwa.co.nz/freshwater/tools/shmak)

Manaaki Whenua Landcare Research:  
[landcareresearch.co.nz/resources/identification](http://landcareresearch.co.nz/resources/identification)

### Some Reading:

Remember to have a look at the Library for a wide range of reference books about this area specifically and about our local flora and fauna.

A list of the superb fieldguides by Andrew Crowe is provided on this site: [bookcouncil.org.nz/writer/crowe-andrew](http://bookcouncil.org.nz/writer/crowe-andrew)

A Photographic Guide to Freshwater Fishes of New Zealand by Stella McQueen and Rod Morris is a handy resource for adventures to the waterways.

A beautiful new book worth looking out for is:  
Treasures of Tāne Plants of Ngāi Tahu. By Rob Tipa.

<b>Whakapapa</b>	Ancestral connections, inter-related web of life
<b>Papa</b>	Ground, floor
<b>Rangi</b>	Sky, heaven, day
<b>Whenua</b>	Land
<b>Tangata</b>	People
<b>Whakarongo</b>	Listen
<b>Titiro</b>	Look/observe
<b>Manu</b>	Bird
<b>Ika</b>	Fish
<b>Ngahere</b>	Forest/bush
<b>Taiao</b>	Environment
<b>Harakeke</b>	Phormium tenax/flax
<b>Pua</b>	To bloom, produce flowers
<b>Rongoā</b>	Healing methods and substances, apply medicines, to treat
<b>Rakau</b>	Tree, wood, stick
<b>Rau</b>	Leaf
<b>Awa</b>	River, creek, stream
<b>Nga Atua</b>	Supernatural Kaitiaki/Guardians
<b>Papatūānuku</b>	Earth Mother and wife of Ranginui
<b>Ranginui</b>	Sky Father
<b>Tāne Mahuta</b>	Atua of forests, trees,vegetation and associated environment
<b>Tāwhiri Mātea</b>	Atua of wind, storms, powerful weather events
<b>Tūmataua</b>	Atua of War, Man
<b>Tangaroa/Hinemoana</b>	Atua of Ocean, all waters
<b>Rūaumoko</b>	Atua of earthquakes, youngest unborn child of Rangi and Papa
<b>Haumia-tiketike</b>	Atua of uncultivated foods (Mahinga Kai)
<b>Rongo-mā-Tāne</b>	Atua of kumara and cultivated foods

(Reference) [maoridictionary.co.nz](http://maoridictionary.co.nz)





**Healthy Streams**  
From the Mountains to the Sea  
Mata o ta



**CAWTHRON**  
The power of science™



Nelson Marlborough Institute of Technology  
Te Whare Wānanga o Te Tai Pūkeke o Nelson & Marlborough



**Nelson City Council**  
Te Kaunihera o **Whakatū**