



Wakapuaka

Field guide

Belongs to:



**Healthy
Streams**

From the Mountains to the Sea
ki uta ki tai



The background is a stylized illustration of a landscape. The top half features a blue sky with white, wispy clouds. On the right side, there are green, leafy trees. The bottom half shows a blue body of water with white, wavy lines representing ripples or waves. The overall style is simple and graphic.

**Whatungarongaro te tangata toitū te whenua
As man disappears from sight, the land remains**

Te Tai Tapu ki uta ki tai



Introduction

This field guide is a project to encourage you to trace your own path along the waterway. The field guide has been produced by the Healthy Streams Project in partnership with Ngāti Tama.

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 the textures in the landscapes, plants and animals you encounter. The pages are designed for you to discover stories and make new ones to share.








Things to take with you

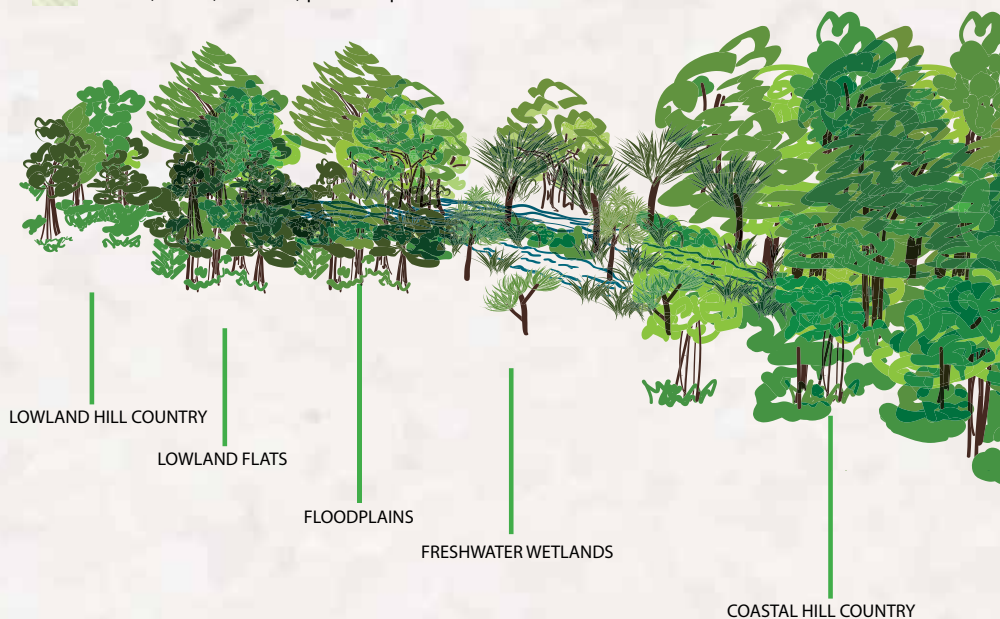
A container with a good seal (for your picnic) pen, pencil or crayons ~ whatever you like to draw with an extra washable bag to collect any rubbish you find

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

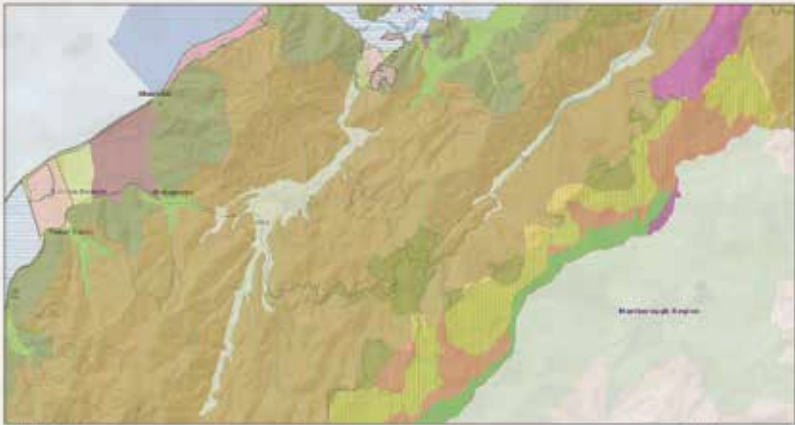
Mai i te kahui maunga ki Tangaroa

Ecosystems

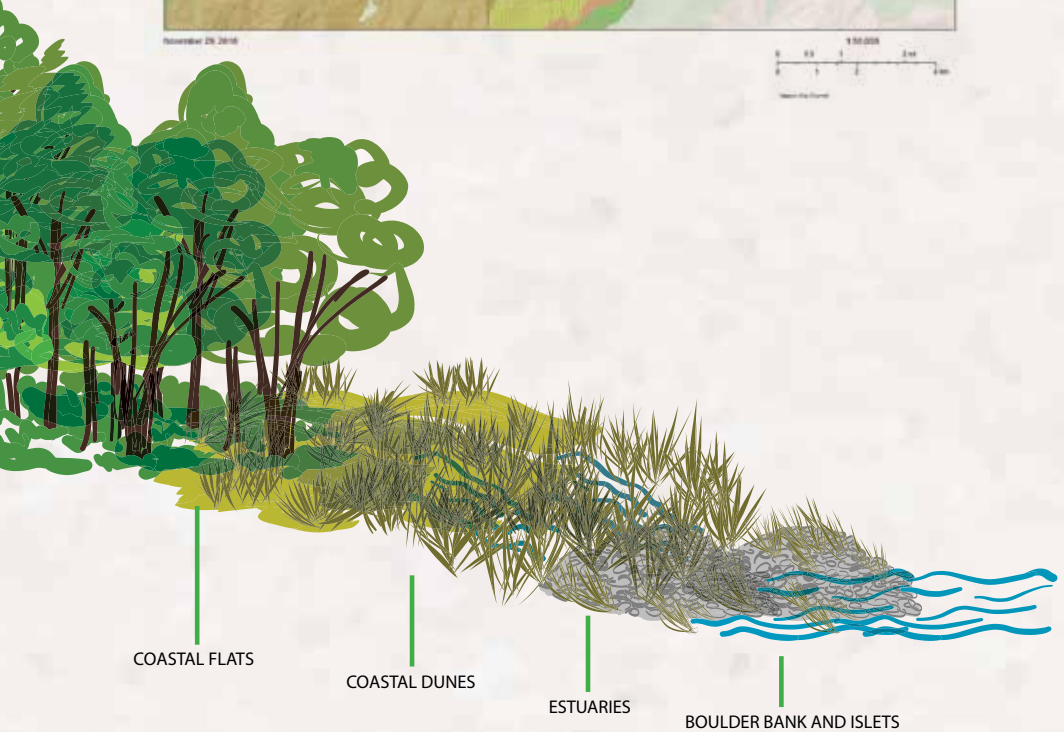
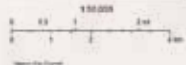
-  WF3, Tawa, titoki, podocarp forest
-  MF22-2, Kamahi, rimu, hard beech, tawa forest
-  WF14-1, Kamahi, tawa, podocarp, hard beech forest
-  WF8, Kahikatea, pukatea forest
-  SA2-1, Seagrass, mudflats
-  CL2, Ngaio, taupata treeland/herbfield/rockland
-  MF7-4, Tawa, kamahi, podocarp forest



From the mountains to the ocean



November 28, 2016



COASTAL FLATS

COASTAL DUNES

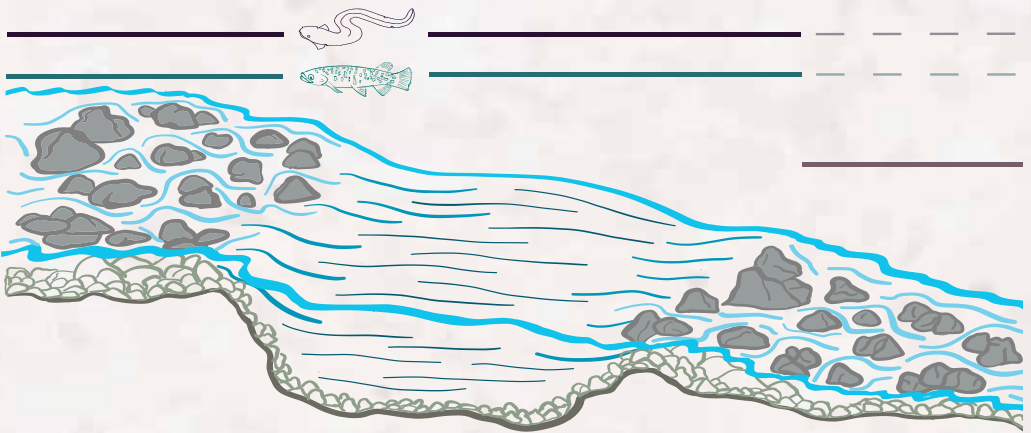
ESTUARIES

BOULDER BANK AND ISLETS

Ika / Fish

There are many types of bullies, check out a guide on Freshwater Fish to be sure – DOC and Forest & Bird have great online resources or grab a photographic guide from the library (see page 29 for some suggestions). You might even notice that the Upland Bully has an upturned nose!

- Īnanga 
- Kōkōpu 
- Bully 
- Kōaro 
- Tuna 



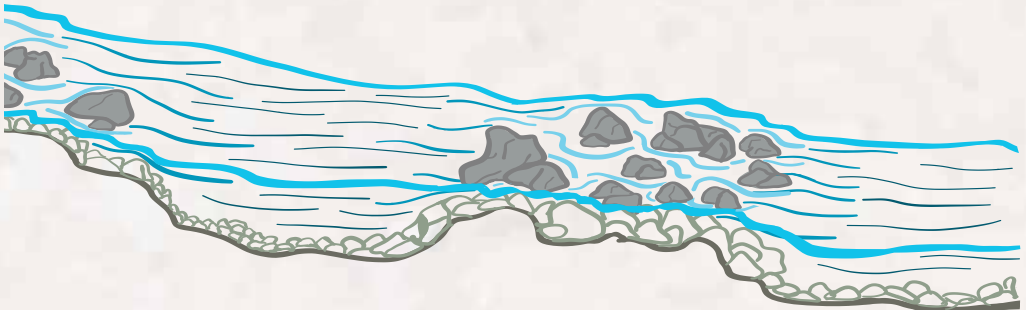
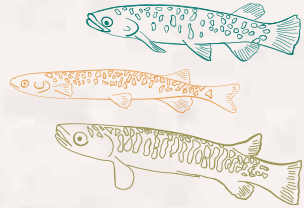
Have a look in the stream nearest to you and see if there are any barriers to fish making their way upstream or downstream – let Council know if you find any.








This awa also has Brown Trout which aside from their recreational interest are good indicator species as they don't like sediment or poor water quality.

Galaxiids are named for their sparkly starlike appearance. There are five species we call whitebait – they include Kōaro, Īnanga and three types of Kōkopu (they vary from threatened to endangered all are declining).



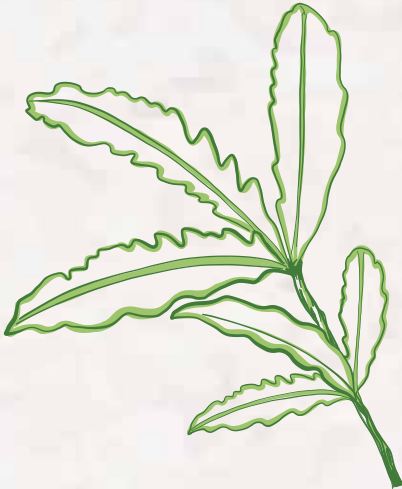
-  Riffle is shallow and broken around cobbles and boulders
-  Pool has depth and slow flow
-  Run smooth flowing connections between riffles and pools

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 and how do they attach to the branch (are they opposite or alternate?) and what is the bark like?

Pukatea

Pukatea is one of the forest giants, a large subtropical tree that you can see down by Paremata flats. It grows in swampy areas, has buttresses to help support it and some of its roots breathe air above ground. Pukatea has male and female flowers on the same tree, its seeds are wind dispersed and its bark can provide pain relief.



Raukawa

The Raukawa is associated with a love story especially because of its beautiful scent. It has different leaves as a young plant to that of the adult and the seedling prefers to start off on the trunk of a tree fern. Raukawa is under threat from deer, goats and possums.

What is your favourite tree?

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

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.

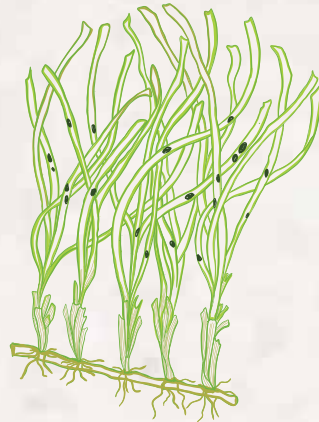


Eelgrass / Karepō

Karepō is the only flowering plant that is totally submerged at every tide. It is an ecologically important species forming critical habitat and foraging areas for fish and invertebrates (juvenile flounder, crabs and cockles).

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.



Great if you can find the Dobsonfly



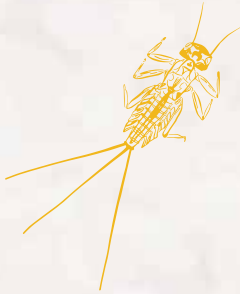
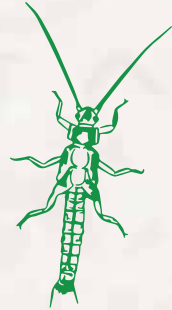
Archichauliode Dobsonfly - Ngaro parirau

An endemic taonga species here in Aotearoa. They curl up in a ball and play dead when threatened. Often described as looking like a centipede, it has only 6 legs at forefront, the rest are gills. 7/10

But even better if you find the stenoperla (large green stone-fly)

Stenoperla Stonefly (Large Green) - Ngarongaro wai nunui

The highest scoring indicator species, only present where conditions are A grade water quality. These guys are endemic to Aotearoa and crawl rather than swim. Look for these handsome specimens in fast flowing, clear forested streams, where urban impacts like stormwater are not an issue. 10/10



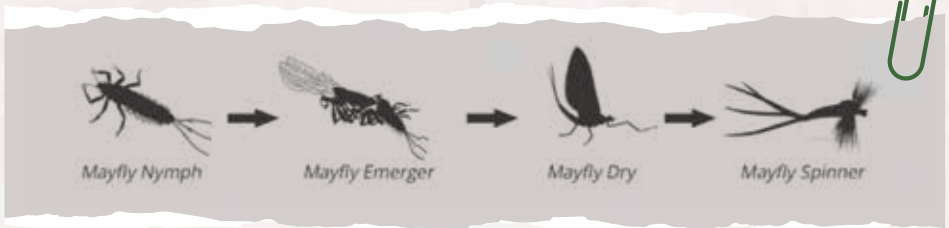
Ameletopsis Mayfly Piriwai

Only found in the southern hemisphere, and the only carnivorous mayfly in existence! The head appears similar to a human skull. These pirates of the awa stalk their prey, hiding behind rocks waiting to strike. The adult is a bright yellow. 8-10/10

Macro - Invertebrates

They tell us about water quality; in cold, clear, flowing water in good condition you may find Mayflies! Look under a few rocks and see what is there (don't forget to put the rocks back).

Mayfly life cycle



Hydrobiosis Caddis (Uncased) Ngāro waiwaianga

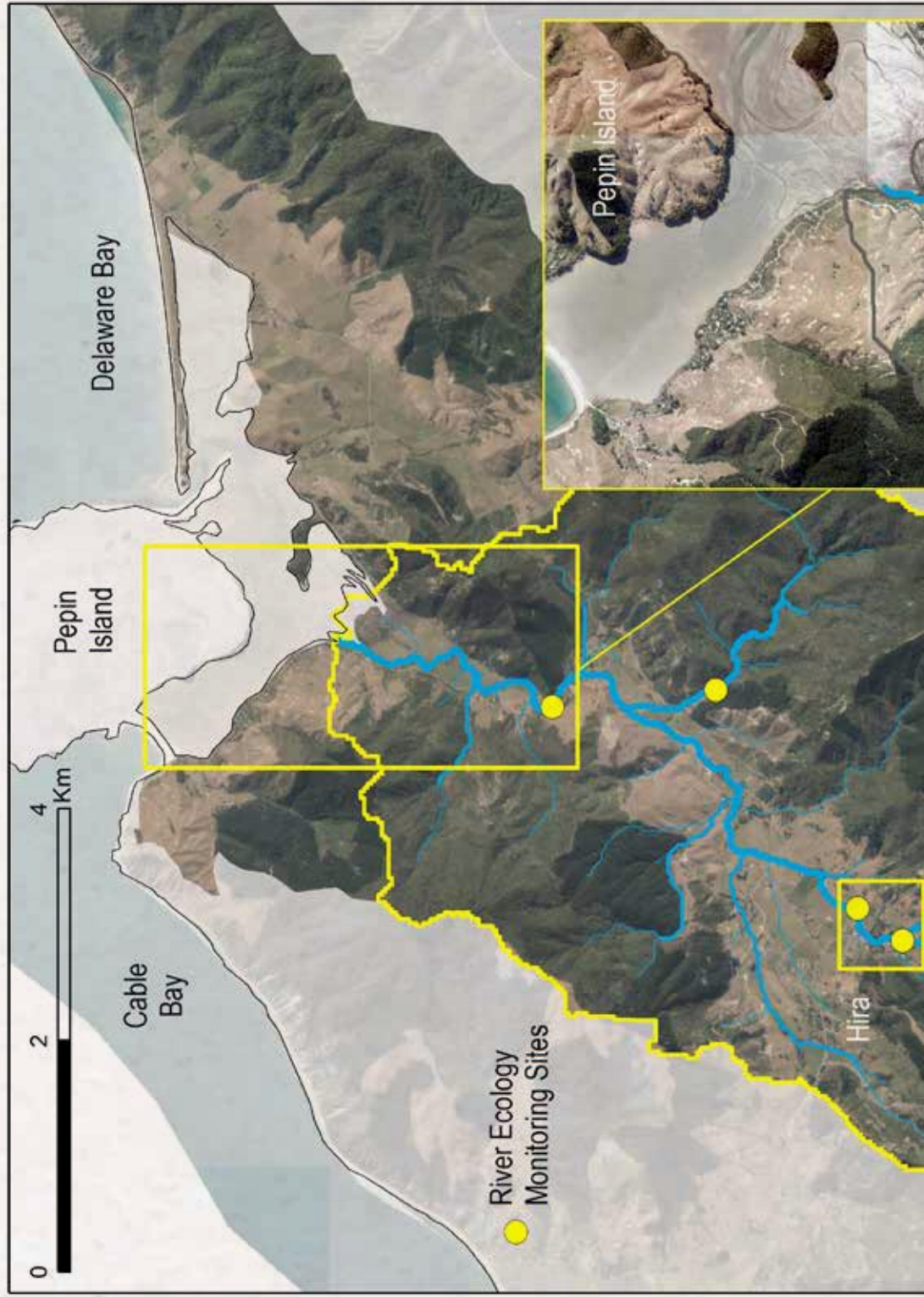
Identify this bug by the round segmented parts of the body. On close observation note the head and what appears to be a tail, which is actually the back legs known as pro-legs. 5/10

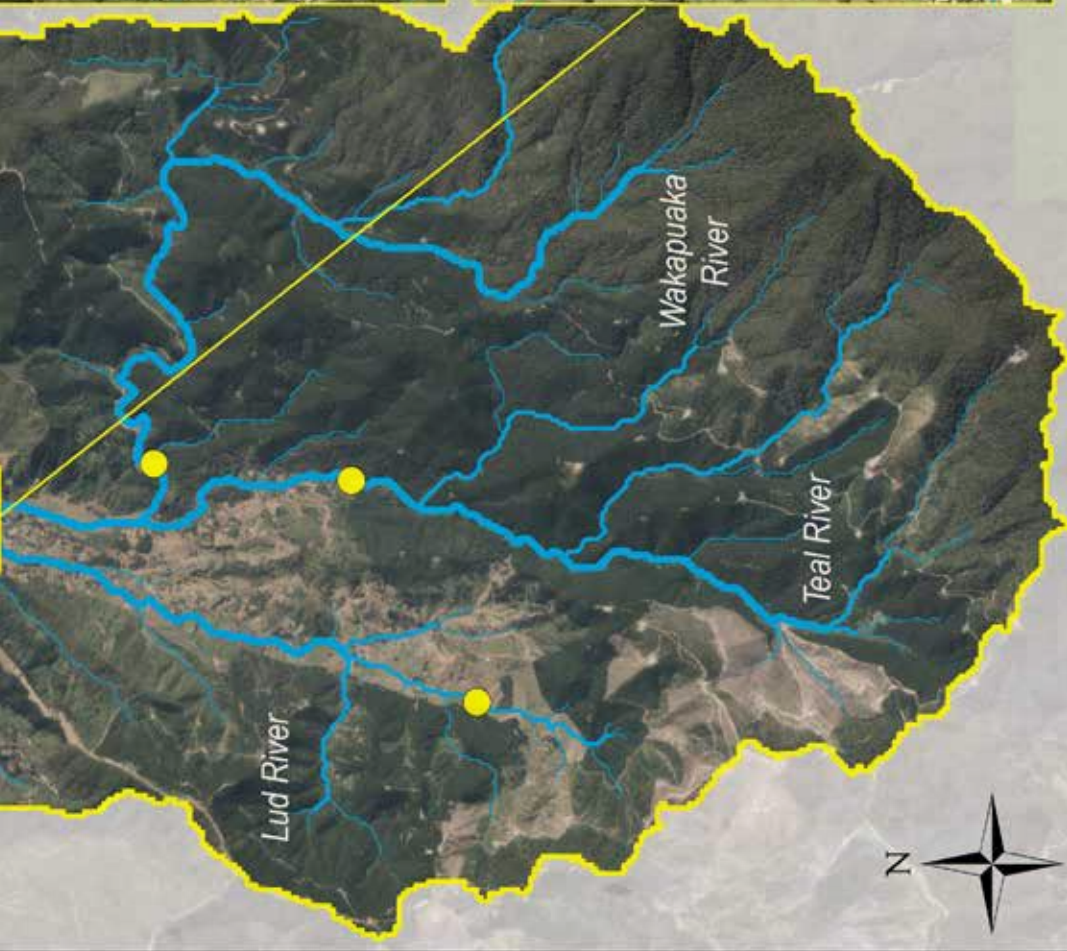


Olinga Caddis (Cased) - Ngāro pū

One of 260 types of caddis found in NZ! The cased caddis consists of a variety of caterpillar like critters that form a protective case around their soft body. Many use fine granules of mineral or plant bits to acquire this protection but the Olinga secretes a glue-like fluid that forms a smooth case. 9/10

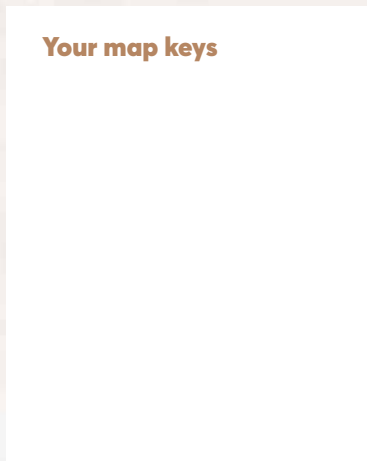
Name	Species	Ingoa Māori	Sensitivity Score
Stonefly (large green)	Stenoperia	Ngarongaro wai nunui	10/10
Dobsonfly	Archichauliode	Ngāro parirau	7/10
Mayfly	Ameletopsis	Piriwai	8–10/10
Caddis (Cased)	Olinga	Ngāro pū	9/10
Caddis (Uncased)	Hydrobiosis	Ngāro waiwai anga	5/10





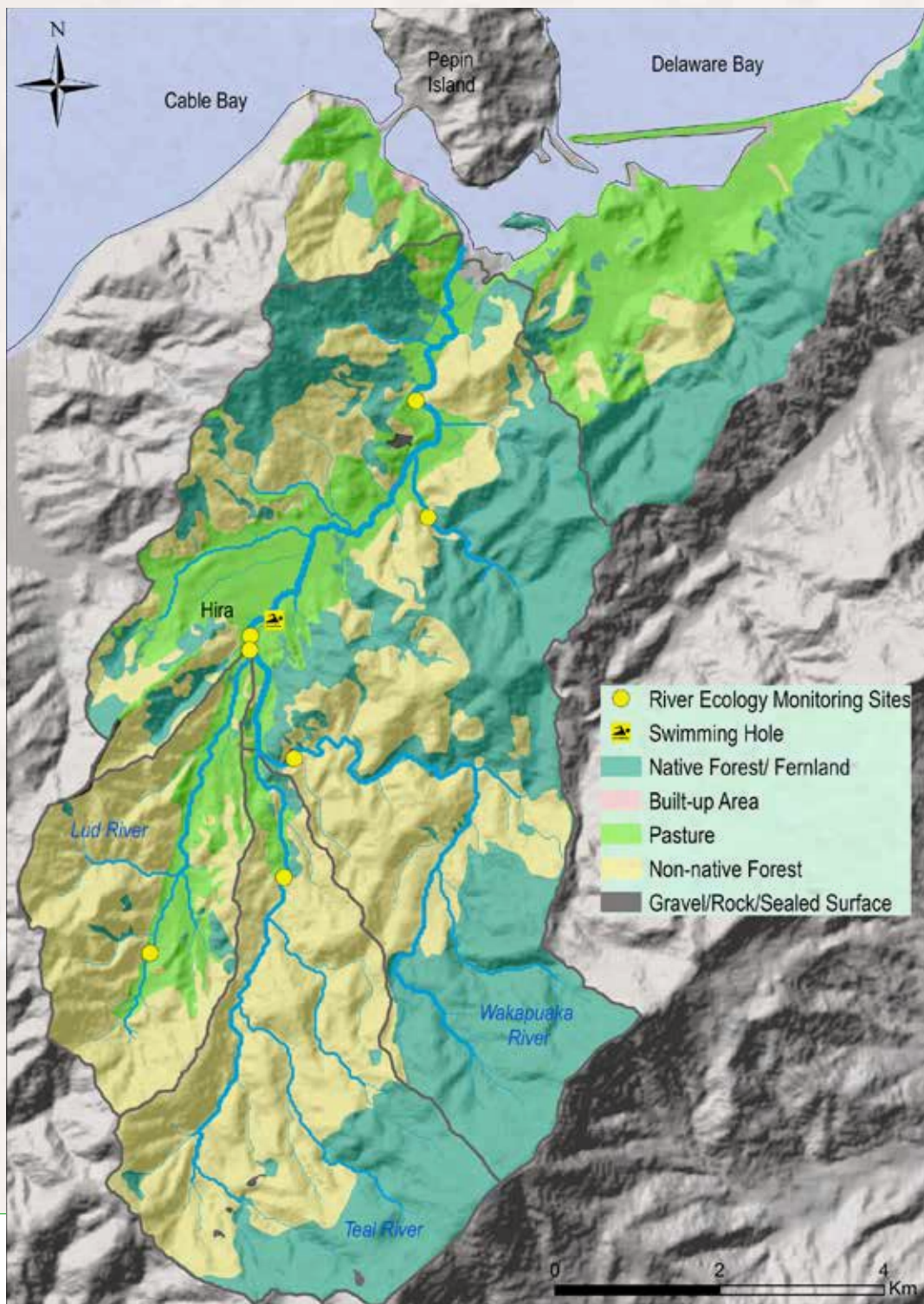
Your own map legend

Your map keys



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 Wakapuaka and tributaries.



Manu / Birds

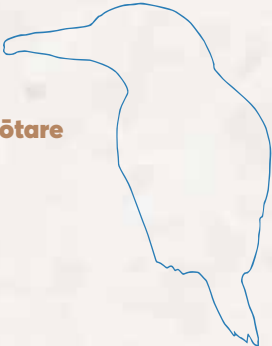
Kererū



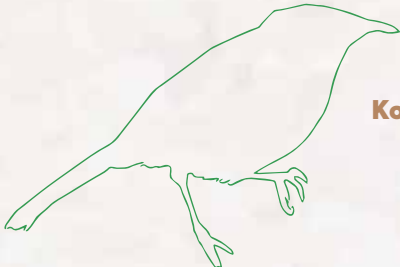
Tūi



Kōtare



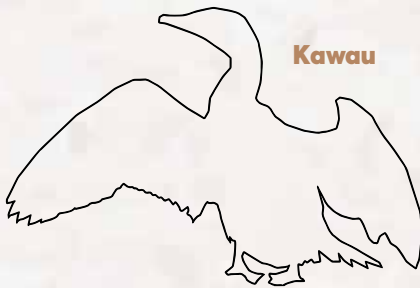
Korimako



Manu Moana / Seabirds

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

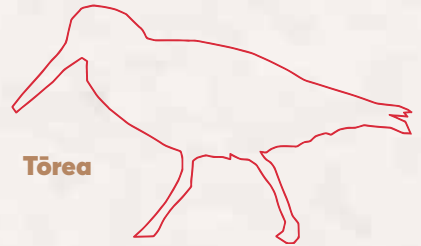
It is important to remember to keep dogs on leads and try not to stress or disturb birds when they are nesting (between October and May).



Kawau



Karoro



Tōrea



Matuku



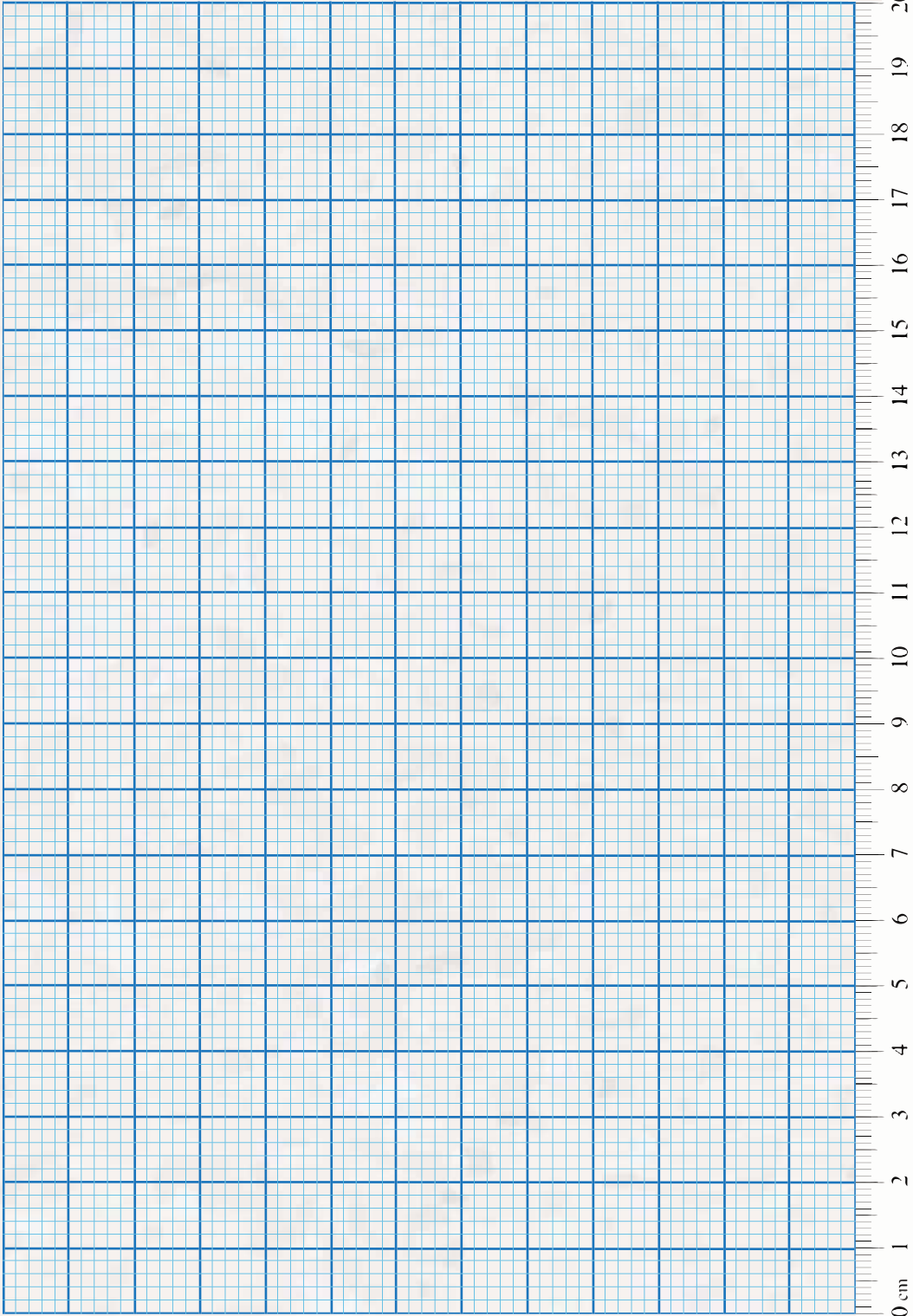
Use the excellent New Zealand
Birds Online for bird identification:
nzbirdsonline.org.nz

Blue Print

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

Some suggested actions

- Try to help minimise rubbish to landfill
- Consider our precious water resources (could you start collecting rainwater?), try using dishes water in the garden.





Glossary

Whakapapa	Ancestral connections, inter-related web of life
Papa	Ground, floor
Rangi	Sky, heaven, day
Whenua	Land
Tangata	People
Whakarongo	Listen
Titiro	Look/observe
Manu	Bird
Ika	Fish
Ngahere	Forest/bush
Taiao	Environment
Harakeke	Phormium tenax/flax
Pua	To bloom, produce flowers
Rongoā	Healing methods and substances, apply medicines, to treat
Rakau	Tree, wood, stick
Rau	Leaf
Awa	River, creek, stream

Nga Atua

Supernatural Kaitiaki/Guardians

Papatūānuku

Earth Mother and wife of Ranginui

Ranginui

Sky Father

Tāne Mahuta

Atua of forests, trees,vegetation and associated environment

Tāwhiri Mātea

Atua of wind, storms, powerful weather events

Tūmatauenga

Atua of War, Man

Tangaroa/Hinemoana

Atua of Ocean, all waters

Rūaumoko

Atua of earthquakes, youngest unborn child of Rangi and Papa

Haumia-tiketike

Atua of uncultivated foods (Mahinga Kai)

Rongo-mā-Tāne

Atua of kumara and cultivated foods

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

Healthy Streams **healthystreams.nz**
Wakapuaka Bursting with Life

Paremata Flats
paremataflats.co.nz

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 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

Department of Conservation: doc.govt.nz

Forest and Bird: forestandbird.org.nz

Land, Air, Water, Aotearoa (LAWA) lawa.org.nz

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

Manaaki Whenua Landcare Research:
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

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

