



WE ♥ WHITEBAIT

WHAKA INAKA : CAUSING WHITEBAIT

.....


**“A moving tale of loss, love, birth, survival,
goodies vs baddies ... and hopefully
there’s a happy ending!”**



Presenters:

Chapter 1 / Whaka Inaka Project Overview – Shelley McMurtrie

Chapter 2 / Pest Monitoring Module Story – Kirsty Brennan





CHAPTER 1 /

Whaka Inaka : Causing Whitebait
Project Overview



AQUATIC SCIENCE &
VISUAL COMMUNICATION



Te Rūnanga o NGĀI TAHU





“Once upon a time...”

- » Historically Christchurch major source of juvenile inaka within Pegasus Bay – great spawning habitat
- » But legacy in decline for some time...the fairytale is over
- » Lower reaches of rivers deteriorating & poorly managed

...then there was an earthquake or two...





Impact on human environment



general building destruction



EOS Ecology office

RESPONSE
PRIORITY

High



Low



cracks in road by river



bridge on river



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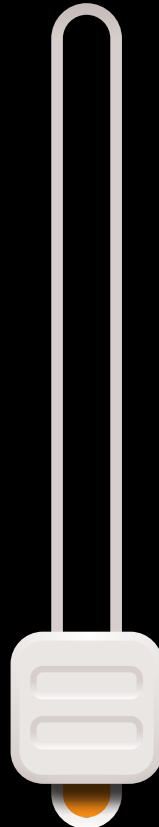
Impact on inaka environment



Avon River, 22 February 2011

RESPONSE
PRIORITY

High



Low



vegetation changes & maintenance



effects of sediment



change in saltwater wedge



Our response plan



Gather group of passionate experts



Develop plan & resources to improve habitat to enhance spawning outcomes



Secure funding & in-kind support



Engage community & media



Monitor sites to find where they're spawning
= focused restoration



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Project team



AQUATIC SCIENCE &
VISUAL COMMUNICATION

Project Lead



Te Rūnanga o **NGĀI TAHU**



UNIVERSITY OF
CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND





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Project solution



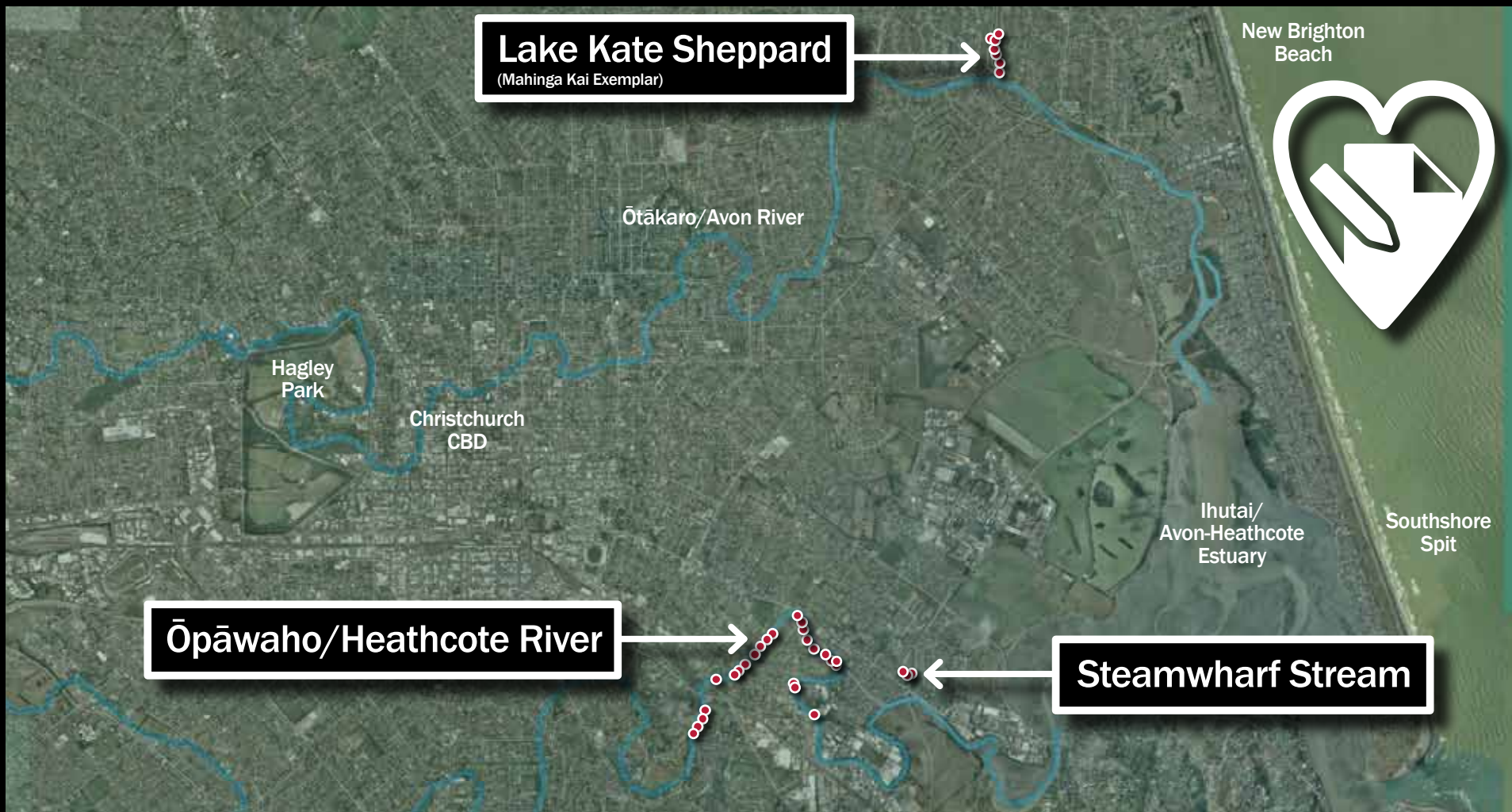
STRAW BALES = the perfect temporary spawning habitat



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Project sites determined



Total of 34 sites

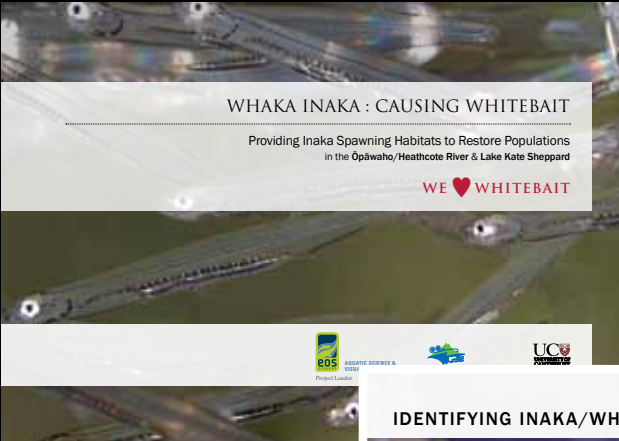
Project resources developed



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...& need **YOUR** help to restore inaka spawning
in the Ōpāwaho/Heathcote River & Lake Kate Sheppard



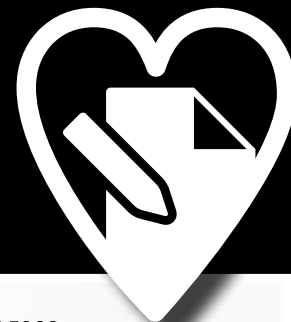
DATE: Sat. 30/01/16
Weather dependent. Backup dates to be notified.
TIME: 8:30am-4pm
PLACE: 30 Barton St
Entrance opposite Industrial Oils. Look for EOS Ecology flag.



WHAKA INAKA : CAUSING WHITEBAIT
Providing Inaka Spawning Habitats to Restore Populations
in the Ōpāwaho/Heathcote River & Lake Kate Sheppard

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EOS ECOLOGY SCIENCE & YOUTH PROJECT LEADERS
UCU UNIVERSITY OF CANTERBURY




WE ♥ WHITEBAIT
...& need **YOUR** help to restore inaka spawning
in the Ōpāwaho/Heathcote River & Lake Kate Sheppard

Lunch provided
& FREE food & drinks
at The Brewery
afterwards to celebrate

We need about 24 fit & healthy people to help with the carrying of straw bales. If you'd like to please register your interest at dsharp@conservation.govt.nz

For more information visit www.facebook.com/whaka.inaka - web search "face"

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These straw bales are part of a project helping to restore inaka spawning.
Please leave the bales undisturbed.

Straw bales have been installed along 3 km of riverbank and will be monitored until the end of the spawning season (June 2016). Along with improving spawning success it will also tell us exactly where inaka can spawn. This will help us identify the best places for long-term restoration of their spawning habitat.

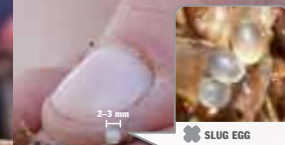
Straw bales are the perfect spawning habitat for inaka. Adult inaka wriggle between the bales to lay their eggs during the high 'spring' tides. The eggs are kept safe until the next 'spring' tide when the eggs hatch and the young are washed out to sea to grow into whitebait.

Find out more by going to the "Whaka Inaka" facebook page. Please let us know if the bales look like they have been damaged. Contact us at: info@eosecology.co.nz

IDENTIFYING INAKA/WHITEBAIT EGGS



0.8-1.2 mm



2-3 mm

Slug eggs, at 2-3 mm in diameter, are larger than inaka eggs. They are milky white in colour and more like chicken eggs in shape. Slugs lay their eggs in similar places to inaka and may eat small numbers of inaka eggs.

Please help us to restore inaka spawning in our quake-damaged local waterways through the creation of artificial spawning habitats!

The whitebait run in Christchurch is made up of one species of fish called inaka. Inaka only spawns in certain parts of the lower reaches of our rivers, in grasses along the banks that are covered with the incoming 'spring' high tides. Sadly, inaka spawning in Christchurch waterways has massively declined. Changes to the banks/vegetation have made good spawning habitats unavailable. The quakes created further damage and changed how far the tides can reach up the river - increasing the uncertainty as to where they can now spawn.

While we already have significant support & funding for this project **WE NEED YOUR HELP TO MAKE IT HAPPEN**

How your business can help:

The total Project cost is \$300,000 - we have \$50,000 still to raise. As a business local to the spawning area, we'd like to invite you to participate in the largest initiative of its kind - by either financial or in-kind support.

Your own piece of the Project - select a spawning site of your own for naming-rights on the site signage including your company logo and website URL.

Online promotion - We'll promote your business & support on our Facebook page, and you can link to posts from our Project website or Facebook page from your own material.

Your logo included in all project publications such as reports, posters, presentations, journal articles and web articles.

Media exposure (both local & national) will be happening throughout the Project.



Secure funding & in-kind support

» A big thanks to all these guys...





Engaging the community

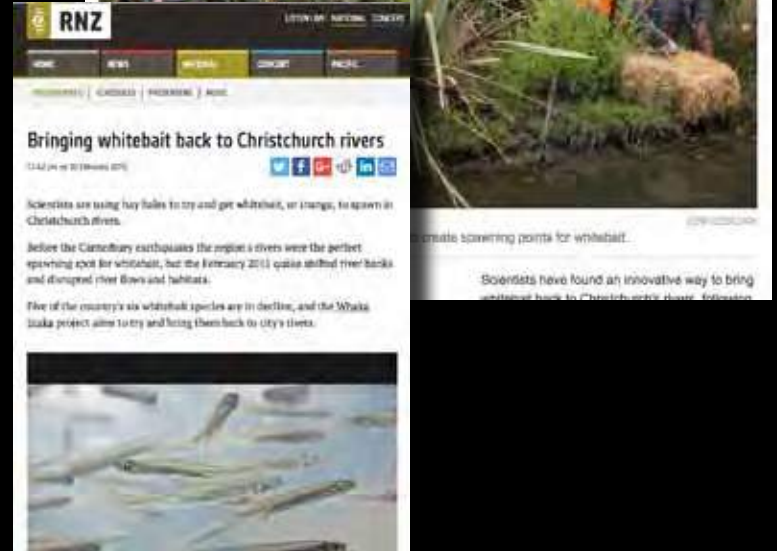


Bales installation day – 204 bales installed – thanks to all the volunteers who helped make it possible



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Engaging media channels





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Monitor sites for eggs



Community volunteers & students have helped us with 3 rounds of egg monitoring done to date



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Monitor sites for eggs



This is what success looks like!



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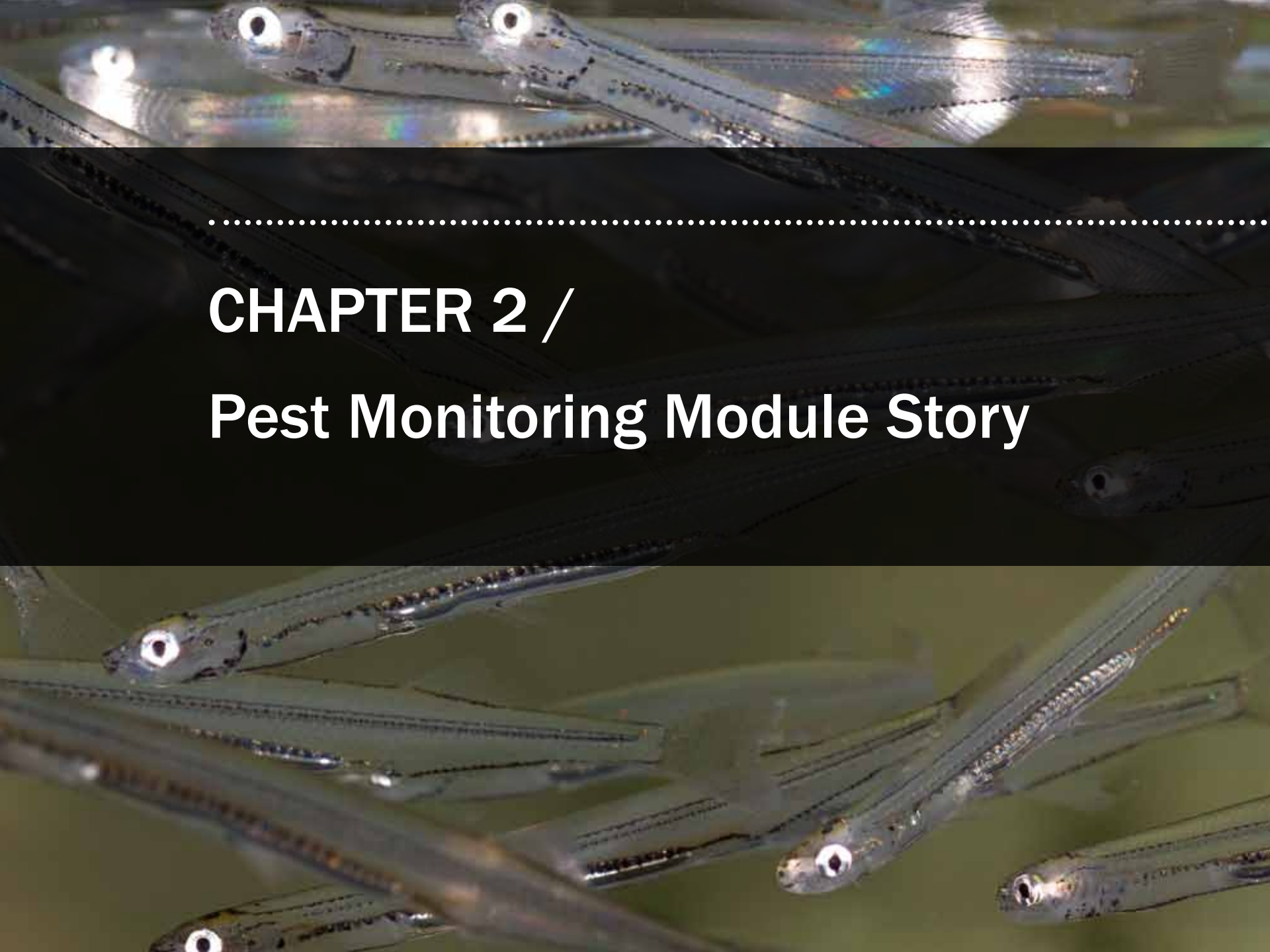
WHAKA INAKA : CAUSING WHITEBAIT

Future outcomes



Know where
to concentrate
conservation &
management
efforts

Informed
community helps
influence
positive policy
change

A close-up photograph of a zipper pull and teeth. The zipper is silver-colored and appears to be made of metal or a high-quality plastic. The teeth are sharp and pointed, and the pull is a small, cylindrical piece with a hole in the center. The background is dark and out of focus.

**CHAPTER 2 /
Pest Monitoring Module Story**



Pest Monitoring Module plan

The “goodies vs baddies” part...

- » Whaka Inaka team needed help checking bales & signs as funds limited
 - » Not much known about pests around river
- ...local schools to the rescue!



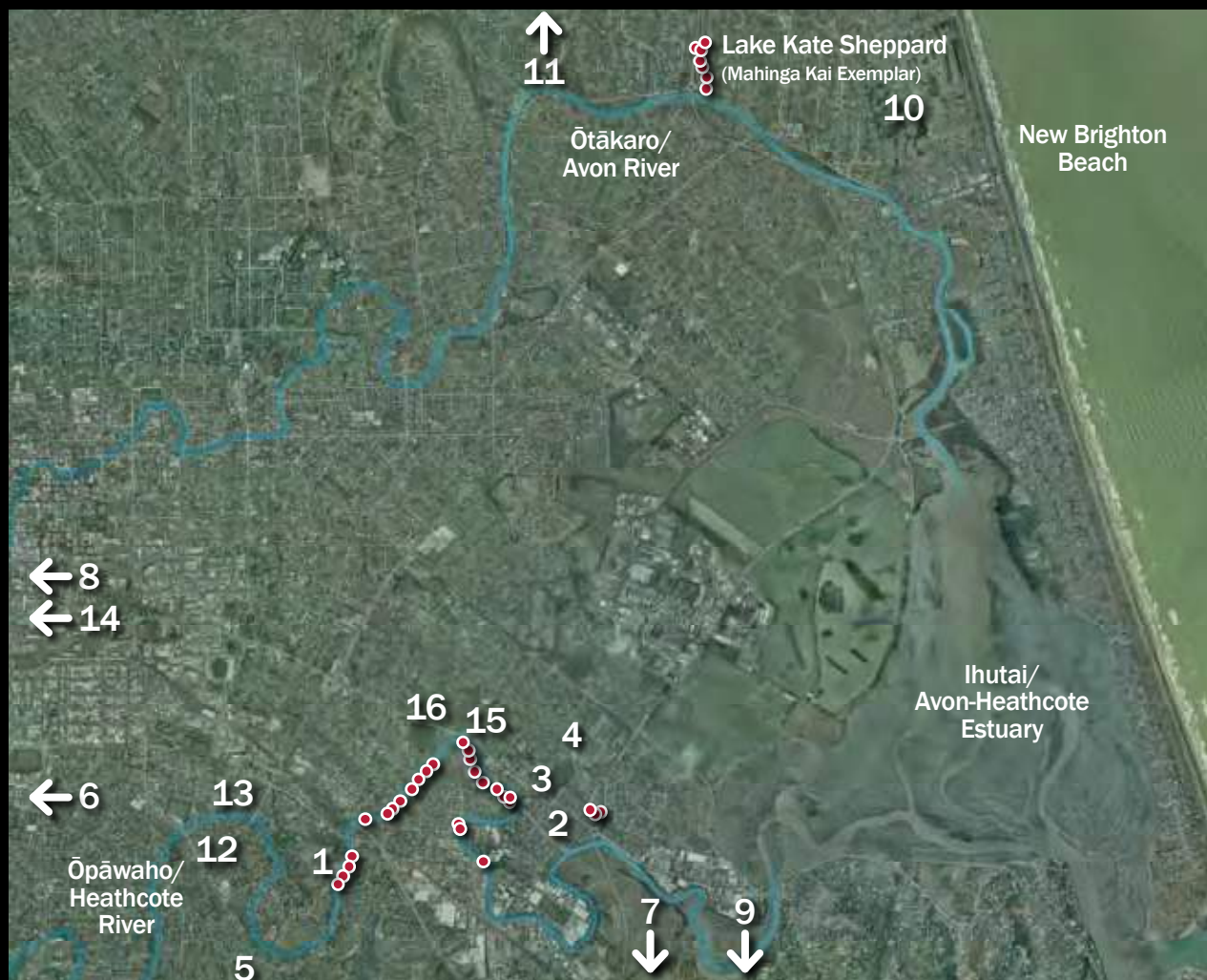
© Te Waka Unua





16 schools participating

- 1 Opawa School
- 2 Bamford School
- 3 St Annes School
- 4 Tamariki School
- 5 St Martins School
- 6 Te Kura Kaupapa Maori O Te Whānau Tahī
- 7 Lyttelton Primary School
- 8 Ao Tawhiti Unlimited Discovery
- 9 Heathcote Valley Primary School
- 10 Rāwhiti School
- 11 Waitākiri Primary School
- 12 Hillview Christian School
- 13 Seven Oaks School
- 14 Te Pā o Rākaihautū
- 15 Kindercare Learning Centre
- 16 Te Waka Unua School



Schools monitor for 15 weeks on rotation to suit individual requirements



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What schools do

- » Pest detector cards installed at Whaka Inaka bale sites



Irresistible
peanut-buttery goodness



What schools do...

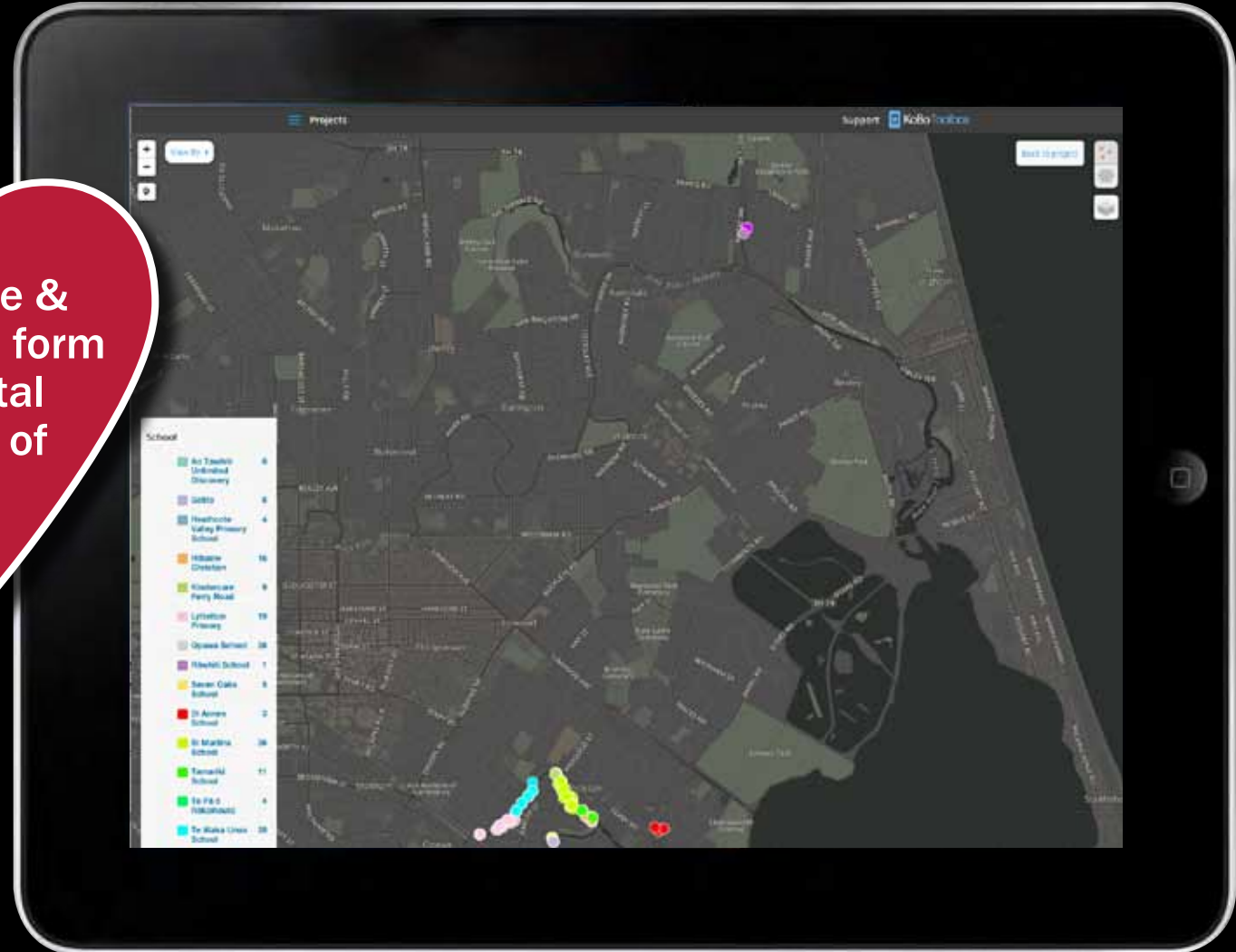
- » Check if pests active
- » Try & identify pest (rat, hedgehog, mouse, possum?)
- » Check if dog poo around
- » Check bales/signs OK
- » Record all this data
- » Replace detector card with fresh one





Resources developed/supplied

Database & geospatial form for digital logging of data





Resources developed/supplied



Group
teacher
training



Online
training
video



Onsite
teacher
training

Online &
printed
support
material



Benefits for schools/students



Sense of
guardian-
ship

Explore local
environment
& rivers

Experiential
learning
effective



NZ
Curriculum
related

Learn
scientific
methods



Parents
involved



Best benefits...

What do whitebait eat?

What do whitebait do?

What animals are a danger to whitebait?

Lots of great feedback & heaps of questions from students...

What else lives in the river?

How can the water get so high?

Why do people litter in the river?

When will they hatch?

Where will they swim to?





Outputs from schools/students



Classroom presentations



Online videos & photo diary entries



Online blogs



Drawings





Outcomes from module

- » Engaged & aware students
- » Strong connection between scientists & schools/students
- » Provide Councils data to help influence conservation & management strategies related to:
 - dog poo & *E. Coli* levels in waterways
 - riverside pest control



Future opportunities

Schools involved in monitoring inaka eggs



Schools learning about river & can showcase findings at public event



World Fish Migration Day activities



Funds applied for to establish 'Environment Investigators'

Continue work with schools to expand learning about their river





Pest Module says thanks to...

- » **Rāta Foundation for funding**
- » **Mountains to Sea Conservation Trust**
- » **Iain Gover (Te Rūnanga o Ngāi Tahu) for database & geospatial form development**