



www.whitebaitconnection.co.nz



Department of Conservation
Te Papa Atawhai



The WBC Concept

- The Whitebait Connection programme encompasses the EfS principles of learning In, About and For the environment. It encompasses all areas of the curriculum.
- The Concept:
 - Learn **about** freshwater environments and its inhabitants in the classroom.
 - Visit and get **in** a local waterway to discover the life within it and look at the streams health.
 - Discuss threats to waterways in the community, link with active catchment care groups in the area.
 - Action **for** the environment!!

THE BIG PICTURE - The WBC programme aims to inspire and educate schools, community groups and tangata whenua to restore and take care of the life sustaining force of their local waterways and catchments.



WHITEBAIT CONNECTION

GIANT KOKOPI



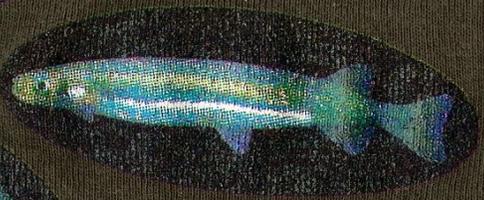
SHORT-JAW KOKOPI



KOARO



INANGA



COMMON SMELT



BANDED KOKOPI



Te akii i te hunga tangata te tiaki inanga



whitebait Connection

Xstream about freshwater life



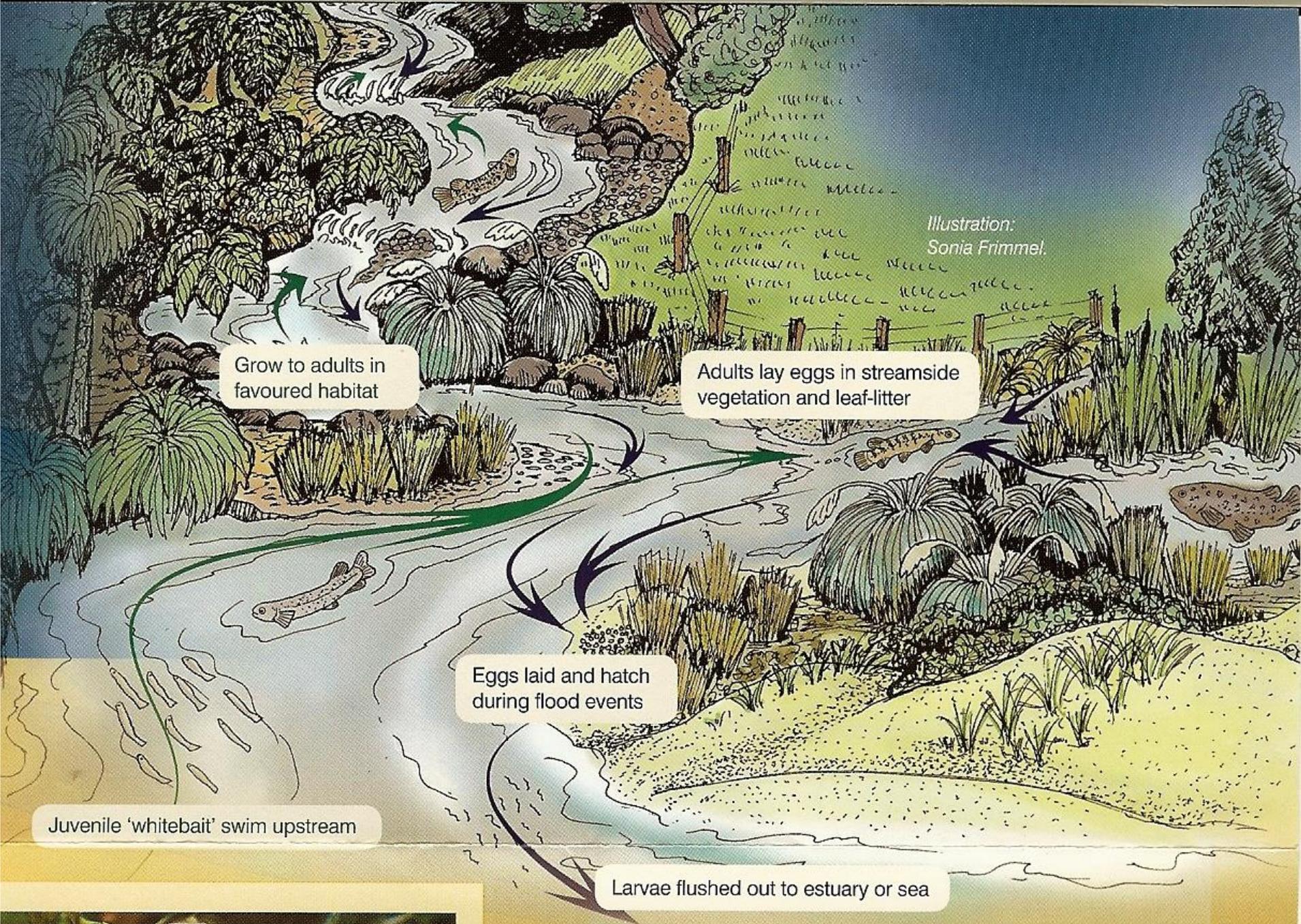


Illustration:
Sonia Frimmel.

Grow to adults in
favoured habitat

Adults lay eggs in streamside
vegetation and leaf-litter

Eggs laid and hatch
during flood events

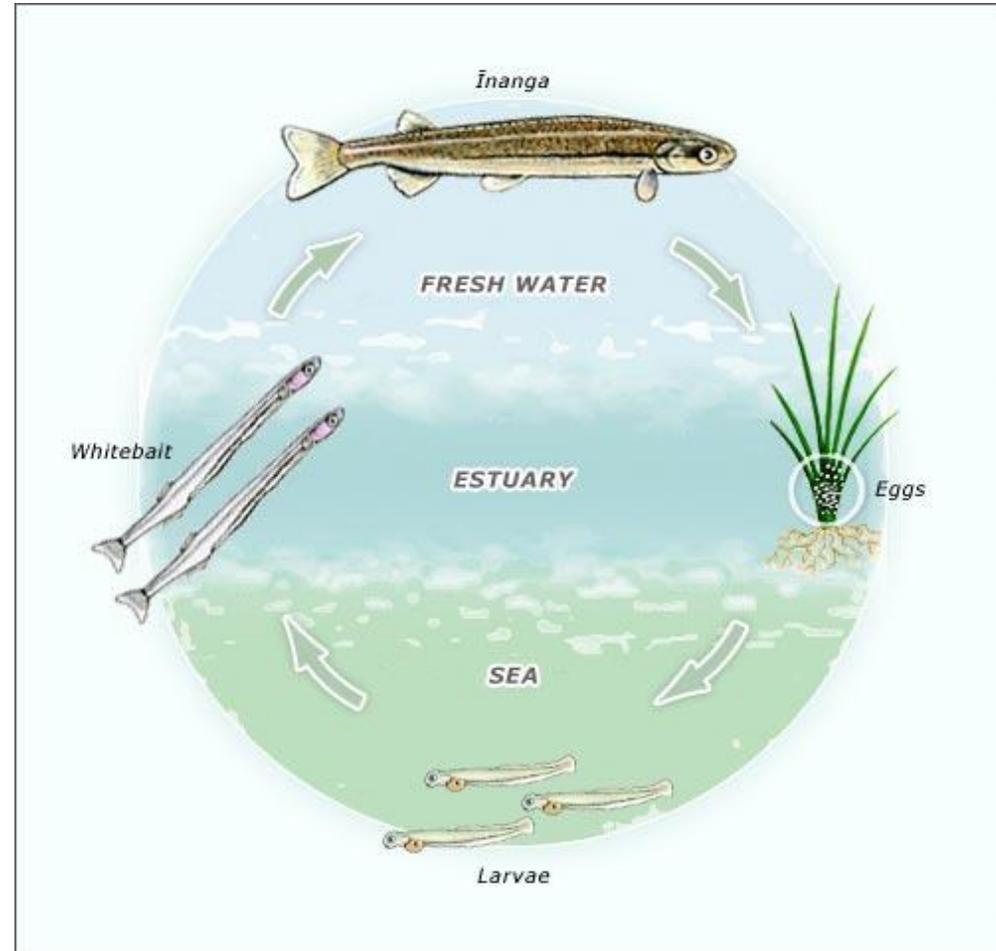
Juvenile 'whitebait' swim upstream

Larvae flushed out to estuary or sea

Connection from the mountains to the sea



WBC in the classroom – adds value to what teachers do in class

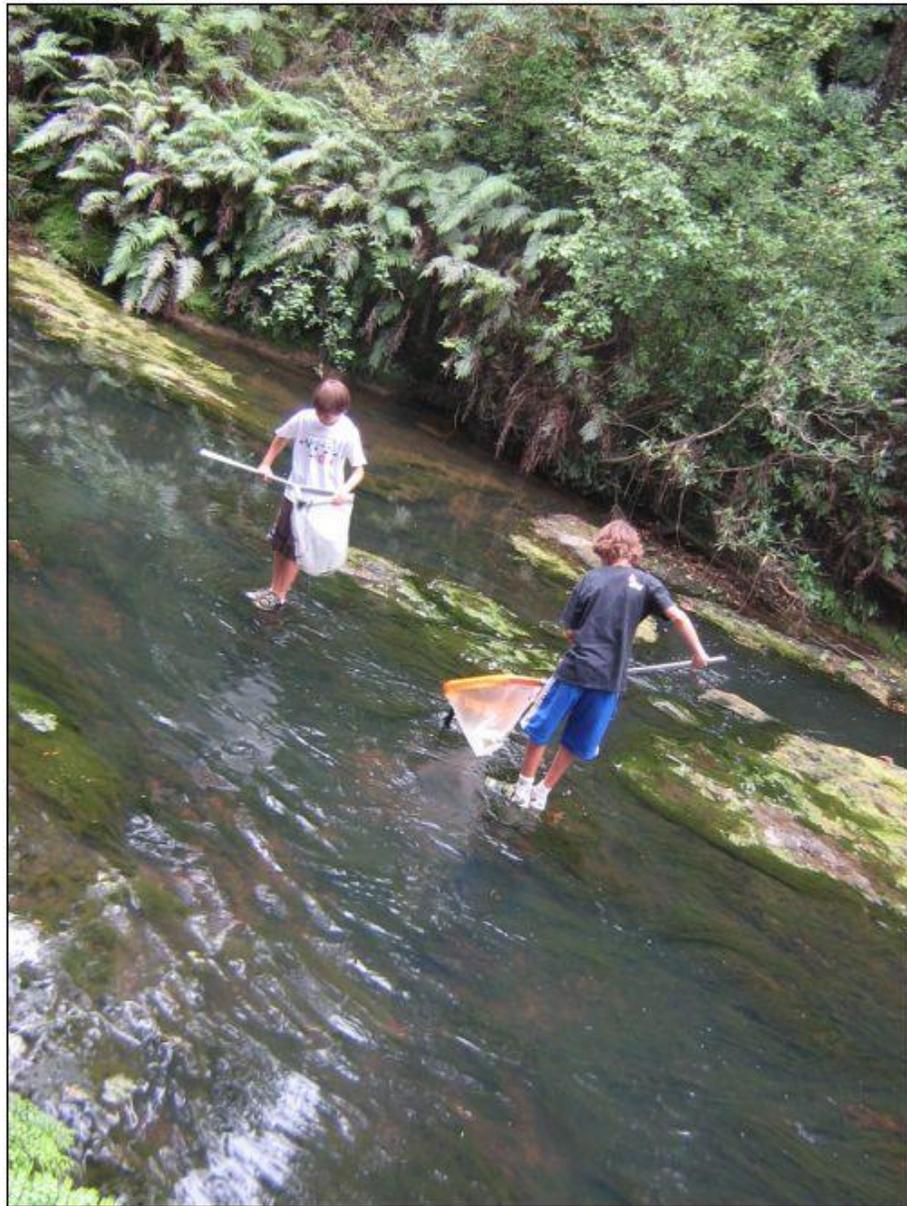


The Whitebait Run



Discovery







Over 60,000 New Zealanders and over 1000 schools have participated in WBC since it began in 2002



Some examples of student class work



WHITEB

We are learning about how learning about whitebait links to our own everyday lives. We are thinking about the things we can do to help keep the habitat clean and healthy for whitebait.



How do we affect their habitat by what we do on the land?

A lot of things we do on land - like driving cars, constructing new buildings, grazing animals - can impact our freshwater environments and our estuaries. Some of the effects are because of **pollution**. For instance, think about the oil you see on roads after it rains - much of that goes into our storm drains and into our coastal environment.

Another effect is the increased amount of water that goes into our rivers and streams during



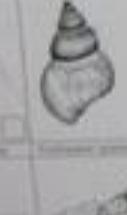
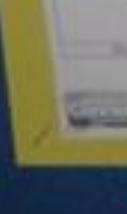
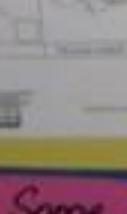
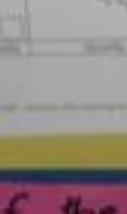
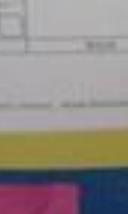
ns to

Relating to others.
Working interdepend-
ently. Teamwork!



Managing Self -
Taking care in slippery
conditions.

BUG CHECKLIST

Banded Rabbits (Salix flabellata)	
Wrens (Turdus merula)	
Black Rabbits (Salix argentea)	
Black-throated Bluebird (Sialia sialis)	
Red-winged Blackbird (Agelaius phoeniceus)	

Some of the
creatures that we
found.

I was feeling excited and happy about having the experience.
I use to feel scared because I thought the water was cold.
Now i feel brave. because i caught a crayfish.



WBC – Kim Jones

I was feeling totally excited about the



WONDERFUL WHITEBAIT

1. DECIDING
2. FINDING
3. USING
4. RECORDING
5. PRESENTING
6. EVALUATING

Other visible text on the board includes:
- "What will it take for you to go fishing?"
- "Planning to fish with a group?"
- "Checking the Day Book"
- "Using the Fishery & Department website"

Inspired into action...

- WBC promotes action and can help to facilitate emerging processes ***unique to each community***:
 - Stream clean-ups
 - Drain Stencilling of stormwater drains
 - Letters to councils
 - Nursery projects – funding advice
 - Stream side planting – advice on suitable restoration methods
 - Linking with local/regional stakeholders and organisations
 - Monitoring projects
 - Whitebait spawning habitat restoration and adoption

Stream Clean-Ups

Over 30 cubic meters of riparian rubbish has been removed.



■ A weekly environmental page



SPREAD THE WORD: These pupils are taking their Save the Drains messages to the footpaths of Whangarei, and then to a will present their project at the Future Problem Solving world conference at the end of the month. From left, top: Gage Ca from Experiencing Marine Reserves, Brad Olsen. From left, bottom: Mikayla Gulick, Mathieu Poot, Georgia Young and PICTURE

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Pupils spread the word on pollution

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blem-solving
up wanted to
was causing the
in the tribuna

out further up the road, and was likely contributing to the stream pollution and killing the eels.
Now, after extensive consultation with local council, and lots of work themselves, they have achieved their goal and there are now a couple of eels back swimming in the

lot about why the stream is polluted.
But they're not resting on their laurels. Their "homework" for the school holidays was to come up with a design for a sign to be erected at the stream behind their school, to encourage school pupils not to throw

one will read."
They've presented their project to several community groups around the district, including a Rotary club and Girl Guides, which serves as a practise for their big moment in Michigan, and in their goal of spreading an environmentally-friendly

spending terms
this year working
schools in the W
district in the Dra
Harbour campaign
calling them "an
Teams from K
Primary and Ker
School have also
so. It's

EMR Kim Boyle

DRAINS TO HARBOUR 3 M 300



RAINWATER ONLY

ONLY RAIN DOWN THE DRAIN



KEEP OUR WATERWAYS CLEAN





Letters to councils

OFFICE OF THE MAYOR



14 July 2008

Kamo High School
1 Wilkinson Avenue
Kamo
Whangarei

Attention: Year 10 Environmental Studies Class

Dear Laura, Chealise and Kate

OTANGAREI STREAM

Thank you for your letter received 7 July addressed to His Worship the Mayor, Stan Semenovff relating to your environmental studies class studies.

I have taken the liberty of forwarding your letter on to Riaan Elliot who is the manager of this division at the Northland Regional Council. The Northland Regional Council's role is monitor and respond to incidents and areas of contamination as you have described in your letter.

On behalf of the Mayor I would like to extend his sincere thanks for your interest and care in our community and wishing you all the very best for the remainder of your years study.

Yours faithfully

A handwritten signature in blue ink that reads "Jan Walters".

Jan Walters
PA to the Mayor

Community buy-in of restoration projects, leading



Riparian Planting

Over 50,000 native seedlings have been planted,
20 kilometres of riparian margins have been restored,
8 Whitebait spawning habitats adopted and restored



Over 60,000 hours of volunteer time has been contributed



Work that captures the educational opportunities of restoration projects

WBC has had over 100 media hits.

Teens' film should inspire others

A SHORT film by Tikipunga teenagers has been chosen for a film festival showing the most inspiring stories from around the world.

Two students from Te Wharekura O Te Rawhiti Roa made the film about the school's efforts to clean up nearby Waitaua Stream.

The film, Tiakina o Tatou Awa, has been chosen to screen in Media That Matters, a showcase for films on important issues.

Erana Walker and Kowhai Henare will travel to Wellington to talk about the film at the premiere next week.

Erana says she hopes the five-minute bilingual film will inspire others to take action.

"I just really want people to take action around their local waterways. If they can see what a small school can do, it might inspire them to do something in their community."

Since 2003 the Maori immersion school has cleaned and protected Waitaua Stream, a tributary to Whangarei Falls.

"Firstly we found that it was polluted, it was full of rubbish," says



MOTIVATING MOVIE: Erana Walker and other students from Te Wharekura O Te Rawhiti Roa hope schools will be inspired to clean up local rivers by their movie.

Erana. Students cleaned up the rubbish, educated the community, monitored the water and planted the riverbank.

The students started their own nursery, raising seeds from the area

into bigger plants.

Tiakina o Tatou Awa tells of the importance of taking care of local waterways, says Erana.

It was a winning film in last year's sustainable film challenge, The Outlook for Someday,

winning best Te Reo Maori film.

It was played on Maori Television last week earlier this month.

Students from Te Wharekura O Te Rawhiti Roa also made a presentation last year

at the International River Health Conference in Canberra.

Science and environmental teacher Jo Murray says the river project has been student-driven and young students continue to volunteer.

Nursery Projects



Specialist Monitoring projects



Community Awareness and Action





Collaborative partnerships



Department of Conservation
Te Papa Atawhai

LEARNZ



BETWEEN WATERWAYS

MTSCT National Wananga

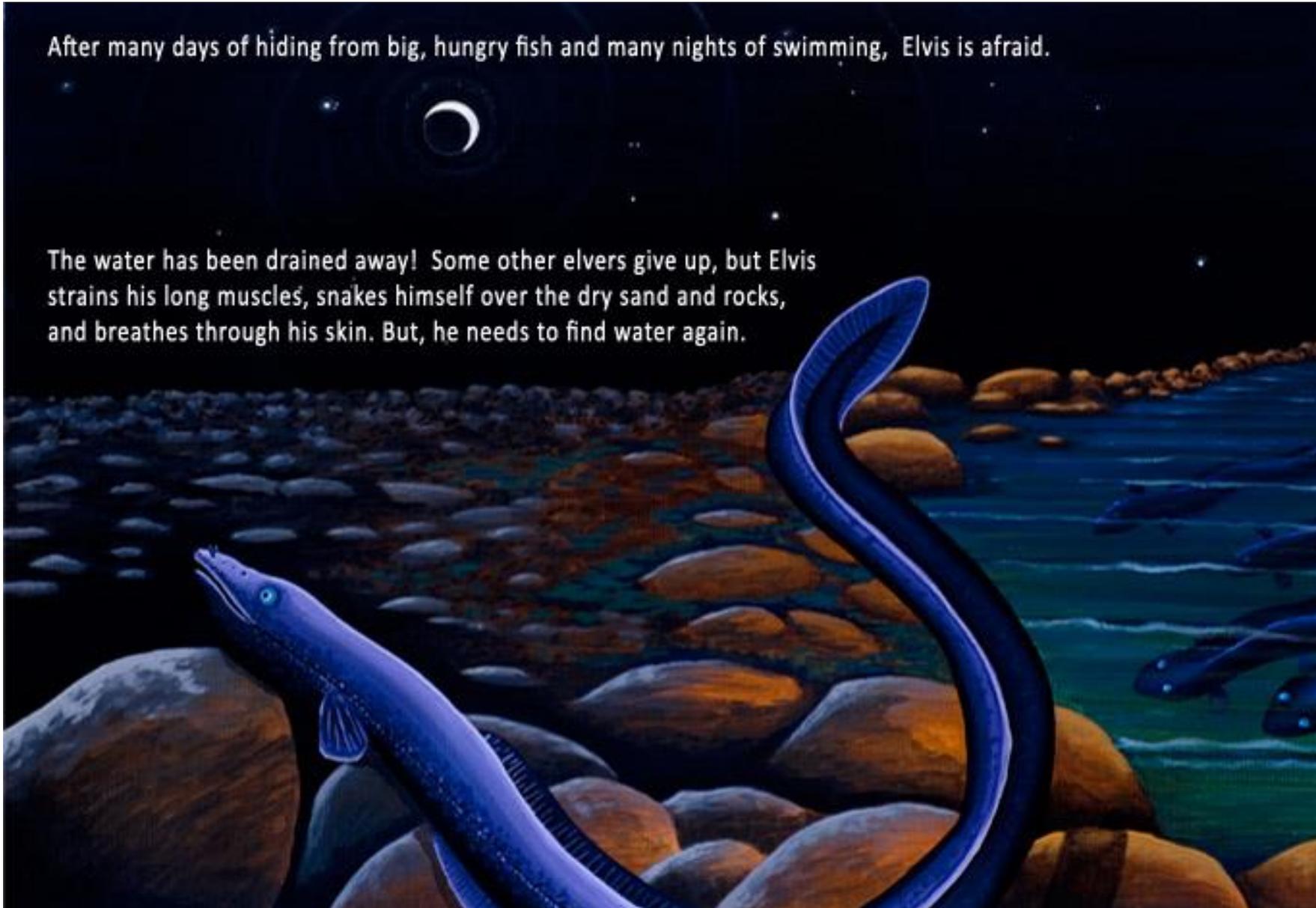


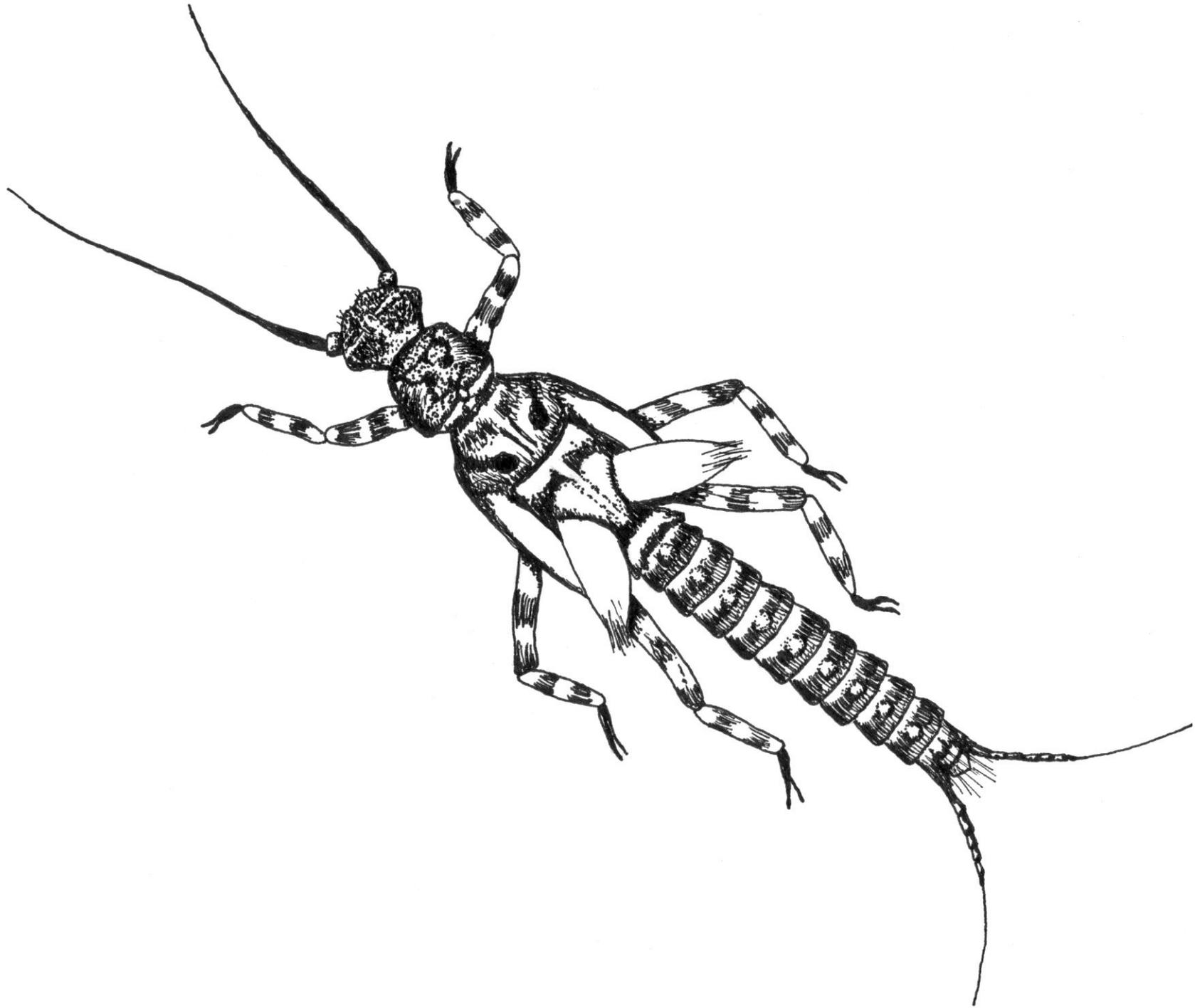
Marine & Freshwater Wananga 2010

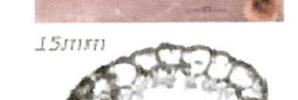
Bowman Outreach Tour

After many days of hiding from big, hungry fish and many nights of swimming, Elvis is afraid.

The water has been drained away! Some other elvers give up, but Elvis strains his long muscles, snakes himself over the dry sand and rocks, and breathes through his skin. But, he needs to find water again.





 <p>5 6mm</p>  <p>TE PEPEKE KAUKIORE BACKSWIMMER <i>Notohercynidae</i></p>	 <p>5 25mm</p>  <p>KIHITARA DAMSELFLY <i>Xanthocnemis</i></p>	 <p>5 10-30mm</p>  <p>NGARONGO WAI STONEFLY <i>Plecoptera</i></p>	 <p>9 20mm</p>  <p>PIRIWAI COMMON MAYFLY <i>Deleatidium</i></p>	 <p>7 30mm</p>  <p>NGARO PARIRAU DODSONGLY <i>Archibaulinidae</i></p>	 <p>5 6mm</p>  <p>TE KAIHOE POTI WATER BOATMEN <i>Corixidae</i></p>
 <p>6 30mm</p>  <p>KAPOWAT DRAGONFLY LARVAE <i>Petaluridae urupetala</i></p>	 <p>3 10mm</p>  <p>NGATA FRESHWATER SNAIL <i>Potamopyrgus</i></p>	 <p>6 120mm</p>  <p>KAKAHI FRESHWATER MUSSEL <i>Hyridella menziesi</i></p>	 <p>5 150mm</p>  <p>KOURA FRESHWATER CRAYFISH <i>Paranephrops planifrons</i></p>	 <p>5 30mm</p>  <p>PĀPAKA FRESHWATER CRAB <i>Halicarcinus/Helice</i></p>	 <p>5 30mm</p>  <p>KOURAURA FRESHWATER SHRIMP <i>Paratya curvirostris</i></p>
 <p>6 15mm</p>  <p>NGARO WAIWAI ANGA STONY-CASED CADDIS <i>Ptyocentria</i></p>	 <p>5 20mm</p>  <p>NGARO WAIWAI ANGA WOODY-CASED CADDIS <i>Tripletides</i></p>	 <p>5 15mm</p>  <p>NGARO WAIWAI KORE ANGA FREE LIVING CADDISFLY <i>Hydrobiosis</i></p>	 <p>3 7mm</p>  <p>LEECH <i>Glossiphonia</i></p>	 <p>1 30mm</p>  <p>TOKE ULIGOCHAETE WORM <i>Eiscniclis</i></p>	 <p>2 20mm</p>  <p>MIDGE LARVAE <i>Chironomidae</i></p>

SENSITIVITY ■ High ■ Moderate ■ Low

SENSITIVITY SCORE **10** = Highest Sensitivity
1 = Lowest Sensitivity

Chart created for WBC by Ting Yiu 2011

Photographs by Kim Jones

Illustrations by Stephanie. J. Bowman www.bowmansart.com

Investigating Freshwater

Akoranga Wai Maori

An inquiry resource





for info

join in our poll

CONSERVATION

and see their life cycle

click here to sign up

View the Whitebait Connection in action using inquiry learning click to find out more...

What's up in Freshwater Newsletter

click here to sign up

Check out our online teaching resource library

Contact us to find out how you can get involved

make a donation

click for more info

Learn about Whitebait Biology or Inanga Spawning

Events Calendar

October 2010						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Whitebait Connection Co-ordinators 2016



Nicki Wakefield



Harriet Thomas



Jasmine Pirini



Soozee McIntyre



Claire Tochere

To be confirmed



► **KIRSTY BRENNAN**
Scientific Support
Specialist

Kirsty Brennan



► **SHELLEY McMURTRIE**
Principal Aquatic
Ecology Scientist

Shelley McMurtrie

Data SIO, NOAA, U.S. Navy, NGA, GEBCO



Kim Jones



Lorna Doogan



Murray Palmer

Sarah Neighbours



Zoe Studd



Liz Gibson

Google earth



Northland



WBC - Kim Jones

Auckland



Gisborne



Hawke's Bay – watch this space



Wellington



Canterbury



West Coast –
watch this space



The Future



- Well-established team, framework and toolbox.
- Continued development of WBC resources throughout NZ.
- Continue the collaborative direction with community, govt orgs and NGOs.
- Continue support with national delivery in established areas and for more national expansion of the programme.
- Continue using the WBC programme in a networked catchment restoration context.
- New website with data uploading capability
- 2017 National Wananga in Leigh, Rodney