

## National Marine and Freshwater Education Wānanga Conference Proceedings 2013



Saturday 27<sup>th</sup> – Monday 29<sup>th</sup> April, 2013

Te Rawhiti Marae, 221 Rawhiti Road, Bay of Islands

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*working with tangata whenua  
marine & freshwater biosecurity  
mobilising community in partnership  
marine and freshwater conservation education*

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Proceedings prepared from notes taken during the wānanga by Lorna Hefford, Samara Nicholas, Nicki Wakefield  
Thanks Lorna for your tireless note taking during every sitting session!  
Edited by Samara Nicholas & Nicki Wakefield

*We have done our best to make these notes as accurate as possible and apologise if there are any inaccuracies.*



The 'setting' – TU MEKE!



## 1. Wānanga Conference theme, purpose, objectives and highlights summary

**Theme** "Partnerships for marine and freshwater conservation ACTION"

**Purpose** An inspirational professional development and networking opportunity for all those involved or interested in freshwater and marine conservation

### Objectives

- ⤴ provide a forum for marine and freshwater educators to network about education for sustainability initiatives & projects and to form effective partnerships
- ⤴ provide professional development opportunities
- ⤴ provide a forum to discuss the effectiveness of existing and potential partnerships that foster action for marine and freshwater conservation
- ⤴ ensure strong delivery of the Experiencing Marine Reserves (EMR) and Whitebait Connection (WBC) concepts around New Zealand
- ⤴ raise the profile and value of conservation action "engagement" with a wide range of stakeholders

### Wānanga Included:

- ⤴ powhiri at 12 noon on Saturday 27th April
- ⤴ marine & freshwater keynote presentations from Dr's [Mike Joy](#) and [Rochelle Constantine](#)
- ⤴ fresh wholesome meals and marae style accommodation over a 3 day conference
- ⤴ sunset gourmet beach barbeque conference dinner in the beautiful Bay of Islands
- ⤴ marine and freshwater field trips including local conservation initiatives
- ⤴ an opportunity to share your own project during 'show n tell', displays & facilitated workshops
- ⤴ inclusion of local residents, tangata whenua & conservation groups throughout the programme
- ⤴ poroporoake and official closing at midday on Monday 29th April
- ⤴ an additional day of specialist training workshops for Experiencing Marine Reserves & Whitebait Connection coordinators following the wananga

Previous wananga (2012) proceedings [can be found here](#)

***Mountains to Sea Conservation Trust would like to thank*** the [Tindall Foundation](#) and [Department of Conservation](#) for funding support. This wānanga conference is organised in partnership with Ngati Kuta, Patu Kaha, [Fish Forever](#), [Living Waters](#), and supported by [Northland Dive](#) and Otehei Bay Resort.

***Thanks to Maria and Raymond Lawton for the fabulous food and sustaining us throughout the whole wananga***

***Thank you to the Te Rawhiti Marae Committee for hosting us at your amazing marae!***



## 2. Conference pack details

“Kermadec: Art Across the Pacific” 2013 booklet	<a href="#">The PEW Charitable Trusts</a>
Print out on The Kermadecs – a special and sensitive ocean region of New Zealand	<a href="http://www.thekermadecs.org">www.thekermadecs.org</a>
EMR stenciled (handmade) calico reusable shopping bag	<a href="#">Experiencing Marine Reserves</a>
Wai Care Invertebrate Field Guide	<a href="#">Auckland Council's Wai Care</a>
1 year rat trap sponsorship opportunity	<a href="#">Project Island Song</a>
Action Notebook	<a href="#">Mountains to Sea Conservation Trust</a>
“Check, Clean, Dry” pen	<a href="#">Check, Clean, Dry Campaign</a>
Experiencing Marine Reserves 3 <sup>rd</sup> edition DVD & sticker	<a href="#">Experiencing Marine Reserves</a>
Laminated EMR Northern Marine Life ID Chart	<a href="#">Experiencing Marine Reserves</a>
“Karakia Mō Te Kai” & translation print out	From Te Mauri Tau
“The 4 Principles for creating positive social change” by Dr. Niki Harrè print out	<a href="#">Psychology for a Better World</a>
“Taupō for Tomorrow” brochure	<a href="#">Taupō for Tomorrow &amp; Genesis Energy</a>
“Whitebait Connection” brochure	<a href="#">Whitebait Connection</a>
“Project Island Song – Island Twitter” Autumn 2013	<a href="#">Project Island Song</a>
Rocky Shore Identification Guides	<a href="#">New Zealand Marine Studies Centre</a>
Marine Metre Squared information card	New Zealand Marine Studies Centre <a href="#">Mm2</a>
Bay of Islands Tide Chart	<a href="#">Project Island Song</a>

***The organisers would like to give thanks for the donations made towards the conference pack.***



### 3. Introductions & participant list

**Introductions** – what people want from wānanga and what is their favorite freshwater and/or marine species  
average of 1min per person

Participant Name	Organisation	Favourite marine/ freshwater species	A word to describe what you want from the wānanga	Email address
Samara Nicholas	Mountains to Sea Conservation Trust Trustee Experiencing Marine Reserves National Coordinator	Nudibranch	Successful	<a href="mailto:samara@emr.org.nz">samara@emr.org.nz</a>
Greg Pilcher, with wife Debbie & son Anaru	EMR coordinator Hauraki	Orca		<a href="mailto:greg@emr.org.nz">greg@emr.org.nz</a>
Patrick Gillespie	Kaitaia community member	Koura		<a href="mailto:gillespieclan@hotmail.com">gillespieclan@hotmail.com</a>
Denise Gillespie	Department of Conservation (DOC) Kaitaia	Hawksbill Turtle		<a href="mailto:dgillespie@doc.govt.nz">dgillespie@doc.govt.nz</a>
Nikki Rawls	EMR coordinator – Gisborne Nga Mahi Te Taiao			<a href="mailto:sunsurfer111@hotmail.com">sunsurfer111@hotmail.com</a>
Jasmine Pirini	Far North Community Member	Snail		<a href="mailto:owhainga@xtra.co.nz">owhainga@xtra.co.nz</a>
Liz Gibson	EMR coordinator Wellington Island Bay Marine Education Centre	Giant squid		<a href="mailto:lizgib@hotmail.com">lizgib@hotmail.com</a>
Alan Berman	EMR coordinator Wellington Island Bay Marine Education Centre	Wandering anemone		<a href="mailto:alanruizberman@gmail.com">alanruizberman@gmail.com</a>
Julian Hodge	EMR coordinator Wellington Island Bay Marine Education Centre	Octopus		<a href="mailto:julianhodge@octopus.org.nz">julianhodge@octopus.org.nz</a>
Rochelle Constantine	Auckland University	Cocolithophore		<a href="mailto:r.constantine@auckland.ac.nz">r.constantine@auckland.ac.nz</a>
Lan Pham	DOC Otago	Lowland Longjawed Galaxiid		<a href="mailto:lpham@doc.govt.nz">lpham@doc.govt.nz</a>
Rebekah Gee	Ecoquest	Dolphins		<a href="mailto:rebekah@ecoquest.co.nz">rebekah@ecoquest.co.nz</a>
Sandra Scowen	Bay Of Islands Maritime Park Inc - Project Living Waters	Leatherjacket		<a href="mailto:sandrascowen@vodafone.co.nz">sandrascowen@vodafone.co.nz</a>
Kate McConnel	Eastern Bay of Islands Preservation Society & Medical Herbalist	Dolphins	to participate as an observer	<a href="mailto:katemcc@paradise.net.nz">katemcc@paradise.net.nz</a>
Carol Nicholson	Northland Regional Council	Giant Kokopu	meeting people	<a href="mailto:g.g.muir@hotmail.com">g.g.muir@hotmail.com</a>
Amy Bazely	AB Ecology - ecologist	Dobsonfly	Networking & learning	<a href="mailto:amyb@abecology.co.nz">amyb@abecology.co.nz</a>
Marie Jordan	DOC Whangarei	Seal & dolphin	Hear ideas	<a href="mailto:mjordan@doc.govt.nz">mjordan@doc.govt.nz</a>

Participant Name	Organisation	Favourite marine/ freshwater species	A word to describe what you want from the wānanga	Email address
Mike Tapp	DOC Taranaki	Great White	Learn	<a href="mailto:mtapp@doc.govt.nz">mtapp@doc.govt.nz</a>
Pat Swanson	Deputy Principal at St Pius X School & EMR Taranaki	John Dory	Refresh	<a href="mailto:patanddebs@xtra.co.nz">patanddebs@xtra.co.nz</a>
Tania Pene	Te Runanga a Iwi o Ngapuhi Hapu Development		Networking & new ideas	<a href="mailto:tania.pene@ngapuhi.org">tania.pene@ngapuhi.org</a>
Helen Ough Dealy	DOC Bay of Islands Community Relations Project Island Song	Snapping shrimp	Cross fertilisation of ideas	<a href="mailto:hodealy@doc.govt.nz">hodealy@doc.govt.nz</a>
Hilton Leith	Mountains to Sea Conservation Trust Trustee & regular EMR Volunteer	Black Coral		<a href="mailto:handm@xtra.co.nz">handm@xtra.co.nz</a>
Derith Bartley	NZ Marine Studies Centre & Royal Society of New Zealand Teacher Fellow St Hilda's Collegiate School	Cockle	Learn & get ideas	<a href="mailto:dbartley@shcs.school.nz">dbartley@shcs.school.nz</a>
Ruth Marsh	Bay of Islands Maritime Park Incorporated Society	Dragon Fly		<a href="mailto:ruth@livingwatersboi.org.nz">ruth@livingwatersboi.org.nz</a>
Anton Bowker	EMR Northland	Stingray	Learn & meet people	<a href="mailto:anton.bowker@gmail.com">anton.bowker@gmail.com</a>
Roger Grace	Mountains to Sea Conservation Trust Trustee	Spotted Crayfish		<a href="mailto:gracer@gmail.com">gracer@gmail.com</a>
Mike Joy	Massey University Senior Lecturer Institute of Agriculture and Environment	Longfined Tuna		<a href="mailto:m.k.joy@massey.ac.nz">m.k.joy@massey.ac.nz</a>
Jim Fyfe	DOC Otago Coastal Ranger	NZ Sea Lion	Networking	<a href="mailto:jfyfe@doc.govt.nz">jfyfe@doc.govt.nz</a>
Martin Rutledge	DOC Nelson & part of Freshwater Technology Team	Red Finned Bully & Hector's Dolphin	Empowering	<a href="mailto:mrutledge@doc.govt.nz">mrutledge@doc.govt.nz</a>
Louise Clark	Ngati Kuta Hapu Member, Te Rawhiti Marae		Partnerships	<a href="mailto:bobandlouise@slingshot.co.nz">bobandlouise@slingshot.co.nz</a>
John Booth	Te Rawhiti Local Former researcher with NIWA Wellington	All the Children of Tangaroa	Advice on preserving wetlands	<a href="mailto:boothy3@yahoo.co.nz">boothy3@yahoo.co.nz</a>
David Mules	Formerly with DOC Bay of Islands, now Reconnecting Northland	Tuna (eel) for it's connection between salt and freshwater		<a href="mailto:dmules@wwf.org.nz">dmules@wwf.org.nz</a>
Bob Clarke	Te Hapu O Patu Keha		Connections - Come along to see what page people are on & terminology of marine reserves especially regarding the treaty	<a href="mailto:bobandlouise@slingshot.co.nz">bobandlouise@slingshot.co.nz</a>

Participant Name	Organisation	Favourite marine/ freshwater species		A word to describe what you want from the wānanga	Email address
Laurie Austen	Ahipara Takutaimoana Committee	Toheroa		Networking & getting on the same wavelength	<a href="mailto:laurie_dez@hotmail.com">laurie_dez@hotmail.com</a>
Helen Kettles	DOC Head Office Wellington - Marine Technical Advisor & Estuaries Team Leader	Long Finned Eel		Connect	<a href="mailto:hkettles@doc.govt.nz">hkettles@doc.govt.nz</a>
Cornelia Vervoorn	DOC Frans Joseph Waiau	Long Finned Eel & Krill		Find support & encouragement for DOC staff	<a href="mailto:cvervoorn@doc.govt.nz">cvervoorn@doc.govt.nz</a>
Camellia Neilson	EMR Northland			Inspiration	<a href="mailto:camellia@emr.org.nz">camellia@emr.org.nz</a>
Sophie Barclay	Auckland Council	Baby Snapper		Wants to help collaborate & get stuff in element magazine	<a href="mailto:sophie.barclay@aucklandcouncil.govt.nz">sophie.barclay@aucklandcouncil.govt.nz</a>
Sophie Allen	Project Twin Streams Auckland Council	Eagle Ray baby & Freshwater Crab		Campaign	<a href="mailto:sophie@communitywaitakerere.org.nz">sophie@communitywaitakerere.org.nz</a>
Genevieve Toop	Project Twin Streams Auckland Council	Karengo		Becoming part of this community	<a href="mailto:genevieve.toop@aucklandcouncil.govt.nz">genevieve.toop@aucklandcouncil.govt.nz</a>
Soozee McIntyre	Whitebait Connection Northland & NorthTec Tutor	Damselfly larvae		Revolution	<a href="mailto:awasoo108@gmail.com">awasoo108@gmail.com</a>
Anna McKnight	DOC Turangi- Taupo for Tomorrow	Blue Duck Whio		Eloquence	<a href="mailto:amcknight@doc.govt.nz">amcknight@doc.govt.nz</a>
Lorna Hefford	Auckland University Student & Dive Club	Black Angel Fish		Networking	<a href="mailto:lorna.hefford@gmail.com">lorna.hefford@gmail.com</a>
Pat Heke	Te Kura Kaupapa Maori O Te Tonga O Hokianga Teacher			what we are & who we are & restoration of autonomy in delivering kura taiao	<a href="mailto:gottagitmine405@yahoo.com">gottagitmine405@yahoo.com</a>
Kim Jones	Mountains to Sea Conservation Trust Whitebait Connection National Coordinator	Everything		Reboot	<a href="mailto:kim@whitebaitconnection.co.nz">kim@whitebaitconnection.co.nz</a>
Nicki Wakefield	Mountains to Sea Conservation Trust Trustee EMR Northland WBC Northland	Stick Caddis, Nudibranch		Whakamana empowerment	<a href="mailto:nicki@emr.org.nz">nicki@emr.org.nz</a>
Annabel Studholme	DOC Canterbury & WBC Canterbury	Bully		Gratitude Thanks for what you do for the world	<a href="mailto:astudholme@doc.govt.nz">astudholme@doc.govt.nz</a>
Vince Kerr	Mountains to Sea Conservation Trust Chairperson Kerr & Associates				<a href="mailto:vince@kerrandassociates.co.nz">vince@kerrandassociates.co.nz</a>
Fleur Corbett	Guardians of the Bay of Islands & Project Island Song				<a href="mailto:the.corbetts@xtra.co.nz">the.corbetts@xtra.co.nz</a>

Julie Holt	Northland Regional Council EnviroSchools	<a href="mailto:julie.holt@xtra.co.nz">julie.holt@xtra.co.nz</a>
Niki Harré	Auckland University Associate Professor, School of Psychology	<a href="mailto:n.harre@auckland.ac.nz">n.harre@auckland.ac.nz</a>
Blandy Witehira	Te Hapu O Patu Keha/Ngati Kuta Hapu	<a href="mailto:blandyw@hotmail.com">blandyw@hotmail.com</a>
Russell Hook	Ngati Kuta Hapu	
Barbara Elboz	Te Hapu O Patu Keha	<a href="mailto:waiora@xtra.co.nz">waiora@xtra.co.nz</a>

#### 4. Te Rawhiti Orientation with local hapū Ngati Kuta and Patu keha

During which stories were shared on history of conservation in Rawhiti, in partnerships firstly between the two hapū that hold mana whenua, and mana moana. Methods of inter-hapū partnership includes consultation and consensus within whānau of the two hapū firstly, followed by gaining support from neighbouring hapū. While this can be a long process it is worth while as a kaupapa that the neighbours support is a strong one and in following with tikanga Māori. Decisions must be made without giving away mana of the hapū.

#### 5. Experiencing Marine Reserves presented by Samara Nicholas – [view powerpoint here](#)

This Wānanga was initially established in 2005 as a training opportunity for new Experiencing Marine Reserves coordinators in Northland, becoming a nationwide programme in 2004. The Mountains to Sea Conservation Trust is the umbrella legal entity for the Experiencing Marine Reserves Programme, Whitebait Connection Programme, and MarineNZ – the marine information portal. Our long term sponsors include the Department of Conservation & the Tindall Foundation supporting the national expansion of EMR and this wānanga since 2007. ASB Community Trust provides much appreciated support for programme delivery here in Northland.

EMR is experiential marine education in schools and community with the goal of making people guardians. The programme started with some local schools in 2001 and is now engaging thousands of students in Northland alone. The programme was inspired by involvement in Kamo High School's marine reserve proposal for the Whangarei Harbour, which became successful in 2006.

**The EMR concept is the essence of the programme – the programme follows this concept:**

- ⤴ **Introduction** to marine biodiversity in the classroom
- ⤴ **Local Investigation** of marine area
- ⤴ **Marine reserve experience**
- ⤴ **Comparisons** between local area and fully protected area
- ⤴ **ACTION** for the marine environment

The local investigation makes snorkelling safe to a wide range of people and places. Along the Northern East Coast kina barrens are common in our local unprotected rocky reef habitats. Our 1:2 in water ratio results in lots of parental involvement, for some these trips can be the very first time going for snorkel without getting kaimoana. Taking people into marine reserves allows them to be empowered and inspired what is possible for our coasts, as well as encourages the value of no take areas.

The key part to EMR is the action stage. It is uplifting to see how students can make a difference and take action throughout NZ. Participants go forth to address local issues that are often unrelated to marine reserves – inspired by snorkelling in a marine reserve. Action initiatives over the years included sand dune protection, rahui promotion, and action evenings to increase awareness of local issues within the community such as Mahurangi College with over 200 attendees for the last 2 years running. The wider community is reached via media, and other community events. During 2009 to celebrate conservation week EMR in partnership with DOC organised over one thousand students and parents to form a human chain around the Whangarei Harbour Marine Reserve to raise



awareness of its boundaries. Refining NZ provides the funding support to provide free community snorkel days at the Whangarei Harbour Marine Reserve. Demand for the programme is so high that schools are now paying for the opportunity to learn about the ocean with EMR.

EMR has partnered with Northland Regional Council to educate people about marine pests, in particular Mediterranean Fan Worm. Participants were told to put their Unwanted poster from the conference pack somewhere it might be seen. Our focus is around educating people about the biology of this marine pest and key messages such as CHECK, CLEAN, REPORT & ANTIFOUL and making sure vessel owners are aware that it is illegal to knowingly transport this marine pest to Northland.

Samara finished by showing a clip filmed during August 2012 on the EMR - Young Blake Expedition to the Kermadecs <http://www.youtube.com/watch?v=8klYhJWsCk>

## 6. Whitebait Connection presented by Kim Jones – [View PREZI here](#)

Our trust is always working towards action – we are aware of the power of schools and children's education as a means of reaching the wider community; it forms the basis of much of our work. Our freshwater programme, the Whitebait Connection, offers unique ways in which all New Zealanders can come to understand and become involved in the life and future health of our freshwater systems. We do this by offering **information** and **experience** and facilitating **action**. It's all about engaging people and that is what we are good at. The end result of engagement is – ACTION. The formula is simple; information + experience = action/results.

For most Kiwis, the word 'Whitebait' is closely associated with 'fritter'. But our educational programme, the Whitebait Connection, is changing that association for many New Zealanders, young and old. The Whitebait Connection is an inquiry-led community-based action programme that takes the life cycle of the humble whitebait as an analogy to communicate the need for a caring/holistic approach to our freshwater systems. Whitebait is a collective term describing the juvenile stage of five species of native freshwater fish that migrate in large mixed shoals from the sea to freshwater rivers and streams during the season.

The five main species of Whitebait – inanga, koaro, banded kokopu, giant kokopu and shortjaw kokopu- belong to the Galaxiidae family, which was named after the Milky Way galaxy as the very first species described was sprinkled with dazzling spots. Although galaxiid species are found in many places in the Southern Hemisphere, the giant, shortjaw and banded kokopu only exist in New Zealand. Our Galaxiids are generally nocturnal and very good at hiding. They love bushy streams, where they find both shelter and food, with a rain of insects falling from the overhanging plants. The main breeding season for our Galaxiids is autumn. Inanga migrate downstream to estuaries and lay their eggs among plants and grasses, whereas koaro and kokopu stay where they are and lay their eggs on leaf litter and forest plants. The eggs stay out of water for several weeks, and need good plant cover to keep moist. They hatch when re-immersed, either by spring tides (for inanga) or floods (for koaro and kokopu). The larvae then float out to sea where they live and grow over winter, migrating back upstream as Whitebait in spring.

Because of their need to migrate and their link to the wider ecosystem, Whitebait are under threat. Currently 4 of the 5 species are declining at a rapid rate and are extinct in some catchments where they were once abundant. 60% of our native freshwater fish are now extinct or in danger of extinction. This is due to various different factors, often related to changing use, as land is developed and water quality and quantity is affected. SUCH AS...

- ⤴ deteriorating the water quality via runoff and vegetation clearance in some catchments – increased temperature, dissolved oxygen and clarity,
- ⤴ making barriers to fish passage,
- ⤴ altering water levels and flow
- ⤴ destroying spawning habitat and food sources
- ⤴ stormwater pollution
- ⤴ pests – unwanted organisms

There is some great stuff happening on the ground to mitigate this degradation and there is evidence that catchment management can reverse these processes as is the case in Raglan and Aurere where catchment management initiatives implemented by local landowners, have made significant improvements to the water quality in their streams and harbours.

It's a fact - the way we use our land directly affects the health of our streams, rivers, estuaries and the sea. By looking at the life in a stream, we can draw many conclusions about the health of that stream and the lands that surround it. The story of the Whitebait Connection brings home the reality of our freshwater sources. It provides knowledge about freshwater ecology and the effects of land management on freshwater quality and quantity – which is of course a big focus area for Fonterra's biodiversity strategy as well. People that participate in the Whitebait Connection programme also learn about freshwater bugs or macro invertebrates, as they are known. The term invertebrate refers to life forms without backbones. In this case they are basically insects whose larval stages occur in streams and rivers and that feed on algae, leaf litter or other invertebrates. These creatures are not only indicators of water quality, (as some are more tolerant to pollution than others) but they also form the primary food source for our freshwater fish. As well as being on the menu of many New Zealanders, Whitebait are on the menu of the kahawai and the kingfish that swim into the estuaries to feed. Since the kahawai itself is an irresistible morsel for a hungry marlin you can see how in ecological terms, the Whitebait has a connection to a world much wider than its own, as do we all. Whitebait are an extremely important part of the food chain – their biomass in coastal ecosystems has a huge effect on the migration of pelagic species that we often harvest ourselves. For example every September, kahawai move into estuaries on mass to feed on whitebait among other things and people have harvested the catch at this time – earning them the name the people's fish. And why do the mighty marlin move in to the coast? – to feed on the kahawai that move closer to the coast of course – a highly connected food chain! New Zealand's high frequency of small streams and catchments mean that our oceans are far more connected to our streams and rivers and therefore our land than in many other countries. Thus, if we look after the land and the freshwater – we look after our harbours, estuaries, coastlines and oceans. Hence the name for the Whitebait Connection...we are xstream about freshwater life.

Our programme is led by a locally based coordinator who is trained and endorsed by our trust. The coordinator goes out into the community to work with students in the classroom, community groups on the ground and tangata whenua at marae. The programme is then initiated with **Information** transfer – key topics include what is freshwater, why is it important, how is it used locally, what is a whitebait and what are the threats to whitebait. A field trip into the local catchment is then planned. We explain how fish passage can be caused and be a barrier to our Whitebait species – they may be good climbers but they can't fly! Then our coordinators take the students, teachers and parents out to **experience** their local freshwater environments – a mountains to sea approach is utilised so participants are encouraged to see the big picture.

Activities include getting in the water to find life, monitor water quality and meet with local stakeholders including landowners and engaging with local catchment restoration projects. Instant learning – just add water.

The information and experience is always followed up with **action** – our not so hidden agenda is to empower communities to work with local government organisations, industry, landowners and tangata whenua to take action to improve the health of their local waterways in whatever way they see fit after experiencing it first-hand.

Action takes shape in many different forms including;

- ⤴ riparian planting on public and private land,
- ⤴ whitebait spawning site restoration,
- ⤴ ongoing monitoring projects,
- ⤴ fencing of waterways,
- ⤴ stream cleanups and
- ⤴ labeling of stormwater drains.

These are the results we've been able to measure since 2004 as a direct result of funding for the national expansion of the programme from the Department of Conservation's national office contribution of \$150,000.

Since 2001 the Whitebait Connection has grown to be a national leader in engaging people with their local freshwater environments. Throughout Northland, East Coast, Nelson/Marlborough, Canterbury and parts of the

West Coast our coordinators work under other NGO or DOC umbrella organisations. Through initiative and by running on pure dedication the programme has grown to be engaging people in their local freshwater resources not only in schools, but through...

- ⤴ regional facilitated hui & national conferences,
- ⤴ displays at regional fielddays,
- ⤴ running community nurseries,
- ⤴ involvement in wide collaborative networks on community led restoration projects,
- ⤴ hosting World Wetlands Day national launches & art exhibitions,
- ⤴ involvement in LEARNZ virtual field trips attended by schools all over NZ and even some overseas.

So our current national picture sees us operating in 5 regions, we also have demand for our programme in many other places and are focusing on expanding through partnerships nationally.

View link to the YouTube clip used in prezi <http://www.youtube.com/watch?v=ELNbTX7Q1pA>

WBC 'Investigating Freshwater' inquiry framework DVD now up on YouTube [Stage 1-4](#) [Stage 5](#) [Stage 6-7](#)

### 7. Collaborative Projects on Protecting Inanga and Adult Spawning Habitat presented by Martin Rutledge - [View powerpoint here](#)

Martin is based in Nelson and works as part of DOC's National Office freshwater team of technical and science advisors. His role has included research into inanga spawning events and protecting these critical habitats. Inanga and all the other whitebait species are classified as At Risk excluding the banded kokopu. People that are eating the whitebait are from a large cross section of society. Inanga lay eggs on the land on high spring tides followed by 6 months growing at sea then back into rivers to complete the life cycle. Eggs are vulnerable to livestock trampling and grazing and other land use practices. It is a classic demonstration of the need for a Mountains to the Sea approach to conservation of habitats i.e. land, freshwater, estuaries and the sea.

Protection considerations include:

- ⤴ Plants for habitat, right species and placement
- ⤴ removing stock from edges
- ⤴ ensuring there is passage for fish
- ⤴ providing good flows and water quality

If you can address the above the result is more fish! Eggs are the delicate issue as they are very vulnerable to sunlight and trampling. Nelson Marlborough has focused on working efficiently with iwi, councils and communities as much as possible and is keen on further synergising. **The Stoke Stream Rescue Project:** There are many tributaries to Waimea Inlet but the Stoke Fan streams are a key focus on the eastern side of the Inlet. The former vast swamp forest is completely gone and now very different as the streams run through rural land, urban and industrial areas. Water quality is very poor in some streams and surprisingly good in others. The 2010 Waimea Inlet Forum gave priority to protecting the Inlet tributaries and an injection of \$100,000 from MFE helped fund projects focused on some of the tributaries. It was launched by the Minister of the day (Hon Nick Smith) and included the message that urban dwellers need to do their bit to protect waterways- not just the farmers. Inanga spawning habitat protection was the focus, at that time some spawning areas had been found but since several new ones have also been located. Nelson Council and Wai Maori and DOC worked together on development of an enhancement plan including inanga spawning site restoration along with adult inanga habitat restoration. This project is showing people what fish are living in their streams.

Mike Hickford from Canterbury University's Marine Ecology Research Group provided expert training for on finding inanga spawning sites to Councils, iwi, DOC and others. How exactly do you do this? Everybody can do this!! Bums up! Many more inanga spawning zones have been found in the estuary with more eyes out there

looking. Straw bales allow the spawning locations to be found and protected. Focus has meant that the spat ropes and conveyer belts are being used to assist whitebait passage up and through culverts. **Aorere Catchment** This restoration project was sparked off when shellfish harvesting by aquaculture was being prevented by too many faecal bacteria in the shellfish. Stock in the waterways were affecting the local economy as well as the environment. This project had the advantage of keen locals, suspension of judgment and change of focus to fix it all up. Great to engage some of the whitebaiters in replanting the streams. **Otuwhero Wetland** this is a DOC - community based project linked to a Trust. There is 20 year history of work on the wetland - resulting in inanga spawning grounds and freshwater habitats being protected- but heaps more work to be done. **Wakapuaka River Booklet** The goal is to get land owners more enthused about protecting the rivers. A book with the history of the river was produced in conjunction with the people living in the catchment. An increased sense of ownership was the result with local whitebaiters showing interest in habitat protection. At DOC's **Wharariki wetland project** habitat construction included creating ponds in a sheep paddock, and linking them into small streams. The constructed ponds have been colonised by inanga, bullies eels and giant kokopu.

#### 8. Why We Need No-Take Marine Reserves presented by Dr. Roger Grace – [view powerpoint here](#)

What happens when you protect an area for a period of time?

There is an imbalance in marine protection in relation to land where 8% of NZ seas are protected in comparison to 30% of our land area. Most of this marine protection is tied up in remote very large offshore marine reserve areas. Coastal marine reserves equal less than 1% - we need more inshore areas protected. Marine ecosystems are impacted by a number of influences, sedimentation from cleared land and fishing pressures. To have a baseline for ecological restoration you can no longer protect a virgin area as there are none left. Instead, we need to find a damaged area and allow recovery and restoration.

Historic data on snapper shows that in 1850 the snapper stock in northeastern New Zealand was around 270 thousand tonnes. In the early half of the 1900's the numbers dropped dramatically with the introduction of industrial fishing using trawlers and Danish seines which scooped up vast numbers of snapper. In 1986 the Quota Management System (QMS) was introduced, stabilizing and controlling snapper numbers.

Most commercial fish in NZ are managed to try to achieve the maximum sustainable yield or MSY. Fisheries science tells us that to achieve MSY for snapper, the population should be maintained at about 20% of its pre-fished biomass. This policy is applied throughout the fishery but it does have side-effects. The population becomes deficient in larger specimens, most fish ending up a little over the minimum legal size limit. That has implications for breeding. With 80% of the biomass of this predator removed, major trophic cascade effects occur on the associated ecology. With so few snapper and crayfish on our shallow reefs, one of their main prey species, the kina or sea urchin, has multiplied to huge numbers. They in turn eat kelp, and large areas of our shallow rock reefs have been stripped of their kelp cover by feeding hordes of kina.

Forest wouldn't grow in a paddock of sheep. With this many kina around there is no chance of the kelp forests reseeding. In the 70's we had no reason to believe that the kina barrens were not a natural occurrence. Once these areas were fully protected, shallow reefs revert to the rich kelp forests they once were, with much more abundant and larger fish.

The same story applies for crayfish which can grow old and big and can reproduce in mass spawning events. The Marine Reserve at Tawharanui (formally a no-take Marine Park, equal to total protection). Roger has monitored zones within the reserve and outside for crayfish populations. Just a few years after protection, legal-sized crayfish on the fished sites outside dropped away to zero, and have remained that way ever since. In contrast, legal-sized crayfish at sites inside gradually increased in numbers and sizes, and by 2010 had reached a staggering 1000 per hectare and over 800 kilogrammes per hectare.

The extent of the kina barrens, and a history of their development, can be seen by examining aerial photographs of the coast over a long time period. At Comet rocks, submerged reef is dark because it is covered in kelp. In the other photos the reef is pale-coloured because the kelp is gone and the reef is now covered with coralline paint being grazed by kina. Even in the marine park at Mimiwhangata, where commercial fishing is banned but recreational fishing is allowed, the shallow reefs are dominated by extensive kina barrens which show pale in the

aerial photograph. The message is clear that if you want to get a positive result for marine conservation, then total protection is the best option

To carry out ecological restoration in the sea all you need to do is stop fishing! No replanting efforts needed! Let the snapper return, let the crayfish return then over a period of time the ecosystem will come back into balance. The whole ocean doesn't need to be protected but as long as some people can come into protected areas to see what the ocean was like it is worth it. View Rogers's presentation online – [part 1 & 2](#)

*An invite was extended to the community to attend the evening presentations for gold coin koha*

## Keynote addresses

### **9. Cetaceans Great and Small presented by Dr. Rochelle Constantine Senior Lecturer, School of Biological Sciences, Auckland University**

[View powerpoint here](#)

After my studies I arrived back in NZ and jumped into a large amount of politics relating to the dolphin watching in the Bay of Islands area. Rawhiti Marae was the place where the hāpu related to the importance of science. So it is appropriate that I speak here today, 19 years on from when I first was welcomed in Rawhiti.

#### **Humpback Whales**

These whales span from the tropics to Antarctica and carry out huge migrations. They used to exist in large numbers... now we have very few whales. The main people migrations in the Pacific follow the humpback migrations. Whaling in the Southern Ocean killed over 2 million whales, but there were also land-based whaling stations in NZ. Records from taxes taken from the ships shows most visiting boats to the Bay of Islands were whalers. The whales migrate north was when they were killed, as the whales are fat. The oil was rendered and used as fuel. They were fished like fish without recognising they had one baby every 2 years at the most. They were killing whales that were full term pregnant. Sad thing was in that NZ fished the most during the last period when the "nail was hammered into the coffin". Stocks haven't recovered. Today we have 4329 whales from New Caledonia to French Polynesia. There has not been a big increase in numbers... they were hammered hard and will be slow to recover. Science must be on the table in all conversations in conservation. We have been running long term studies on the whales – without needing to kill them. Results show there is a very slow increase in numbers of whales in Oceania. Yet the Australian whale populations are increasing rapidly - Why are the East Australian populations increasing so rapidly? Why are ours not recovering?

One study asked the question: Where are the southern feeding grounds? Whales were tagged and photographed for their fluke ID as humpbacks usually put their tails in the air and we identified 61 individual whales. From the tissue samples we can tell pregnancy, diet. After extracting DNA the genetic "fingerprint" can be used to ID the individual.

Maternally inherited mitochondrial DNA is used to ID their lineage. We have lots of data from satellite tagging whales on route to the southern feeding areas where the question was to ID where they are going in Antarctica. Most of the Antarctic whales from that voyage were East Australian. Where are the NZ stock feeding?? These whales are traveling in a south easterly direction when passing through NZ on their Southern migration. Perhaps to the Bellingshausen Sea: Nobody goes there to research as there are no bases. Research on humpbacks at Raoul Island in the Kermadecs showed a massive number of whales passing there in October. We need to know why our whales are not recovering and perhaps their feeding grounds or migration paths will help us answer that question.

**Beaked whales** "Deep diving squid suckers". It is very rare to see them alive. Many species are only known through mortality events. We get them throughout NZ. Gray's beaked whales are the 3rd most commonly stranded species.

The only times they have been seen alive is before they die on the beach. All we have is a tissue archive (the NZ Cetacean Tissue Archive, curated at the University of Auckland) from which we can tell a surprising amount. Beaked whales generally live in small group sizes and are very sensitive to seismic testing.

**Spade toothed beaked whale** The only sample, until recently, that have ever been collected that was from a single jaw that washed onto a beach in the Chathams in 1872, and a skull on White Island in the 1950's and one on Robinson Crusoe Island in 1986. This whale had never been seen alive, until December 2010 when 2 live whales stranded at Opape Beach and were initially misidentified as Gray's beaked whales, and later proven to match the spade toothed beaked whale by DNA analysis. Imagine finding the world's rarest whale without even knowing it! A great reminder to people the value of the things that wash onto our beaches.

**Bottlenose dolphins** where it all began: the Bay of Islands. Our research questions are how many are there and what is the impact of tourism? Bay of Islands is the most important place for dolphin sightings in the North Island. Question is how many are there? Currently it is estimated round about 60 animals use the Bay of Islands frequently but none live here full time. In the mid 2000's the turnover wasn't there anymore compared with the 1993 study. From 1997-1999 to 2003 - 2006 there was a 7.5% annual decline in population size. In 2009-2012 studies there was no recovery of population. The same studies have shown there has been a contraction of area used in the bay away from shallow areas. Generally they don't like the deep water where sharks may predate on babies. Social hierarchy is complex. With the reduction of individuals the Bay of Islands "pool of friends" have shrunk as the social structure is smaller. Calving rates are normal, 40% of offspring die before 1 year which has been the long term trend for this population. They are non specific feeders and there is no proof of decrease in body condition so the decline can't be correlated with reduction in food supplies. We can't prove it, but the last potential cause that needs to be investigated more is the presence of tourist boats. With the amount of activity around each group during daylight hours they cannot rest. Bottlenose dolphins are not using the bay like they used to and it may be that our desire to interact with them has driven them away. There is a lot of data to be analysed but because a precautionary approach was not taken, this work needs to be done urgently. These dolphins were the reason for my research starting in New Zealand, thanks to Blandy for being a wise ear.

**Maui & Hector's** dolphin. Early tissue samples where from 1950's museum samples. These initial skin sloughs yielded poor DNA. Recent samples are from beach cast and biopsies of live dolphins. Initial mitochondrial DNA analysis showed there are three very distinct stocks/haplotypes. West Coast of the North Island has only one haplotype – which contributed it being named a separate sub-species – the Maui's dolphin. We went out to find how many there were of the Maui. Unfortunately fin ID is not sufficient so we need to take biopsies. Most of Maui's dolphins are concentrated between Manukau and Port Waikato. From 73 biopsies, 41 individuals were identified within a very small geographical range. Most individuals covered only small distances over time. In this study we also found out that Hector's and Maui's dolphins were in the same area. Where did they come from?

By going through DNA data we decided the two female Hectors had come up from the West Coast of the South Island. In 5 years there will be another estimate and all we can do is minimise human impact on them from by-catch in fishing gear and exposure to other disturbance such as habitat modification. Parts of the Taranaki region should be protected to allow a corridor for Hector's to expand up into the Maui's range and this may help them survive. We can't use the normal techniques to help the species recover, such as supplementary feeding or increasing their breeding success.

If they survive it will be a miracle. If we don't act to minimise human impact then New Zealand will be the next country after China to have a dolphin species go extinct.

**10. NZ's 100% Pure Clean Green Mirage presented by Dr. Mike Joy**  
**Senior Lecturer, Massey University Center for Freshwater**  
**Ecosystem Management & Modeling**  
[view powerpoint here](#)

New Zealand's 100% pure delusion "the inconvenient reality". After seeing many go from being a PhD student doing something really well, to doing many things badly, I decided to make a stand. Scientists are able to speak out, unlike people who want funding. Nothing will change until the public are aware and many people aren't listening. Why do I care? 1/3 of our endemic species are extinct. More than 50% across many taxa are extinct including local extinctions and it is continuing fast. In the last 20 years 68% of ecosystems are under threat. The areas that are saved are only unfarmed because they couldn't be! Less than 1% of Canterbury forestation is gone.

In pre-european NZ huge amounts of the environment was wetland and only a tiny amount of non forested. Freshwater monitoring sites show worsening trends. Blood from the abattoir is not put into the ecosystem anymore, at least you could see it! The nitrogen off products are invisible. Today there is a huge amount of waste that is not put into plants... it just runs off into streams. NZ has 6.5 million cows each producing waste equivalent to 14/15 cows so we have a population of 90million when it comes to nutrient waste, and 96% of streams near pasture are unsafe for swimming. 44% of all lakes are eutrophic or worse and are overrun by invasive species. We need to be looking at the lowland waterways as highland areas were protected and untouched anyway. 68 % of our native freshwater fish are threatened, and without them the rest of their ecosystem is at risk, such as the freshwater mussel that needs fish to carry out their life cycle.

Waikato Regional Council's 50 best lakes - most are awful. National policy statement on freshwater released last year is useless and toothless. Our state of the environment is misrepresented where averages are made including control sites, distorting the results. A healthy river requires constant oxygen. Fluctuation over time due to the algal growth results in hypoxia and super saturation of oxygen which is common in many rivers, and depending on the time of day oxygen levels are recorded you could totally miss this daily fluctuation. Water quality as the basis for a management system doesn't relate to the biodiversity in a stream. Radio tagged fish showed they spent most of their time in interstitial spaces (gaps between rocks and boulders). The natural habitat required is like living in a high rise building. There is no measure at a national scale that takes this habitat into account.

Four out of five Whitebait species are threatened and yet Whitebait are still being exported. NZ is a country where threatened endemic species being commercially fished. Apparently we have "the best quota management system in the world" but if things are truly sustainable you can stay in the same place and get the same yield each time.

But commercial fishers are needing to move into protected and less accessible areas over time.

Longfinned eel are functionally extinct, we sell our own eels to countries who have depleted their eel stocks. Let's go to the USA, where you will find our eels in the the top shelf dog food. There are many issues around misidentification of species being exported. We are being vindicated for making the call for a moratorium on commercial fishing of longfin eel, and it simply comes down to the fact it is worth \$5 million per year. It is worth so much more alive than dead! Just give them the money! You could employ the fisherman to help the eels past the dams.

Freshwater biodiversity, most are listed as threatened and for freshwater pollution, we came out as the 18<sup>th</sup> worst per capita. European countries are getting better. Dairy farming is the culprit. Is it sustainable?

Ask the people in Nauru where most of the guano has been scraped off for NZ fertilisers. Most of that is running off into the rivers and oceans. CO2 emissions are lifting us up. Once methane is put into the account we are 10th worse for emissions. We bring in the same weight in palm kernel that we export in milk. Rainforests into milk...

We have put super phosphate onto the environment which is loaded with cadmium. Cadmium builds up in soil, mimics estrogen and is a carcinogen highly related to breast cancer. Most of the Waikato's soil is above the recommended level. In our district plans, at 0.8 you can't subdivide the land as people will not be able to grow a vege garden without being contaminated. Cadmium builds up in the liver, not the milk. The offal of the cows can't

be sold for human consumption due to the levels of Cadmium. But it is for pet food and blood and bone which you put in put into gardens. Overall the NZ soils average is low but once you take just the dairy farms it is chronic. If we use the European standard we are all eating more than the required amount. All age groups were averaged. 1/100 potato is contaminated. But that is 1 bag in 100. They had chopped the rest of the data showing a decrease. I'm not saying it is a conspiracy, it is arse covering. In the RMA these things are not controlled. Dairy cows urinate in one spot which cannot be up taken by the plants present and goes into ground water. Cows spend only 20% of their time in the cowshed where the waste can be controlled. What about the rest of the time? If you can control where they are urinating you can halve the run off. We have shown that we can decrease the nutrient input. The example in Taupo had intensity reduced to 1 cow in 2 hectares. This was an expensive exercise, but showed nutrient input to the groundwater could be reduced.

If this isn't a crisis then what is? We subsidise the destruction of the waterways by allowing them to put more cows over there. We are in the middle of an out of control dairy boom. \$30 billion of NZ's debt is on dairy farming, held against overseas banks. Look at the interest costs alone for this industry. Average return on investment is 4% when you get the money from selling the land. So the next guy has to borrow lots of money to buy the land resulting in a debt spiral. We are selling milk powder to people without refrigerators and replacing breast milk. We are creating an exponential impact. With all this in mind, we are shooting our golden goose. Don't forget about the red herrings.

What is our government doing? Pushing for more irrigation. Sacking the democratically elected regional councils. Land and water forum was a big 4 year PR exercise. In the whole time they haven't done anything. Limits are being relaxed, eg. Let the nitrogen in our water supply increase until it is toxic for human consumption. They call it collaborative, when being made up of 20 industry reps for 1 environmental rep. Every mining company was present and only Forest & Bird for the environments side. Just give some money to pay them off. \$300 million to clean up the Rotorua lakes. You could go back a step and stop that amount being leached from farms. It will result in a great saving. Nitrates works out to be \$6k per tonne to prevent vs \$246k to remove it from the lakes. Much easier stop it from getting into the system rather than trying to stop it.

There needs to be change from the ground up. The Manawatu River has many impacts that are less than minor according to our RMA process. But when they are put together they are a major impact. In the Waikato River settlement the overarching goals were to be able to make the entire length of the Waikato swimmable and potable.

Shifting baselines are all too present, for example you can see around today bathing sheds at places where the water today would kill a baby if they swallowed the water. Each generation is used to seeing what they see. I am

looking for stories to make a movie to help go to [milkingthefuture.org.nz](http://milkingthefuture.org.nz). All of us have friends who have no views, we need to push this information towards friends who do not have a view.

[View a Mike Joy presentation summary](#)

## Introduction to local marine and freshwater initiatives

### 11. Te Rawhiti – centre of the universe. A summary of Eastern Bay of Islands conservation projects presented by John Booth [view powerpoint here](#)

- ⤴ Project Island Song focuses on pest removal from the Eastern Bay of Islands largest islands and includes control points on mainland to compare to the island.
- ⤴ Rakaumangamanga where valleys that were original bush and are protected to this day.
- ⤴ Noose and Necklace includes two pest control lines to try to prevent the movement of pests north into the Rakaumangamanga area.
- ⤴ Highwayman includes manually and spraying pest plants as well as trapping and poisoning for pest animals.



Other local projects include Tangatapu Wetland, restoration of coastal wetland and swamp forest.

In our local projects to date: Killing = Restoring

Seem to be a lot of work put into the land? But what is there for the children of Tangaroa?

## **12. Bay of Islands Maritime Park & Living Waters presented by Ruth Marsh**

[view powerpoint here](#)

I grew up in the bay in the 1950's. What was the bay like 60 years ago? One could collect paua at knee deep. I came back to the bay as an advocate for the environment and to reconnect people. I have been part of the Bay of Islands Maritime Park Incorporated Society since 2006, and it has taken this much time to find out how to work in this catchment for the protection and restoration of key habitats in marine, fresh water and its margins. It doesn't exist for us, we are merely a part of it.

View the Kerikeri inlet, it is not unusual to find in bad condition. The Bay of Islands is lucky as there was the Oceans 2020 study done in 2010 by NIWA. Biological condition and sedimentation was tracked throughout the bay in high resolution. Dating of core samples showed sedimentation of the inlets first occurred in the 1300's with the first clearing of native forests by Māori. Slugs of sediment seen with each wave of settlement. Sedimentation is a long process that has been occurring for a long time. Where is the baseline? Not in our current life time, but how much do we know about back then? The sediment can be tracked to the source. Sub soils as well as surface soil showing if deep erosion is evident. With this analysis we can tell which sub catchment is causing the most damage throughout the bay. Our highest contributors are the Kawakawa and Waitangi Rivers. Sediments from these rivers end up across the eastern BOI at Te Rawhiti. We now need to follow it to the source of the sediment. How is the work done? Living waters is made to work in stream catchments. Trying to reduce input of sediments into the waterways which connect with our beautiful Bay of Islands. It needs to be social and helping us to reconnect in this place we live in so that we can care more for it. Making the change desirable.

Living Waters has 3 Main projects

- Restoring Mauri of the Tangatapu wetland
- Restoring Mauri of the Kerikeri River
- Improve the greater bay's catchment by restoring all waterways.

In the greater catchment we work with landowners that are interested initially. So far interested landowners fenced and planted 5 years ago. They are very happy to use their farm as a demonstration. We need school children friendly areas and need to open the regional councils eyes regarding waterways management. What else needs to be done? Advocacy for catchment wide management and to get the message back to the policy makers. Fencing support is currently complicated for farmers to get subsidies. Would help them get them more streamlined.

A volunteer run shade house grows cheap trees for council, DOC & community. Soil quality = water quality. We have started monitoring using the SHMAK kit. Wanting to get a website for people to input their data, it is informal science but it is a start and encourages participation. We have a large number of informal and formal partnerships. We have found when working with landowners we end up working with the women and have started with the Womens Dairy Network in Northland. Far North District Council is not present at all which is disappointing but the numbers of people interested in helping out is reassuring.

## **13. The Ultimate Partnership – conservationists & kaitiaki presented by Vince Kerr & Blandy Witehira**

**Vince** started 20 years ago wanting to do something about the lack of marine protection. Over that time coming across many groups he now works closely with a group wanting to make a difference, Fish Forever. They have talented and keen individuals, run many public events such as film nights and are constantly studying how to instigate action, including lots of debate on how to engage with hapū. After a bit of failure on this topic at the first

meetings, Vince armed himself with all the knowledge and research and trained himself to be a marine reserve campaigner. Vince was not inexperienced on the marae but found that in meetings held on marae the kaumatua were getting more and more uncomfortable and agitated often resulting in a conversation regarding grievances and drifting away from marine reserves. This approach didn't go anywhere. When recalling asking a kuia about things, it became obvious that she had a profound sense of **responsibility** for everything he was saying. The pattern of thought is different, Māori people have a responsibility for the ocean around them which is also part of a spiritual connection, yet things have gone bad and this is a personal affront as their responsibility has not been acknowledged or provided for.

So, here is another approach. In your conservation groups, preferably before you get to your critical moment: go to hapū and ask for help. Then sit down and shut up. It can be very difficult to get pakeha to shut up, but if a relationship with hapū is required you must.

**Blandy** Would like to acknowledge on behalf of Ngati Kuta, Patu keha hapu, Living Waters and Fish Forever. Māori dynamics are that if something is going to affect the ability for whanau/hapū to get kai, it is a major issue for the hapū to consider. Some say that past management had failed due to the lack of marine reserves... but to Māori marine reserves are seen as a permanent confiscation under the current Marine Reserves Act. The main issues Māori have with the Marine Reserves Act is that tangata whenua don't like the idea that it was run from Wellington, it must be locally managed. Perpetuity is another issue felt strongly about, as no allowance for customary take. Tikanga states not to make these permanent – need provisions for the next generation to modify decisions made.

Dynamics are completely different. Wealth isn't so important. Being sustainable and feeding your people is important.

These are the tools tangata whenua have identified that we can use to ensure sustainability of the tamariki of tangaroa

- ⤴ Marine Reserves Act
- ⤴ Temporary closure through rahui - section 186, Fisheries Act
- ⤴ Mataitai
- ⤴ Taiapure
- ⤴ Customary rahui

We have a great fear of laws and crown. Taiapure is completely different to marine reserves. Enter into a broad area where they can sit down with the community and discuss what is wanting to be done. Can cover your whole tribal area and is under Māori control through the Marae. Identifies specific areas important to the people and puts aside areas. Pakeha are as apprehensive about taiapure and mataitai, equivalent to how Māori are for marine reserves.

Kaumatua and kuia want a workable plan for all peoples to enjoy. All their life they have suffered from the crown laws and there is fear that Māori will once again be giving something else away to the crown i.e. the seabed, which we consider another form of confiscation.

Māori don't mind drawings lines on maps if we do this together. It's important that the conversation starts on the same level. "**Nā tō rourou, nā taku rourou ka ora ai te iwi** " *With your basket and my food basket the people will thrive*. You need to convince the hapū as well as the local tribes and kin from surrounding areas. Mana stays within the hapū. Our Challenge is to create a relationship with both pakeha and Māori that also allows economic opportunities for both people. We are suspicious of crown. The marae Kaingahoa used to be the local school. At lay time they used to pull in the lines with fish. Oysters and crayfish were gathered in the shallows. If there is a reserve that stops people from being able to afford to eat... But if you look at how it used to be. Worrying about being the one that caused the ban of fishing but what happens if in 25 years it is completely dead and you are being blamed for destroying it? Will be an ideal partnership if it happens. Ideas differ.

An example of a major issue that was worked through between the Department of Conservation and local people and came to agreement eventually was during the pest control on Cape Brett and the Islands.

There were big Briodifacam poison debates; it was so foreign to the people, so it was decided to take people to Tiritiri Matangi. Māori progressed out of area of suspicion and looked at it and agreed with it, as it was good for the environment but went against ethics (poison coming down from the air was a horror thought), but have to move with the times, adjusting to modern technology, something for the betterment of the people. They lived with it and they are glad. Initially whānau were not impressed. Now, no pests anymore. Urupukapuka had so many rats it was like the ground was moving. Life force of the forest is now coming back to life where it was dead before.

**Evening closed at 10.20pm!**

**Day 2 – Sunday 28<sup>th</sup> April, 2013****14. Show 'n' tell - your partnerships themed presentations****SEV Stream Ecological Monitoring presented by Amy Bazeley**[see powerpoint here](#)

NZ streams are under threat from piping, point and non point pollution, alteration to the natural meandering of streams and loss of riparian vegetation due to urbanisation, flood control, and farming. Habitat is lost from straightening. Assessment on ecological health can be made via macro invertebrates. The SEV Method quantifies values of the stream with its ecological functions and assesses how it is performing.

- ⤴ Hydraulic - how natural is the meander pattern, pools, runs, ripples, natural stream bed
- ⤴ Temperatures & oxygen levels (when it fluctuates can create difficult place to live in )
- ⤴ Habitat- places for things to live
- ⤴ Biodiversity - is there riparian and what is living there.

0 = poor and 1 = high quality

For example a forest stream with natural flow, and still able to access its flood plain would rate 0.8. compared with an urban stream that is straightened, concrete lined and unshaded would rate around 0.1.

Variables are weighted in their importance. Can be used to assess progress in a project and in research to assess difference in processes.

**Taupō for Tomorrow presented by Anna McKnight**[see powerpoint here](#)

Taupō is a place of freshwater animals, trout fishing and lots of recreational activity. Unique relationship between DOC and Māori. It is the only case where DOC is looking after an introduced species: trout.

Mayflies are a good representation of stocks. Kids are put through and are able to fly fish.

Genesis Energy runs the Tongoriro power scheme and is the primary sponsor of Taupō for Tomorrow. Visitors are introduced from arrival to the theme of “Striking the Balance”. We need power but how do we balance the need for power and the health of the stream. Children go to the aquarium and see the native fish in the tanks. Also introduced to sharing in the stream between non natives and natives. Blue duck is very endangered, first time chicks have been present for the first time. Whio act as an indicator.

**Marine Metre Squared Project presented by Derrith Bartley**[see powerpoint here](#)

As a secondary school science teacher at St Hilda’s Collegiate I am thankful to the Endeavour Teacher Fellowship Scheme for a placement with the New Zealand Marine Studies Centre for an opportunity to work on the Marine Metre Squared Project. Marine Metre Squared is a citizen science initiative that aims to engage communities with their local seashore. It is aimed at all levels of the community, from school groups, to whanau, and to iwi. The goals of the Marine Metre Squared Project are to encourage people to actively participate in the collection of valuable scientific information about biodiversity, distribution and abundance of seashore animals and plants in NZ’s marine environment and to monitor change over time. The project also hopes to build partnerships between scientists, educators, schools and community groups. The best way to participate in this project is to visit its website and register. There you will find many downloadable resources, including how to carry out a marine metre squared survey, a species identification guide, and even colouring and activity books. There are also downloadable resources for Level 2 Biology Achievement Standards. The website provides many links to encourage exploration of the seashore. The next step of the Marine Metre Squared Project is the development of protocols and identification for soft shore ecosystems such as estuaries and sheltered inlets.

**Project Twin Streams presented by Genevieve Toop**[see powerpoint here](#)

This is a 10 year old project and NZ's largest stormwater/protection. Started due to the pressures of urbanisation. First started with flooding problems, and people decided to put a decent amount of effort by raising funds to purchase the properties in flood plains and had the foresight to realise that there would be a cost saving. Piping and maintenance of all this water would be very expensive. As a result 56km of stream has been planted up. Half has been planted by volunteers along walkways and cycle ways connecting people to the streams in a mostly urban environment. Delivery model included that many people related to it all. Do all the community relation work. Form strong long lasting connections with volunteer groups. Creative engagement. Using art, dance, rap to consolidate thoughts about the stream. Healthy streams = healthy people. Trying to bring the community together. Unfortunately monitoring evaluation of ecological and social results was not undertaken from the start which is so important to continuing funding. Today we can't prove that it is awesome.

**New Zealand Marine Reserve How To Kit presented by Nicki Wakefield**[see powerpoint here](#)

Keeping with the theme of the Mountains to Sea Conservation Trusts goal of empowering communities we have a current project of updating the NZ Marine Reserve How To Kit developed by Vince Kerr in 2004, into a very accessible how to kit for communities interested in creating no take areas. With the support of DOC, this resource will provide a comprehensive technical, education and resource library related to the process, and perhaps most importantly providing case studies on successful marine reserve proposals such as the inspiration for a majority of our MTSC Trusts the Whangarei Harbour Marine Reserves as proposed by students of Kamo High School, where for 16 years the 7<sup>th</sup> form geography students gathered data, consulted the community and made a successful proposal. Students got all the information needed to get it off the ground. In 2004 the proposal was submitted and was approved in 2006. Today we are proud to have our own marine reserve where thousands have interacted with the environment. Lots of engagement in the area.

This resource will provide a step by step process including idea on who to go to for support, including moral support! The final result will be an online resource hosted on [www.marineNZ.org.nz](http://www.marineNZ.org.nz). Watch this space.

**Catch Them While They're Young Teachers Relief Pack presented by Helen Ough Dealy** [see powerpoint here](#)

This resource arose out of frustration within the Fish Forever group. Trying to get information into schools can be really difficult. Often due to a very tight curriculum. Tossing around the ideas of marine protected areas, at primary level it is very easy to get into the school. High schools are more difficult. How about relief teachers? Often treated as baby sitters with very little planning time to prepare, we came up with the idea of putting together a pack that can be taught at schools by the relief teacher. As a relief teacher myself I have been trialing it with Bay of Islands Schools. Sections cover vocabulary, talking about co-governance, customary fishing rights and includes games which you can use to play and teach. Learning outcomes are linked to key competencies & info is provided on how long it will take for each section. A teacher should be able to pick it up, photocopy and deliver without prior knowledge. The goal is to distribute the teacher pack to schools for free. Personally would like to see how it could be moved further afield. Other topic packs are a possibility.

**Galaxiid tales from the south: Otago's legal travesties and local hope presented by Lan Pham**[see powerpoint here](#)

The Otago region is a hot spot for rare non migratory galaxiids. We are focussing on partnerships and raising the profile of galaxiids from within the communities they live, a hot spot for the dusky and lowland longjaw. The changing of river systems has isolated these species, getting stuck in the same river in which they hatched and vulnerable to trout predation. They are found in rural communities on private land. They don't know they are even there and they are an endangered species, lowland longjaw are only found in a few areas. Teviot galaxiids are critically endangered. They spawn in spring habitats. We are fostering local, involving local schools and land

owners. Lawrence has dusky and clutha galaxiids. The slide with the children are looking sad as they are trying to be galaxiids. Forestry causes a huge issue, slash is left here. We want to take this project outside of Department of Conservation to try and find funding.

**Partnerships in action in Taranaki - Mike Tapp [see powerpoint here](#)**

Introducing our Marine Protected Areas (MPAs). Parininihi Marine Reserve (2006) and Tapuae Marine Reserve (2008), adjoins the Sugar Loaf Islands Marine Protected Area. There is a big papa reef with small caves and canyons. Sediment usually on the move and vis is very poor, but renowned for its sponge gardens. Initially there was large opposition to marine reserves, but have seen changes in thought, such as increasing rock lobster populations as well as protection for the Mauis dolphins. Some swear black and blue that there are no mauis dolphins. Tapuae has a boulder reef system lots of diversity. Hasn't been going that long, but diversity is far greater. Studies conducted using baited video cameras. There has been an increase in the blue cod species. Nga Motu Reef is a good spot to dive when conditions allow. Nga Motu Marine Reserve Society is a valuable partnership between the Tapuwaie Marine Reserve, the Marine information centre and the Experiencing Marine Reserves (EMR) programme (The Nga Motu Marine Reserve Society is the umbrella organization for EMR in the region). The Marine Education Centre is a starting point for coastal studies and EMR. They can see what is out there in their community. Within a small area you can show the kids the potential. Action projects have involved rare coastal plant plantings, Little blue penguins monitoring boxes, where kids can watch the penguins coming and going from their nests.

**Engaging with Westland's marine reserves a show 'n' ask - Cornelia Vervoorn [see powerpoint here](#)**

We are in the process of getting 5 marine reserves on the West Coast of the South Island. The Waiiau glacier coast is fully protected from the top of the mountain to the sea. Wanted to give good examples of the biodiversity in the area. Ship creek - 16 hectare- proposed educational showcase site. Includes river mouth habitats. Very small. Hautai. Furthest south in their zone - how would you protect a zone that remote?? Hector's dolphins are very common off the coast.

Fishing surfcasting, whitebaiting and mussel gathering is common around there. Concerned that they wouldn't be able to get mussels. Rubbish is a problem, arranging a clean up- paid for the helicopter- Talley's fish bins found. Good point about knowledge of where rubbish goes. The area has dangerous seas, swimming is not encouraged. There are large sandflies, small local populations and limited DOC expertise available. If you have suggestions contact [cvervoorn@doc.govt.nz](mailto:cvervoorn@doc.govt.nz)

**Wai Care Sophie Barclay**

Projects include Trees for survival – schools. Shellfish monitoring. Similar to the Whitebait Connection, Drain painting. Everybody gathers this information. Water quality kit very basic. Strips for nitrate, temp, diss o<sub>2</sub>, phosphorous. Groups that use this are local communities/schools to find out what is happening in their streams. Giving them the power to know what is happening in their area. Bugs you find are indicative of water quality. Citizen science. The WaiCare Freshwater Invertebrate Guide was included in your conference packs.

**Wellington Experiencing Marine Reserves Julian Hodge, Liz Gibson & Alan Berman**

[Island Bay Marine Education Centre](#) is umbrella organization for EMR in the Wellington region. Working on increasing the number of schools that are delivered to and working with multiple classes within some schools. The location of our facility is right in the middle of Taputeranga Marine Reserve. Funding: grant applications in partnership with the Taputeranga Marine Reserve Trust. We have sliding scale user pays system for EMR schools, which is based around the decile ranking system. EMR action projects this year included a focus on shark finning, a little boy was inspired by the shark alliance and got everybody in his school to make cardboard cut out of fins. What is next for Wellington? Looking at offering the Whitebait Connection programme and a new project Healthy Harbours, which is a comparative study in highly modified harbour sites. Delivered on different levels. Aotea lagoon- man made. Old army base, natural regeneration of the fish life. Cannot fish off them.

Combination of Alan Berman's masters and work. How do you find baseline data. Getting the students to find the baseline with control sites. EMR concept of turning it into action. Defining restoration for themselves. How important language is. Creating their own sort of action. The Baithouse - Fish of the day: local partnership. Fisherman brings in exciting catch to put in tanks to show the children. Here is a link to a paper Alan has written in relation to a plan-in-progress for developing a Healthy Harbours marine education programme around Wellington Harbour (via Alan's blog). <http://ecologicalrenaissance.wordpress.com/2013/06/09/1238/>

**Project Island Song - Fleur Corbett [see powerpoint here](#)**

In the BOI region. 10 years old, conversations regarding the local community concerns. There was no coordinated approach. Spent 3 years getting to know each other and finding a common goal of pest free islands. Forming an incorporated society, a 3 way partnership, between community, hapu & DOC. Next step was the resource consent for pest free island. Large group taken to Tiri Tiri Matangi and research of DNA analysis of the rats and surrounding mainland, to see where they were coming through. Shortest gap is 300m, very short amount to swim. Pest free islands, know it can be done. Part of the success is that it is not treated as a pest control- community related prevention. Able to do the first translocation to the island 3 years ago. Relationships: internationally recognised. Still need to work very hard at home. Paper by Robert Ethical Charter. Partnership principles. Nothing formal but the principles are worked around. Messages: Bring back the birdsong note by note. Natural translocations will occur due to the proximity. Frontline of defense. Mainland pest control. Project points. Land owners communities and residents. Strip: from hinterlands

Cape Brett is the future of the project. Getting pest control to allot of the area.

**New DOC Estuary Project      Helen Kettles [see powerpoint here](#)**

DOC new structure, new science and technical staff. Marine and freshwater teams. Shared services= good for estuaries. Tended to do less when the terrestrial people were put in estuaries. Capability engagement good. Supporting the work that happens at operations. Making sure that they aren't reinventing the wheel. Restructure has been the focus. Don't need to fund community groups as they can do it better. Doc structure you can see what is happening. Area offices will remain in place. Conservation partnership stream- growing conservation. Regional offices are in place with national works. Regional head quarters is different for each stream.

Estuaries. In-between space. V. high value. .35 area 12.4 % of output. Threatened species. Don't have many conservation plans in estuaries, where all the sea/fresh water/terrestrial are interconnected. Web resources at DOC. Seaweed management report, seagrass, mangroves. Map habitat where we link through to them all. If we want to protect them we need to know where they are? How they are structured. Ability to use the DOC website to link into the community groups. What kinds of things for people to make a note of? Resource by us for us.

[www.aquascience.org.nz](http://www.aquascience.org.nz)

**West Coast Rahui      Laurie Austin for the Ahipara Komiti Takutaimoana [see powerpoint here](#)**

Used to be incredible numbers of paua and crayfish. Now declines in the numbers of paua. More and more fishing pressure on resource. Ahipara Komiti Takutaimoana formed with marae & hapu, decision was made to place a rahui to protect the paua stocks on West Coast of Northland near Ahipara. Aphrensive. How it would be perceived by pakeha. 78 people turned up for the opening of the Rahui. When everybody turned up everything was behind the scenes. The area was very small but it would assist. Bulk of the large take able paua are gone. North there are stunted growth paua. Couldn't sit back. Followed by a reseeding event. Turned it into an education event. Showed how little really good territory there is for juvenile spat of paua on the westcoast. Surveying paua isn't easy. Westocast is a night mare. This year we have had prolonged spells of good weather. Decreased the numbers! Long term reseeding on population. Needs serious money to be thrown at it. To be really successful you would need to have rather large individuals before reseeding.

Was recently decided that the Rahui would stay as is where is for next 5 years. The problem is the same. Surviving not thriving population. Lack of juveniles. Paua are not great at reproducing in the wild. Good in the lab. Resurgence of crayfish and kina. The depletion of paua has been so great that the rahui was thought to be in place for a few years then moving it. The rahui is fixed in place on its own. It would be cleaned out in days. West coast. Diving days (select few). Customary permits was a bit of a nightmare. Had been open slather on permits. High vis

people to try tell people to show a bit of restrain. Increasing any sort of help on the coast is difficult. 50 vehicles, 3 divers per vehicle = 1500 per day. Rough pop estimate. 5 paua per square meter. 2.5million. would be all gone in 1000 diving days. Recreational take is far too many. Trying but it isn't an easy job. Can be pretty depressing for people, volunteers stick with it. If you look at how the future will perceive us. Will not be remembered for technology. Hopefully we are remembered for walking to the edge of the cliff, looking over and then pulling a u turn.

**Wai Restoration & Last Ocean Resource** Julie Holt [see powerpoint here](#)

Taking the end of the line to schools, and the [last ocean](#)

Geared from years 7-13. Did a presentation in seaweek in Kaitaia. Peter young's documentary the Last Ocean and showed [clip](#). Having a really good look in the sort of sysems/ways to integrate into schools.

HEartbreaking to see so much destruction in such a short amount of time. Rewatched everything and picked out things that would have a big impact. Incredibly dramatic scenes to be shown. Not as blatantly forceful as peter. Wai Restoration: Could see the frustrations of kids nots being able to succeed. Called project possum. Earning credits/ qualifications with practical skills as well as exploring the academic side. Brainchild: Wai restoration. Everybody takes a different arm. Made 200,000 possum trapping. Shared responsibility and getting everybody to play their part. Wai Fencing. Teaching kids how to fence. Setting up nurseries, learning how to grow plants. Wai monitoring will partner with the Whitebait Connection. Saving a species. Got a catchment map to find out what is endangered and to protect in the area.

**ReConnecting Northland** David Mules [see powerpoint here](#)

Provides insight of the global world. Bold new concept for Northland. 3 parties The Tindall Foundation, WWF NZ & Landcare Trust. Not a criticism but there are connections to be made and some of the connections are lost. Fragmented habitats... but they are isolated in seas of highly developed land. Natural mixing ability is compromised. Island song shows the drought ability to outwards migrate. Need safe places on the mainland for migrations. Buffer zones. Ecological landform processes connectiviely of marine and freshwater zones. It is about the food webs. People to nurture and support enhancing the the stewardship of the land. Reconnecting of communities, wonderful to see the mix of people here. Some groups that do not naturally mix with others. The mutual supporting and collectivisation of the community with a shared purpose. Project with environmental context, social economic scale. We are part of this ecology and it is a recognition of this.

It offers a chance to get our heads up and to see what else is happening in our region. Not feeling like you are doing something alone. Early on the parties commissioned a study that analysed areas. Looking to see where a restoration would be most successful. Northland was chosen as it had the features (social, community, land use, geography) best to help change. ASB Community Trust have contributed 5 year funding it is a generational change and a paradim shift. Big stuff that will change and shape our thinking of generations to come. The choices that we make, we need to take control of the environment. We are not victims of the directions we have the potential to make a difference. This opportunity has come to Northland in our life times. Hugely excited and scared that it offers a real opportunity to make a real difference. Not pessimism but just the truth. Recognising the importance of communication and sharing. Not being put out as a piece of paper. Needs to be put forward by word. So that people can add and shape the vision.

**Otago Marine Conservation** Jim Fyfe [see powerpoint here](#)

Marine conservation education requirements - Otago is very cold/ 9 degrees in winter 16 in summer creates a challenging education environment. When there is a southerly blowing very difficult.

What sort of experience are you wanting to give the kids. Understanding why it is precious. KCC, kids and their parents, we are able to educate both. Shag point. With a rock pool in it. Very good experience for kids.

Helping people to appreciate that the animals are our friends. DOC has a clear mandate for wildlife & biodiversity. Ministry of Primary Industries - helping people to work with community. Used to be able to catch grouper on the Otago coastline. Are the MPI and DOC in the same waka? Shifting baselines. There are some reserves in the NZ coastline but it is hard to take people to Gisborne to show them. DOC's challenge – protecting a representative network of habitats. Nugget point- amazing sea scape. Support half and half in the community. Only experience of fish/underwater world, is from fishing. Biosecurity threat - Big undaria populations.



## 15. Field trips

### Tangatapu Wetland and Stream catchment experience

Including a visit to Tangatapu Wetland Restoration Project featuring Living Waters Bay of Islands, Eastern Bay of Islands Preservation Society, Ngati Kuta & Patukeha, and a short walk into the Whangamumu Track.

Practical workshops on freshwater engagement, biosecurity & monitoring including specialised community based monitoring tools with Dr. Mike Joy and Martin Rutledge (DoC National freshwater technical advisor).

Field trip leaders: Chris Richmond (Living Waters Bay of Islands), Nicki Wakefield (Whitebait Connection)

Initial briefing at the marae whareniui included an introduction from Chris Richmond on the background to Tangatapu Wetland and its restoration.

Tangatapu is found at the start of the Whangamumu walking track, off Rawhiti Road. The wetland complex includes small segments of intact coastal swamp forest, lush Raupo reed and cabbage tree dominated valley bottoms, adjoining a coastal salt marsh and mangrove wetland. The modified parts of the catchment include well drained valley bottom, half of which was grazed intensively until early 2013 when 1 landowner in partnership with Living Waters, local hapu and Bay of Islands Preservation Society sought funding to create a fenced area in the wetland, as well as exclude stock from the adjoining steep slip prone paddock.

Other restoration activities so far have included a number of planting events on the slip sites around the wetland and in the wetland in the 2012 planting season. The vision is to restore the water table and carry out ecological restoration of the coastal swamp forest within the Tangatapu wetland including Kahikatea, Pukatea and Swamp Maire, Cabbage tree and subcanopy shrub species to provide habitat for the number of locally endangered wetland birds such as Pateke (Brown Teal), Bittern, Spotted Crake and Fern Bird. Also, to restore the highly degraded sections of the stream to allow for fish passage.

Over lunch stories were heard from Blandy on the history of Tangatapu.

During the field trip participants were shown the coastal swamp forest remnant along the tidal Tangatapu/Pukenui River, hearing spotted crake and fernbirds at the site, viewed several traps that are part of the Project Strip and Noose & Necklace pest trapping and poisoning regimes as explained earlier in the conference by John Booth. G Minnow fish traps that were set the night before were retrieved, with Inanga, bully species and gambusia present.

Check Clean Dry between waterways information was included in the briefings, including the importance of ensuring that groups on experiential education in all freshwater aquatic environments take home a CCD message and participate in cleaning shoes and equipment to learn how to CCD.



*Carol Nicholson & Martin Rutledge retrieving G Minnow traps*



*Freshwater field trip participants during lunch and briefing by Chris Richmond, Victor (landowner) and Nicki Wakefield*

Helen Ough Dealy led the group in a listening exercise where the challenge was to name what you could hear at the end of the listening period using a worksheet. Please contact [houghdealy@doc.govt.nz](mailto:houghdealy@doc.govt.nz) for copies of the worksheet. This method can also be used during a restoration project to track change of species over seasons and time.

Upon arrival at Waitangatapu participants received a short version of the Whitebait Connection's water investigation experience including briefing led by Kim Jones, and explanation of the tests conducted as well as ideas on how to interpret the results. Participants broke up into 4 groups to explore using the NIWA SHMAK Kit, Scoop nets & macro-invertebrate sorting & ID equipment. First aid and the WBC Stream side box contents were explained also. For a full list of a typical WBC coordinator equipment set please email [info@whitebaitconnection.co.nz](mailto:info@whitebaitconnection.co.nz).



Soozee, Sophie & Ella identifying "stream creatures"

Results from the days water testing:

Clarity measured in shade using NIWA SHMAK Kit clarity tube – 87

cm

Conductivity: 110 micro seconds

Temperature: Air temp: 18 °C Average overnight low temp: 12°C Stream temp: 14°C

pH measured using litmus strips: 6.5

Species present & sensitivity scores using WaiCare WIMP guide:

Macro-invertebrate Species	Sensitivity Score
Swimming Mayfly	6
Pointed Snail	3
Rounded Snail	3
Flat Gilled Mayfly	9
Smooth Cased Caddis	9
Stony Cased Caddis	6
Stick Caddis	6
Shrimp	5
Bloodworm	3
<b>Macroinvertebrate average score</b>	<b>5.56</b>

#### Other species present

Inanga, Bully spp., elvers unknown sp.

After a discussion on interpreting the results participants indicated their personal rating for the river out of 10 where 10 = the waterway is as healthy as it could possibly be, 1= the water way is largely impacted and would take a long time to recover.

The average rating = 6.5/10

Comments justifying the low/high ratings included:

*"You can see stock still graze the bush and there are tracks up and down the stream banks"*

*"The presence of the smooth cased caddis makes me think it must be pretty healthy"*

*"I thought there would be more fish species"*

Following the stream workshop participants took part in weed releasing the plants that were planted by students of Whangaruru, Waikare Kura and Russell Schools approximately 1 year ago & were invited to keep in touch or take part in this seasons planned planting days.

Comments from the debrief at the end of the field trip included:

*"It's been a pretty full on programme, but it's great to take the time to get into the environment on this field trip"*  
David Mules

*"It's great to see the Whitebait Connection team doing what they do best"* Jasmine Pirini

*"I've loved listening to other perspectives"* Tania Pene

### **EMR snorkel adventure at Maunganui Bay and the beautiful Oke Bay**

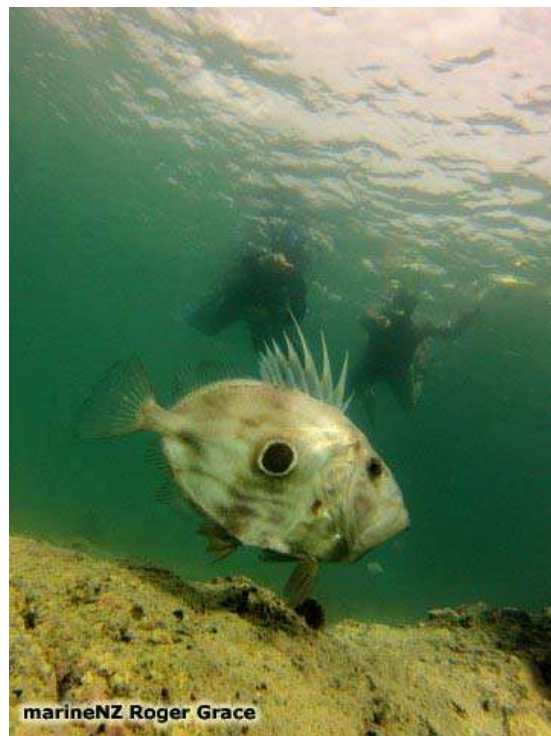
Guided tour about aspirations for local marine conservation led by Samara Nicholas & Experiencing Marine Reserves with support from [Northland Dive](#)



*Marine field trip crew from left front: Helen Kettles, Liz Gibson, Greg Pilcher, Pat Swanson, Lorna Hefford, Samara Nicholas, Denise Gillespie, Kate McConnel, Nikki Rawls & Roger Grace  
From Left back: Vince Kerr, Derrith Bartley, Marie Jordon, Julian Hodge, Jim Fyfe, Anton Bowker, Pat Gillespie & Alan Berman (Hilton Leith taking photo)*

After an EMR safety briefing we buddied up into teams (with advanced snorkelers supporting some of our less experienced) to discover the lovely waters around Oke Bay. It was great to see so many passionate marine folk in the water at the same time. We came across a variety of marine life within a short time including short tail stingray, john dory, goat fish, red moki & nudibranch. Kina barrens were evident.

Throughout the field trip we discussed considerations for guiding snorkel tours using [EMR procedures](#). At one stage a john dory was so overwhelmed by all of us 'fish watchers', it actually repelled itself out of the water on to the seaweed covered shore and then slipped back in again.



We were then picked up and ferried by Northland Dive to snorkel within the Rahui at Deepwater Cove. The [Rahui](#) was established by local hapu Patu Keha and Ngati Kuta and prevents all fishing (except kina). The rahui is legally enforced as a Temporary closure put in place under section 186A of the Fisheries Act 1996. The Rahui has been in place since 2010 and due to expire in November 2014. We observed higher abundance of some fish within the Rahui area and we found a number of crayfish including packhorse. The fish were super friendly, most likely due to people feeding the fish. We discussed the difference between Rahui & marine reserves, marine reserves would prevent all forms of disturbance, including fish feeding, allowing more natural observations & scientific opportunities for behaviour studies of fish for example.

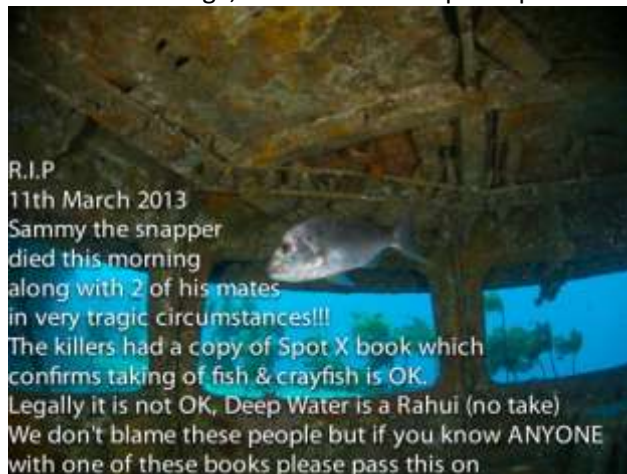


EMR Vince Kerr



EMR Samara Nicholas

Compliance within the Rahui has been challenging according to Northland Dive, but signs have just been erected since the wānanga, which should help compliance. Sammy the snapper came to a sad end early this year.



EMR Samara Nicholas

The Rahui also protects the HMNZS Canterbury which was scuttled there in 2007. The community group [Fish Forever](#) are currently working with the hapu to look at a network of marine sanctuaries in the Bay of Islands.



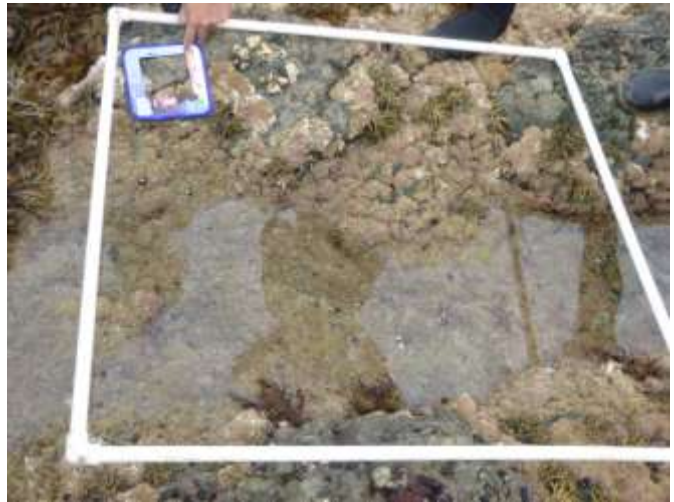
EMR Samara Nicholas



EMR Samara Nicholas

*Nudibranch signals – with Northland Dive*

During the EMR field trip we trialled a new marine monitoring tool - Marine Metre Square with Derrith Bartley (NZ Marine Studies Centre – Royal Society Teacher fellow). What a great simple and effective tool for communities & school groups! [www.mm2.net.nz](http://www.mm2.net.nz) . Also a great EMR action project!



*Photos above by Derrith Bartley*

#### **16. Sunset gourmet beach barbeque conference dinner – Otehei Bay**



*Wananga participants 2013 – see front of this document for full list of attendees and contact details.*

**Monday 29<sup>th</sup> April - day three****17. Facilitated session**

Presentation by [Niki Harre](#), Associate professor at the School of Psychology, University of Auckland on the four principles for creating positive social change. [View presentation here](#)

**Facilitated group workshops** by Niki Harre – putting the four P's into context

Four sessions to be rotated with 15 minutes for each topic below

- ⤴ working with tangata whenua
- ⤴ marine & freshwater biosecurity
- ⤴ mobilising community in partnership
- ⤴ marine and freshwater conservation education

[Click here](#) For a 15 min YouTube very of key ideas in Niki Harre's book and for info on [purchasing her book](#) (free to download or \$15 for a hard copy on recycled paper plus postage).

**Summary notes from workshops:**

**Working with Tangata Whenua**

**What are we doing now?**

- ***Wider training around tikanga and Treaty of Waitangi obligations.***
- ***Collaborating in bigger partnerships that include a range of groups on specific projects.***
- ***Incorporating Te Reo into resources.***
- ***Strategic approaches with communicating and working with hapu iwi community on an equal platform.***
- ***Supportive and active partnerships e.g. NZ Marine science at Otago university (marine metre squared project).***
- ***Wānanga in a tikanga context.***
- Employment opportunities to be part of government departments e.g. secondments.
- More neutral process to engage with iwi, comfortable as early initiatives.
- Nga Whenua Rahui funds.
- Instilling kaitiakitanga in local community.
- Regional management
- Sharing traditional stories.
- Enviroschools.
- Engagement and liaising.
- Supporting community action.
- DoC's Pukenga Atawhai course (Maori cultural course).
- Enjoying hospitality of marae.
- Offering translations (to a degree).
- Consulting more than ever.
- Using existing groups/contacts/council/iwi liaison.
- Reducing formality of meetings – including socialising.

**What we could do in the future:**

- ***Ask!! Is it working? Is it correct? Is it wanted?***
- ***Co-management - restoration of manawhenua.***
- ***Have more fun with partners to celebrate and energise.***
- ***Empower and support iwi to be able to take sustainability steps themselves (not do it for them).***
- ***Use of tikanga (Treaty of Waitangi) in wider education work/initiatives.***

- **Ask more and tell less – truly understand world views and perspectives that may be under threat.**
- Engage hapu more – invite to wānangas
- More consistency with neutral processes around the country to engage with iwi.
- Incorporate more of own background (pepeha) e.g. mountains to sea.
- Acknowledge and respect histories/tikanga/volunteer time.
- Assistance to make those first connections.
- More empowering legislation for iwi to be able to make decisions over natural resources.
- Creating better communication.
- Go to Tangata whenua FIRST – drive and initiate from tangata whenua.
- Better treaty settlement.
- Learning and LISTENING – asking for help/advice.
- TRUE PARTNERSHIP and define it – what does that look like?
- Stop the hit and run – we want long-term lasting relationships.
- Find better protection measures that don't alienate iwi
  - Memorandum of understanding and acknowledgement of hapu rights.
  - Take away top-down control and ideas on confiscation.
- Wider education and engagement regarding tikanga at secondary and tertiary level (wider education about tikanga).
- MORE collaboration e.g. on resources with stories and names.
- Upskill in Te Reo (and pronunciation) and Tikanga and marae protocol.
- Get the facts correct and realise who you are talking to.
- Enviro marae programme.
- Te Reo versions of [the new DoC BOI] relief teachers packs.
- Be open minded to different views.
- More support for language/tikanga in workplace.
- [Get advice on] how to apply T.O.W obligations practically.
- How Wai 262 applies.
- Engaging younger tamariki better in general.
- Personalise communication.
- Find the right time (have insight into community).
- Use internal (local community) newsletters. Use methods to distribute messages that work for that community.
- Ensure communication and involvement is resourced fairly and realistically.
- Take your time and be patient.

### Freshwater Biosecurity

#### What are we doing now?

- **Check, Clean, Dry**
- **Training/empowering locals to take ownership and be advocates.**
- **Modeling appropriate behavior by DOING (weed/pest removal).**
- Targeting key groups.
- Educate/communicate about freshwater threats/pests i.e. weeds, unwanted sp.
- Using momentum from prior CCD advocacy to expand to other pests.
- Linking individuals/groups with professional advice (e.g. councils etc).
- Costumes and puppets!
- Reporting Biosecurity issues
- Connecting with more stakeholders e.g. trampers/multi-sports.
- Identifying more less modified environments.
- Surveys



- Kai Iwi lakes Snorkel Days
- Social media awareness of local outbreaks.
- Cleaning station at events (e.g. triathlons)
- Games.

#### What we could do in the future:

- ***Tell stories about a world with no Biosecurity issues and of the success stories using multimedia, art, music and drama.***
- ***Make it easy to understand AND ACT! E.g. wash bags, tech support networks and partnerships across wide sectors, free detergent.***
- ***Make our tools match our kaupapa (no toxic chemicals).***
- Use more interactive multi-media platforms.
- Find local near pristine environment to showcase.
- Ask! Is the message working/getting across?
- Tugging people's heartstrings – emotional investment = buy in.
- Champions – grow and promote.
- Provide more access to messaging (korero and experience to back up CCD).
- Maintain momentum – stick to main message.
- Keep message 'fresh' – combat complacency.
- Fish and Game networking or MOU?
- Update materials available – rebrand Check, Clean, Dry.
- Games.
- Including in education!
- Create a relief teaching pack.
- One access way to areas and have more info at access ways to lakes (cleaning facilities etc.)
- Rewarding people.
- Learn about it and teach others about it.

### Marine Biosecurity

#### What are we doing now?

- ***The message about the importance of marine Biosecurity is emerging through posters, publicity etc.***
- ***Monitoring has begun, mainly by government and local bodies.***
- ***Beginning to establish cooperation with stakeholder groups.***
- Awareness about boat cleaning.
- Monitoring ports.
- Publicity about threats – educational resources.
- Maritime rules re bilge water.
- Education becoming more common – starting.
- Northland Regional Council strategic plan – legally enforce.
- Partnerships approaches e.g. Chatham's, Top of South groups.
- Public education.
- Plastic wrapping.
- Cooperation with recreational, aquaculture, sport stakeholders.
- Playing to ideals in public that they identify with e.g. kids and families – health risks to people, boaties/sports – improving fishing quality and food collection.
- Self-reporting encouraged.

**What we could do in the future:**

- ***Tell positive stories about the success and benefits of marine Biosecurity e.g. the great advantages of cleaning your boat.***
- ***More engagement and education of local stakeholder groups, including community. Include info on the impacts and ramifications.***
- ***Force change at government and international level.***
- Nationalism – educating about endemic species and ownership.
- More widespread media advertising i.e. radio and TV
- Linking marine and terrestrial (above and below) e.g. project island song – flagship projects, subantarctic islands, kermadecs.
- Develop more tool and techniques to manage marine pests.
- Bring in registration for boats – this will help us to track boats movements etc.
- Integration with other marine activities/regulations e.g. deep sea oil drilling – fouled platforms, Aquaculture – bringing in spat.
- Images of sustainable working future.
- Better research.
- Stop the spread of contaminated aquaculture facilities – better management and a regional quarantine.
- Teach through example – focus less on tales of terror but show people how to be conscious.
- Reinvestment of profits into improving Biosecurity methods.

**Mobilising community in partnership****What are we doing now?**

- ***Creating fun community activities which engage people in positive environmental action and get people inspired e.g. wānanga, snorkel days, planting.***
- ***Working with local tangata whenua to create events, plan progress and put ideas into practice.***
- ***Identifying goals, stakeholders and possible partners.***
- ***Strengthening and growing full community engagement.***
- ***Tractable projects using local expertise.***
- ***Very effective support from local and national agencies.***
- Working with other stakeholders
- Community and roving volunteers
- Providing community training – getting locals to work in own area.
- Private business (financial interest)
- Working with various research institutions (universities etc.)
- Waiting for treaty honouring.
- Working with government?
- Trying to form relationships and building bonds in preparation for treaty settlement.
- Links to town revitalisation plans.
- Bribery!
- Having FUN \* Very important.
- Start early preschool up and a bottom up flax roots approach.
- DoC's restructure acknowledging the importance for way forward.
- Getting families involved.
- DoC partnership with business community and their role as funders for "good".
- Ongoing relationships with schools.
- Good govt/council contacts to work with and tapping into existing networks.
- Consistent relationships – long-term investments in community.
- Creating a strong community.
- Consultation and communication.

- It's getting broader spectrum – wide range of ages and backgrounds.

#### What we could do in the future:

- ***Respecting and accepting what anyone can contribute – especially children providing the moral compass for family engagement.***
- ***Engaging non-traditional community groups and businesses to work with and creating opportunities and employment.***
- ***Have more fun! Continue what works!***
- ***More effective community consultation and engagement e.g. consultation at the beginning without pre-determined agenda, longer and more realistic timeframes.***
- ***Social recognition and reward for efforts.***
- ***Secure funding for DoC and community groups.***
- Engagement – more diverse methods – attractiveness, relevance.
- Creating more positive partnership outcomes – reliable, trusting, and honourable.
- Starting discussion, listening to community, improve communication.
- Focus on benefit to society from conservation activities – encourage more self-directed conservation work.
- “Adventures”
- Incorporating further into the curriculum.
- Better coordination and accessibility.
- Identify the most supportive political parties (most conducive)
- More creative ways.
- Resource ability.
- Joining others events.
- Tell success stories! E.g. it's not hard! It's fun! All the cool kids are doing it!
- Mentor
- Online networks.
- **HAVE MORE FUN!**
- Having achievable outcomes.
- Keeping consistent relationships – having handover periods when things change.
- Focus on positive outcomes.
- Establishing good relationships including social (and food!)
- Focusing on projects the community wants to do – more drive from the community.
- Have ongoing conversation.
- Fair resourcing of parties involved and sharing of funding and resources.
- Develop/evolve language to communicate across sectors.
- Identify gaps and not filling same niche.

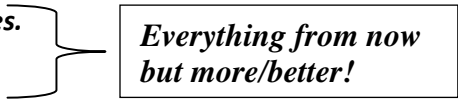
#### **Freshwater Education Conservation**

##### What are we doing now?

- ***Networking and sharing ideas a bit – farmers, schools, media, communities, educators,***
- ***Events e.g. World Wetlands Day***
- ***Delivering education programmes in schools e.g. WBC***
- Beginning to talk to farmers.
- Running WBC and other programmes in schools through DoC (West Coats).
- Gathering oral histories for the local people.
- Wānanga on mare.
- Community water quality testing.
- Storm water education.
- Looking at invertebrates/biodiversity.

- Advocacy/awareness raising.
- Hands-on weed/riparian management/restoration.
- Making small community films.
- Local networking events
- Broadening the target groups for education and engagement.
- Engaging with local govt.
- Offering practical experiences.
- Introducing people to previously unknown species e.g. Whio and mayfly – awareness rising.
- Engaging more people than ever before.
- Upskilling ourselves.

#### What we could do in the future:

- **Better networking among educators and advocates.**
  - **Tell our stories.**
  - **Integrations of values.**
- 
- Everything from now  
but more/better!*
- Ecosystem services should be made more accessible/understandable to the lay person.
  - Develop partnerships to deliver WBC more widely.
  - Tell more amazing stories – more media attention, tell success stories.
  - Create ways to show how conservation affects the individual.
  - Network and share ideas MORE!
  - Show how conservation saves money (as opposed to clean up).
  - Tell stories of the values of freshwater (Maori, Uses) – broaden to include everyone's values.
  - Less chemical use by waterways.
  - Field trips.
  - Mountains to sea approach (storm water grates to beaches)
  - Relief teachers pack.
  - Integration of Maori and other cultures concepts/stories. Puti Gardener – Whatuwhiwhi Peninsula.
  - Cultural Monitoring (Cultural Health Index/SHMAK)
  - Improve fish passage.
  - Props/costumes.
  - Working with/keeping an eye on (!!) other stakeholders e.g. forestry, farmers.
  - Digital timeline sequence of projects e.g. of Tangatapu (video/film).
  - Developing/improve/rationalising resources – do we need to look at accessibility of resources e.g. National Database online.
  - Expand into more communities.
  - Encourage ACTION after talk.
  - More follow up.
  - Utopian vision – Mayfly becomes a NZ icon!
  - Everyone should understand that healthy water contains a diversity of life.

#### Marine Education Conservation

##### What are we doing now?

- **Showing the benefits through outreach and events.**
- **Working together with community/schools.**
- **Taiapure as a community education opportunity.**
- Promoting marine reserves – EMR!!
- DoC – education outreach.
- Enviro schools.
- EMR – chasing financial support, expanding numbers, diversifying programs.

- Wānanga
- Seaweek
- Oceans Day
- Showing results of scientific studies.
- Hosting education opportunities. E.g. film screenings, public speakers, campaigning.
- Rahui – educating families, tradition ecological knowledge, translating our own passions and joy to friends/family/community.
- Community snorkel days
- Marine conservation is getting into our schools.
- More males getting involved via EMR (ratio requirement)
- Marine conservation interests involved in fishing forum.
- Citizen science monitoring – community partnership.

#### What we could do in the future:

- ***Sharing information between scientists/community/schools.***
- ***More presence at fishing competitions.***
- ***Make a positive DVD on success stories to promote different habitats.***
- More community education by community.
- Promote soft shore, mangrove environments more.
- More support from councils and private enterprises.
- More creative ideas for funding.
- More positive messaging – creating more ‘learning by doing’ opportunities e.g. have more schools do more of marine metre squared stuff.
- Better identification of community areas and audiences who can work on marine conservation – family, fishing/sporting clubs – localisation.
- Create vehicles for new audiences to come onboard – social networking, re-equipping, discover non-conflict solutions.
- Diversify the message – tell different stories for new messages/audiences. Methods of conveyance - media stories/science/film/community activities.
- More positive focus on ways in which people can live their lives.
- Lead by example – DO – rather than just SAY.
- Creating new partnerships – further initiatives.
- Being creative of who is being engaged with (corporate groups).
- Improve relationship between MPI and DOC. Education of MPI (engagement).
- Have more fun!
- More in early childhood.
- Working more towards finding common ground among more sectors.
- Conservation aspects for more everyday events in city centres.
- More education amongst tourism providers (education about marine mammals for example).
- More gratification for groups that are doing something – top and bottom up/down (both!).

#### 18. 2014 World Wetland & Seaweek Event Discussion

##### World Wetlands Day 2014 Discussion at MTSC National Marine and Freshwater Wānanga

The Theme will be ***‘Wetlands and Agriculture’***

##### Event ideas:

- Suggested **Northland locations** for events: Hikurangi Swamp and Tangatapu Wetlands and Lake Tangongi (a drained lake in Kaitaia – the tangata whenua could do with some help to give them a boost’.

- Vince suggested that we **highlight stories of success** e.g. the Aurere story from 'Water Whisperers' movie and/or Raglan catchment restoration and find **a national way to tell stories**.
- Hold a **fun family day** and include a health aspect – maybe use this for the Tangatapu Wetlands Day.
- **Inviting guest speakers 'someone with mana'** to visit and explain the benefits of wetland preservation and/or restoration. E.g. Fred Litchwark.

### Seaweed 2014 Discussion at MTSC National Marine and Freshwater Wānanga

The unconfirmed theme is '*Our fragile finite, Taonga*'

#### Event Ideas:

- **Combine the Seaweed and World Wetland Day events** e.g. at Tangatapu Wetlands.
- Utilise the Marine Metre Squared resources.
- **Engaging businesses.....Be more silly and have fun** so people want to join the fun! Engage a wide audience by encouraging people to either; go to their special place in the marine environment and celebrate it, and/or wear wacky Seaweed clothes over their normal work clothes e.g. boardies over a business suit!! OR wear your favourite marine creature on a badge. The five days to shine idea from Kaitaia which highlighted businesses doing good for the sea during Seaweed worked really well.
- **Pecha Kucha style presentations** from different stakeholders with the theme of what is their connection to the sea. This encourages people from different walks of life to find common ground on the topic of the marine environment and to see that we all value it. A basis for conserving it!! It fits with the Seaweed theme as pecha kucha slides are finite too! Idea from Fish Forever – establish the seven wonders of the Bay of Islands using this method - identify shared values. **Amalgamate these ideas/stories nationally?**
- We need **more puppets** – 'adult themed' – Kama Seatra?? Get theatre sports group to make a show about the sea where they are different sea creatures in a very comical engaging way e.g. Starfish interpretation from Australia.
- **Have a fundraiser event** – swim and use a waka in the Bay for the Tangatapu day.

#### 19. Evaluation

[www.emr.org.nz/uploads/file/wananga\\_2013/MTSC%202013%20Wananga\\_Rawhiti\\_Evalpost\\_its.pdf](http://www.emr.org.nz/uploads/file/wananga_2013/MTSC%202013%20Wananga_Rawhiti_Evalpost_its.pdf)

Evaluations showed that people are keen to see the wānanga held in Northland every second year and other parts of the country (particularly South Island) every other year and that April is a good time of year to have it.

'AH-HA' MOMENTS AND OR HIGHLIGHTS (COMMENT)

*lots of a ha moments which made great value of conference!! Admit I havent CCD'D kids before stream work!! imp so embarrassed!! Niki Harres positivity (where was she when I was an angry idealist :) wanted to hear Mike Joy for ages – THANKS*

*the power of positive reinforcement & the connection to working in freshwater & marine environments*

We rated 5.79 on average out of 6 for value for money!

Most thought the timeframe of the wānanga was suitable and the venue was rated high *ka mau te wehi*. *I felt very warm and welcome on this marae thank you*

The organisation of the wānanga was also rated high *really good – felt fully engaged throughout which reflects the thought that went into organising*

HOW EFFECTIVE WAS THIS wānanga IN ORDER TO CREATE COMMUNITY ENGAGEMENT & FOSTER EFFECTIVE PARTNERSHIPS

*networking great – I think tangata whenua talking about their experience of approaching partnership is good*

Effectiveness of networking *an amazing opportunity having so many like-minded people but from such a wide range of organisations and projects coming together in one place in order to bounce ideas off each other*

Massive thanks to our caterers Maria & Raymond Lawton – top marks *tino reka! Healthy for the mind heart and soul*

## 20. Action!

These actions will be sent to the participant 6 months after the wānanga and we require reporting back on how it all went

Action	Participant Committed
To become involved in the mussel reseeding and sediment reduction in the Thames	Lorrna Hefford
Communicate 4 principles for creating +ve social change to wa?h team and have group discussion what it means	Helen Kettles
To partnership DOC Kaitaia + CBEC Kaitaia	Pat Gillespie.
Begin a trust focused solely on galaxiid education & conservation	Lan Pham
Stay in Wellington/NZ to commence the Healthy Harbours Program	Alan Berman
Bring Marine education & advocacy into my enviroteam work programme at Community Waitakere	Sophie
Assist with build of new EMR office at Whananaki	Hilton Leith
Have achieved a more manageable workload-so I can enjoy it all a bit more	John Booth
More resources on EMR website	Samara Nicholas
Organise a good seaweek event 2014	Marie Jordon
Grow the number of young people snorkeling “to look” in Otago	Jim Fyfe
Engage tangata whenua more effectively in Living waters	Ruth Marsh
To introduce the marine m <sup>2</sup> to my school	Pat Swanson
Increase participation/production action plans (EMR/WBC) Storm water intro/focus Sea week activity in Gissy	Nikki Rawls
Increase working knowledge of Te reo Maori	Soozee
<u>Short term action</u> World Wetland Day 2014 <u>Long term action</u>	Anna McKnight

How much closer am I to getting the Junior Kaitaia Ranger programme conservancy wide	
Give priority to self sustaining to work effectively	Martin Rutledge
Contact and engage the local community & iwi in Tairua to help set up a reserve or Rahui to aid in the problems of commercial fishing in the harbour	Liz Gibson
Try to establish a research project in partnership with one of the organisations from wānanga + Be a positive active role in the community	Rebekah Gee
To merge more community, hapu and iwi into government dept roles and workloads	Denice Gillespie
Conduct some sea experiments. Check websites out. And start recording data	Bob Clarke
Organise a Live Below the Line event	Nikki Harre
Do stream analysis of Waipara in Russell with Russell landcare then put in place a fish ladder over the dam.	Helen Ough Dealy.
To be delivering and involved in the whitebait connection to schools in my local area, North Hokianga (surrounding the waimarama forest). To use the strengths of the WBC to support the aspirations of the warawara Kaitiaki komiti	Jasmine Pirini
Im going to read Nikki Harres book, & then change the world	Vince Kerr
Create an interpretation board promoting the environmental values of an area (anywhere)	Camellia Neilson
Build towards permanent funding stream	Greg Pilcher
Restoration with community and school on Mangahinau Stream Waitara	Mike Tapp
Institute Wellington snorkeling fashmobbing(?)	?
Do more diving and promotion of marine reserves	?

## 21. Poroporoake – official close of wānanga

Comments from the participants in final closing – Poroporoake included...

*“It has been successful, thanks to the participants for making this wānanga a successful event”*

*Samara Nicholas*

*“MTSCT wanted to create opportunities for meeting and working with locals. Young and energetic people working together with hardened conservationists. Thanks to all for coming and doing the work that you do”*

*Vince Kerr*

*“We all had good sleeps in this whare. Korero on this marae and in the area of the environment is tough but it is happening, and is healthy, thanks to the dialogue that has happened during this wānanga”*

*Jim Fyfe*



*"I will go home reinvigorated and enthused the future lies in good hands with people like this, in partnership sharing a wonderful location, and food and the opportunity to sleep under the stars"*

Julian Hodge

*"I am surprised how many people are here, thanks to the girls who work so hard to give us these opportunities"*

Hilton Leith

*"I was starting to loose enthusiasm, but will go home feeling excited and refreshed"*

Pat Swanson

*"Hospitality has been fantastic and I loved the stories from Blandy, admire Samara and my take home lesson is to  
"Catch them when they are being good"*

Mike Tapp

*"I studied marine conservation in Mexico. When asked to come to NZ I took the opportunity and have found that in NZ there is something I can't explain – people work as a team, community and family is important which is rare in the US. I also enjoy the addition of history of the people and the land"*

Alan Berman

*"The bag is full and I leave here ready to face anything"*

Greg Pilcher

*"Thanks to Tangata Whenua and conversation about Ruru & learning about small creatures in the stream. Thanks to organisers"*

Martin Rutledge

*"Great pleasure to show you all the hapu initiatives"*

John Booth

*"Te Uri o Tai thanks the hau kainga, thanks to organisers – look after yourselves. Thanks to the parents with children here and having them here to keep us grounded. Great to see hapu working with partnerships but mana whenua & mana moana always remains of most importance"*

Jasmine Pirini

*"In this room is an octopus with many tentacles"*

Soozee McIntyre

*"Thanks to the openness, what you are doing is my ideal and I leave here inspired to continue on this path"*

Lan Pham

Comments from the hau kainga in closing included...

*"The keynotes were both saying things I have been talking about for a long time. It is on the basis of not knowing the true long term effects that we reject and oppose... I didn't know you people talk like this with such passion. There is a whakatauki that can be interpreted as "When manuhiri come & we come & share knowledge, we all benefit".*

*"I've been up to Tangatapu so many times but never realised what was in it. That was a revelation to me. Next time I walk in Tangatapu i'll take the time to increase my knowledge"*

*"To the ringawera, the mana of any marae is held up by the food, you did this well"*

Blandy Witehira

*“The tools in the box aren't enough to really save our kaimoana. The way you are networking, I know you are the ones to make a difference. I didn't get it when my snorkel buddy was so excited about the 'naked bus'. I couldn't see where it fit into the food chain, and now I have a small appreciation for the 'naked bus' (nudibranch). I remain entrenched in my ways”*

*Robert (Bob) Clarke*

*“I acknowledge your wonderful passion and thank you for your stories. I am the CEO – Conscientious Educated Objector. You need to hear our stories of hurt which are everywhere”*

*Louise Clarke*

**For more information on the next wānanga/conference email [info@emr.org.nz](mailto:info@emr.org.nz) or check [www.emr.org.nz](http://www.emr.org.nz)**

**Extra for experts: *Links of interest as a result of discussion during the wānanga***

Funding Information - [Funding sources document](#)

If people are interested in the issue of plastics and marine pollution Sophie Barclay did a lot of research for this article in the [NZ Herald during Sea Week](#).

Sophie Barclay mentioned to a lot of people about the Te Whangai project, a nursery that employs “unemployable” people and trains them up to run a business. Also working with at risk youth. Very inspiring: <http://www.tewhangai.com/>