



Auckland Freshwater Hui Proceedings 2016

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Theme

"Improving Auckland's freshwater quality, a fish's eye view"

Purpose

This special event was designed to bring together organisations, groups and individuals with an interest in the stewardship, management of, and education about our freshwater resources. This hui had the goals to foster collaboration and action for freshwater environments in Auckland.

Objectives

Through attending this hui participants will:

- **Connect** with others involved in freshwater education, monitoring or management in Auckland.
- **Increase their knowledge** of freshwater quality issues, about New Zealand native fish, their distribution and habitat requirements.
- **Share** and learn about who is doing what in the field of freshwater monitoring, management and education in Auckland.
- **Take away actions** that they can implement, or that they can encourage others to implement, to help improve water quality or riparian habitat in their local waterways.



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The Programme

**Te Atatu Boat Club, Bridge Ave, Te Atatu South Auckland 19
October 2016 9am-3:30pm**

Time	Activity/Session
8.30	Registration opens
9:00	Event opens – Karakia, Welcome and overview, housekeeping.
9:15	Facilitated icebreaker activity
9:30	Facilitated workshops on current freshwater monitoring projects and gaps in Auckland
10:00	Group feedback from facilitated sessions
10:30	Morning Tea
10:50	Keynote Presentation - Stella McQueen - Introducing New Zealand's native fish - distribution, status, habitat requirements, threats, legislation, current research and gaps in knowledge.
11:30-1:15	<p>Field trip to Pixie Creek – participants will have the opportunity to take part in three hands-on practical 20 minute sessions the field:</p> <ol style="list-style-type: none"> 1. Wai Care citizen science techniques including macroinvertebrate ID (Wai Care and Healthy Waters) 2. Freshwater fish discovery and habitat requirements (Stella McQueen and Matthew Bloxham) 3. Inanga spawning site saline wedge mapping workshop including assessing good spawning habitat (Whitebait Connection and Community Waitakere) <p><i>A packed lunch will be provided and back up location for these sessions is the venue (in case of rain). Some transport may be provided but private vehicles will also need to be used – it's only a 5-minute drive from the venue.</i></p>
1:15-3:05	<p>Short presentations</p> <p>1:15 - 1:40 - Aslan Wright-Stow and Kathryn Reeve (NIWA) - Using community group monitoring data to augment regional council monitoring programmes, and whitebait dispersal, implications for restoration of the fishery.</p> <p>1:40 - 2:05 - Kim Jones (Whitebait Connection), Rachel Griffiths and Shelley Hackett (Healthy Waters/Wai Care) – Collaborative Inanga spawning site identification and restoration projects in Auckland. Citizen science and taking action.</p> <p>2:05 - 2:45 – Matt Bloxham (Auckland Council) - the status of freshwater fish in Auckland - what we know, what we don't know and what AC are doing to increase our knowledge of freshwater fish species</p> <p>2:45 - 3:05 – Craig McIlroy (Healthy Waters) – What Auckland Council is doing to improve water quality in the Auckland region.</p>
3:05	<p>Afternoon tea</p> <p>Completion of feedback forms including action project ideas/proposals</p>
3:20	Close and karakia
3:30	Event closes

Facilitated workshops on current freshwater monitoring projects and gaps in Auckland

Everyone got into groups based on the randomly selected coloured dot on their name tag and were instructed to brainstorm on four topics:

1. Your ultimate goals for freshwater in Auckland – visualising future state.
2. Where are we in relation to our goals – what are we doing to actively work towards them?
3. Where are the gaps, what are the barriers?
4. What are some actions we can think of that need to happen to achieve these goals?

At the end of this session Megan facilitated key 'actions required' from the whole group that needed to happen to achieve our goals:

- Trust building
- How do we advocate upwards to top level government?
- Recognising the latency – enabling.
- How to connect the rural populace to work in rural areas?
- Low Impact Urban Design (LIUD) shouldn't be exception.
- Rural land management advisory.
- Collaborative model that sits outside of council. Works in advocacy, works with.
- Kids and parents involved at the same time.
- Programmes that hook people in – social media. Example of the 'hook'- MADAVE using creative artistic ways to connect.
- Talking to the heart.
- VOTE
- More of programmes that work e.g. Trees for Survival.
- Embrace private ownership and work with it.
- Species as a hook e.g. the freshwater native fish!!!
- Capitalise on selfishness – what is in it for me?
- Council show success and spend more money on maintenance.



Results from the workshop:

The ultimate goals:

Five themes emerged through this topic: **education**, **prevention**, **healthy water and biodiversity**, **improving/restoration work**, **collaboration/togetherness**.

- *For our mokopuna to be able to drink from and swim in our freshwater streams.*
- *To be able to prevent pollution of streams in the future.*
- *Flourishing native fish populations.*
- *To have more people in the world educated about the **how** to care for freshwater so it becomes the norm to look after streams.*
- *Freshwater Reserves.*
- *Have a NZ network for everybody interested in freshwater e.g. an online community to share, inspire, connect.*
- *All schools having a freshwater component in their curriculum – make it mainstream.*
- *Tougher Rules – legislation.*
- *Freshwater packed with critters – high water quality/swimmable/drinkable.*
- *Freshwater environment that people are proud of/inclined to engage with.*
- *80-90% engaged in discussion for what healthy water means.*
- *Proud of and loved/not dumped/littered.*
- *Engage Aucklanders – tools/facilities.*
- *Improving – not sticking with the status quo – sustainability not enough.*
- *People pride in place – how their actions effect it.*
- *No blame game – positive stuff for farmers.*
- *Refocussing people's attention to local streams/rivers – urban 'swimmable state'.*
- *Flourishing biodiversity.*
- *Raise status of our freshwater fish.*
- *Higher level focus – policy.*
- *Top Down – not bottom up.*
- *Collaboration. Networks.*
- *Co-design-dual world design – connectivity.*
- *Everybody loves waterways.*
- *Kaitiakitanga.*
- *Drinkable!*
- *Protected preserved.*
- *Mauri restored.*
- *All waterways fenced.*
- *More research into stormwater retention/treatment. Taking action for stormwater.*
- *Catchment approach.*
- *Swimmable water quality.*
- *Requirement for reforestation, especially along all streams, including climax species that provide shade and a good environment for humans and animals. Following ecological process through – not just planting primary species and leaving it.*
- *Continual improvement in water quality, not degradation.*
- *Increased connection – humans to environment, streams to floodplains, people to people.*
- *Higher level policy change to facilitate improvements in water quality.*
- *More collaboration between organisations to achieve goals.*
- *Iwi co-management and co-governance – iwi have capacity and capability to work with everyone.*
- *Catchment focus – in Auckland, too many specialists working in the same field not cooperating/communicating with each other – no integration (integrated catchment management).*

Results from the workshop:

Where we are in relation to our goals – what are we doing to actively work towards them?

- *Youi – Funding tree planting.*
- *LOTS OF CONCERN.*
- *Thinking about reintroductions.*
- *Riparian Restoration.*
- *Okura – needing helping hand to get started.*
- *Wairoa River – working with community groups – Inanga Spawning.*
- *Henderson Creek – Inanga Spawning Project.*
- *Auckland Council – needs more collaboration.*
- *Preaching to converted.*
- *Regard streams as utilities instead of functioning ecosystem.*
- *Social vs environmental awareness.*
- *Polluted by industry (Whau River).*
- *Land area – rural – HUGE. Giving support and education. Getting alongside them.*
- *Resourcing for rural/urban – out of skew. (No Land Management Office (LMO) on ground. Momentum and relationship building. Lost – farmers.*
- *Turning back on council.*
- *Behaviour change with engineers (stormwater).*
- *Biodiversity – working with private landowner and within council to get better understanding of ecosystem vs utility.*
- *Restoration/education and engagement in Whau River.*
- *Formalising ECOL strategy for Southern Waitemata Harbour/Whau Inlet/ Waterview Inlet.*
- *Fonterra – all dairy farms are fencing off.*
- *Auckland Council – water testing kits (Wai Care).*
- *Project Twin Streams – with funding being reduced we are asking “how effective is it now”? “How do we evolve it”?*
- *Rural pollution in our community.*
- *Freshwater 111 Facebook page – Forest and Bird.*
<https://www.facebook.com/groups/freshwater111/>
- *NIWA/Wai Care collaboration – database and kits.*
- *Best Fish Guide – new one is going to include freshwater species!!*
- *Kiwi Conservation Club.*
- *Whitebait Connection in schools and community achieving awareness, behaviour change and action for freshwater.*
- *Existing App – recording garbage in your stream – the new, way cooler Pokemon Go.*
- *Marine spatial plan – Hauraki Gulf – identified priorities in catchment to help Hauraki Gulf. More funding now – Nature Conservancy – money for restoration projects. Foundation North new fund for innovative projects in Hauraki Gulf .*
- *Lack of support – for innovation or maintenance (funding).*
- *Rivers and streams still not fenced or planted – Mauku Stream, only 150m still has native vegetation – Auckland is not just urban, it's rural too*

Results from the workshop:

Where are the gaps and what are the barriers?

- *Support on the ground – experts to facilitate learning and action.*
- *Education on what is in your backyard – nature is everywhere (as are hazards!)*
- *Funding for education and community engagement and action on the ground.*
- *Need systems in place.*
- *Need wider engagement to wider population (connection).*
- *Collaboration – iwi co-management, co-governance, co-design from the start - big picture, catchment scale, give direction and priorities? 'Improved' support, understanding.*
- *When is the big reveal – what is the plan? Unitary Plan. When do we get a chance to be involved? What does the Auckland Council want for freshwater and communities across Auckland? What priority is the community and schools in water quality and catchments?*
- *NPSFM limit and outcomes – Council strategic conduits help support communities to unpack and work out how this will work on the ground.*
- *Walls – in council.*
- *Funding (competition for contestable funds).*
- *Good science.*
- *Lack of awareness and education and understanding.*
- *Lack of buy-in.*
- *Central government!!! ☹️ Talk to 10 industry, forestry, farming, fisheries, dairy, etc.*
- *Lack of connection to nature and waterways.*
- *Inclusion into design and strategy.*
- *Lack and diminishing capacity and support for groups and action e.g. restoration.*
- *Iwi capacity and capability.*
- *Funding and long-term funding.*
- *Bigger overall plan lacking.*
- *Adverse risk taking.*
- *Lacking available network of advice.*
- *Auckland Council advice is stretched.*
- *Corporate interest. Latent – needs directing. Make it easy. Show benefit.*
- **EDUCATIONAL MARKETING.**
- *Concerns over different organisations/trusts competing for limited funding.*
- *Funding – too much bureaucracy, not enough funding available.*
- *Lack of direction from central government – government doesn't see it as important/has higher priorities.*
- *Have a single message that can be delivered to Council – this is what Aucklanders want.*
- *No baseline monitoring for a lot of sites, or not standardised monitoring.*
- *Issue with managing freshwater on private land – how do we help these streams?*
- *Desire of people to do something but not knowing what to do – latency (youi fundraising model). Enabling people to do something with this energy.*

Results from the workshop:

What are some actions we can think of that need to happen to achieve these goals?

- *Improve ideas on funding streams – supply hui participants with a list of funding sources for freshwater conservation as part of the hui proceedings.*
- *Need central project management.*
- *BROKERAGE ROLE.*
- *FUNDS FROM CONSENT MITIGATION.*
- *CONNECTION is the key – Spiders Web network, Social Networking. Listening to Community.*
- *Understanding limits of community to achieve success in a stepped manner.*
- *Want to see a collaborative model to help each other – Healthy Water, Queensland model. Not run by government but government involved and supported. Power in collaboration.*
- *Better education for wider community – impact of actions on freshwater. More opportunities for people to get involved in conservation.*
- *Want to see what other people are doing – forum in freshwater field – NIWA. Annual report to communities on data they have collected.*
- *Maori lense on reporting data. 'Mauri-ometer'? Social, Cultural, Environmental, Economic.*
- *National database/collective website for all.*
- *Support around engagement.*
- *Coordinated catchment approach.*
- *Share stories of local projects, successes – with everyone not just those already committed. Newspapers, radio, TV, contacts with media.*
- *Stronger legislation/strategies/enforcement of water polluters.*
- *Culture change – social responsibility.*
- *Umbrella coordination/support.*
- *Monitoring.*
- *Open and stable Council – local cluster contact. Know what's going on in Council, one contact for each area/catchment, Open communication and support.*
- *Advocate upwards to top level government.*
- *Low impact design approach to all urban design.*
- *Council required to do less with more – put more money back into rural land management.*
- *Connect urban population with rural.*
- *Collaborative model that acts outside Council – shared space for everyone to share knowledge and support each other. Community want to work with people and organisations.*
- *Kids and parents involved at same time – programmes that hook people in – social media.*
- *Vote a government in that cares about the environment.*
- *MAD Ave – Glen Innes – hook is art, creativity, cultural methods to hook people in. Talk to the heart of the people.*
- *Landowners point of view – Trees for Survival great programme for encouraging landowners to plant – continue programme – embrace and support private ownership – education and encourage.*
- *Species as a hook – stream not interesting to most people, they are more interested in planting trees and restoring bush.*
- *Capitalise on selfishness – find people's use – recreation, food gathering, duck shooting – see it as more than just protecting a stream for the stream's sake.*
- *Council needs to spend money on maintenance and control weeds on its own land.*
- *We need trust both ways – between communities and Council/organisations.*

Keynote Presentation – Stella McQueen.



Stella McQueen Stella is a roving freshwater fish ecologist, author and science communicator. She travels the country in her retro campervan/fieldbase, doing fieldwork contracts in amazing places. Stella has written two books: 'The New Zealand Native Freshwater Aquarium' and 'A Photographic Guide to Freshwater Fishes of New Zealand'. Through the wonders of social media, she is able to share her love for our amazing native fishes, and fears for their future with thousands of people every week via her hugely popular Facebook page 'New Zealand Native Fish'. She also regularly features on RadioNZ as a native fish expert.

[Download Stella's presentation here \(6901 KB\)](#)

Notes taken from Stella's presentation: by Sophie Tweddle

Not possible to discuss everything to do with native fish today. Will discuss what's gone wrong, what we can do to help them and introduce some native fish.

Problems – taking away cover and protection, increase in flash flooding, taking away food source, increasing erosion, increasing sedimentation. Poor clarity prevents fish from seeing food and may prevent migration. Sedimentation smothers food and hiding places – rocks on bed of stream smothered and no longer available. Research this year on effect of dams installed 400 years ago on stream life. Sedimentation caused by dam has destroyed trout spawning sites, even though dam now removed. Sedimentation doesn't go away!

Culverts and dams have prevented migration – block stream so no new fish can migrate upstream.

Animals on the land – effluent and urine. Nitrogen takes a long time to get out of water table once in – 50 years of backlog for most of our rivers and streams.

Nutrients not a huge deal for fish but problem is algal growth.

Macroinvertebrates like small amounts of algae but not a lot. No macroinvertebrates = no fish. Stop banks and engineering of rivers – removes suitable habitat, speeds up flow, remove meanders and back water – important for fish.

Introduced fish – trout – a lot bigger than most native fish. Out compete and eat native fish.

Whitebaiting and eeling – just one more pressure on top of everything else. Four out of five whitebait species threatened, and one species of eel.

Notes from Stella's presentation continued...

What can we do about it – stop whitebaiting and eeling – most native fish predicted to go extinct in 50 years time. Stop for the moment to bring back up to sustainable levels.

Fencing off the streams – stops animals destroying bank and direct deposition into water. Reduce stocking numbers. Can just let grass grow, don't need to plant up. Dense grass is perfect for whitebait spawning.

Planting – shade, food, hold banks together, less sedimentation.

Don't have to pour everything into rivers – input onto land, reduce the chemicals you use at home, think about what you put down the drain.

Remove perched culverts, better engineering – small pipes = scouring downstream.

Remove stop banks – create swamp forests and wetlands instead of armoured walls and heavily engineered banks.

Plant up marginal land with crops – Manuka, pine

Sedimentation more problematic – can't get rid of it once it's in.

Can't go back to where we were before civilisation. Need to work with what we've got and what we need.

Banded Kokopu – only whitebait species not threatened. No scales, thick skin. Has a white mark next to the dark mark by its gills. Square in cross-section, banded (especially when young) but not always when older. It's a lurking fish – hang out in quiet water at night waiting to feel vibrations of something. Thick fins at back of body help fast acceleration. They are gluttons – will eat each other. Super tough – spotty patch where they have had an abrasion (bite from an eel, etc.). Lateral line – sense vibrations (all fish have this). Banded has a second line along the top to detect large insects that land on surface. Extra pores on head to detect movement around head in the dark.

Fantastic sense of smell. Four nostrils, disconnected from throat, used to detect chemicals in water. Can smell what's coming down toward them. If adults up stream, young know that it's a safe place to live. Can also smell habitat. Dislike sediment so will swim away from it. Otoliths (ear bones) – like rings on a tree and can count to see how old a fish is. Research on marine fish that they have a dawn chorus. Stella thinks that bandeds sing too – they are territorial and want to keep everyone out.

People think because banded not threatened that they aren't in trouble. In Whanganui – research done in 1940s on a fish found in Whanganui – found it was a Giant Kokopu. But compared it to others found in the area that were very common – these were banded. Now, very few records here. They have gone practically extinct in the area. One breeding population – in a ditch. Just because not threatened, doesn't mean that they are safe. Possibly land use change (deforestation, some dairy), some suitable streams left with bush but these have waterfalls so kokopu can't get up them.

They will go to new streams, they don't always return to same area.

Climate change – increasing temperature not good for fish. More droughts and flooding – also not good.

How do we clear sediment? Introduce wood into stream – creates flow diversity. Sand wand – release sediment and then suck it up (used in Canterbury – NIWA Research)

Field Trip Sessions:

1. Wai Care citizen science techniques including macroinvertebrate ID (Wai Care and Healthy Waters)
2. Freshwater fish discovery and habitat requirements (Stella McQueen and Matthew Bloxham)
3. Inanga spawning site saline wedge mapping workshop, including assessing good spawning habitat (Whitebait Connection and Community Waitakere)



Presentation – Aslan Wright-Stow, NIWA.



Aslan has been with NIWA for 15 years. In that time he has worked in aquatic environments throughout New Zealand, encompassing habitats from glacial-fed rivers, to lowland, soft-bottomed streams, to alluvial groundwaters. While he has specialised in the ecology of invertebrate assemblages and invertebrate identification, he has worked on most components of freshwater ecosystems including fish, macrophytes, periphyton, water quality, management and restoration, citizen/iwi science and monitoring lake health (LakeSPI). He has gained considerable project management skills through this work, regularly leading teams on complex projects.

Talk Title: “Citizen science and NZ streams: how reliable is community-based monitoring, what support does it need, and can it lead to improved riparian design solutions?”

[Download Aslan’s presentation here \(1466 KB\)](#)

Notes taken from Aslan’s presentation: by Sophie Tweddle: Freshwater reforms – land and water forum (LAWF) and NPSFM require that regional councils involve communities in decisions affecting freshwater. National strategic plan for science encourages people to participate in science. Definitely, increasingly more room for citizen science in freshwater. Increasing interest at grass roots level – more and more community groups set up to monitor fresh water. Use of volunteer data – 41,000 records across >13,000 lakes.

Notes from Aslan's presentation continued...

Data collected for scientific purposes only valuable if reliable. NIWA study to see how reliable data collected by community groups is, compared to regional council data. Can both groups distinguish between good, medium and poor stream health? 9 sites looked at – 18 month duration – 2014-2015. Both groups monitored same site on the same day. Training provided and kits supplied (not regional council kit). WQ and periphyton collected monthly, physical habitat and macroinvertebrates 6 months.

Temp, conductivity, clarity high agreement and very useful. E. coli (potential for error), MCI, algae % cover and physical habitat visual assessment – moderate agreement. Nitrate (hard to collect, low levels), pH and DO low agreement, not useful.

When thinking about swimability – clarity and E. coli most useful so great that there is some correlation between two data sets.

Engagement through monitoring – monitoring increased knowledge and awareness within community groups. Community groups appreciate professional support. NIWA to develop better tools and guides – SHMAK ID guide app

Citizen Science to answer hard questions – does riparian planting work? Not a lot of background or understanding on how effective riparian planting is so citizen science could help answer this question. Collect information from sites with different planting and that has used different techniques, and across different streams.

Presentation – Kathryn Reeve, NIWA.



Kathryn has worked at NIWA for 10 years. She has 4 years' experience working as a technician in the Freshwater Ecology team, with a background in spatial conservation planning and GIS. Kathryn has been involved in many aspects of freshwater fish ecology research, including whitebait spawning site identification and restoration, larval fish dispersal and taxonomy, fish passage, biotelemetry for tracking movements and dispersal of adult fish and understanding the ecology of piharau (lamprey). Kathryn is an administrator for the New Zealand Freshwater Fish Database and also manages the freshwater fish laboratory in Hamilton.

Talk Title: “Whitebait dispersal: overcoming the hurdles”

[Download Kathryn's presentation here \(3656 KB\)](#)

Notes taken from Kathryn's presentation: by Sophie Tweddle

Conservation of the whitebait fishery relies on dispersal on a spatial scale – macro (oceanic) and micro (freshwater). Is there mixing between North and South Island stock? Looked at otoliths of fish collected to age them. Inanga get smaller from south to north. BOP = 46mm, Buller = 54mm. Fish in BOP spent least amount of time at sea. Fish in BOP hatched later and spent less time at sea. Spread of propagules suggests that there is limited mixing between north and south island, but degrees of mixing within areas. Results show that whitebait from different regions have less dispersal than first thought.

Notes from Kathryn's presentation continued...

What happens in north-east, stays in north east. So to manage the Auckland fishery, manage what is in the Auckland area. Barriers to upstream migration biggest issue. Access to and between habitats key. Poorly installed culverts or weirs biggest problem. Tide gates – high water velocity and blockage. Best to not install structures but if required, follow stream simulation design approach.

Put objects into streams – fish ladders, stream baffles (reduce water velocity), spat ropes, fish passes and by-pass channels. One size does not fit all and must be tested. Monitoring is required – upstream/downstream, before/after, quantitative. Fish passage guidelines coming soon from NIWA!

Questions – when introducing species, should you introduce from same area? Depends on species. Inanga, yes, other fish maybe not as may spread more than inanga (study subject). Nutrients going into sea, is that feeding plankton in the sea that is feeding whitebait as big catches this year? Possibly, definitely increased algal growth out at sea, especially with global warming.

Reporting information, figures given as limits really confusing. What limits should community groups be using (especially for nitrates)? Seems to change depending on who is reporting it. High level, driven by government. Does need to be consistent.

Presentation – Kim Jones, Whitebait Connection.



Kim is the national coordinator for the Whitebait Connection programme and a trustee of its founding trust the Mountains to Sea Conservation Trust. She's been involved in community conservation engagement since 2003 delivering Experiencing Marine Reserves (EMR), and founding the Whangarei 'Drains To Harbour' stormwater awareness campaign and Mangrove Discovery Programme. She is a graduate of Environmental Management and Conservation and most recently has been very involved in Inanga Spawning site location and restoration founding the National Inanga Spawning Programme thanks to MBIE Unlocking Curious Minds funding gained this year.

Talk Title: "National Inanga Spawning Programme – Inanga/Whitebait – What, Where, Why, How"

[Download Kim's presentation here \(14737 KB\)](#)

Notes taken from Kim's presentation: by Sophie Twedde
WBC running since 2001. Catchment restoration and community engagement. Whitebait as the hook. Connection to a world much wider than our own. Take people down to experience local freshwater environment so that they can get involved. National inanga spawning education programme – MBIE funded. New resources available to everyone, on website www.whitebaitconnection.co.nz

[Go straight to the Inanga Spawning resources page here](#)

Notes from Kim's presentation continued...

Whitebait collective term for five species of fish. Inanga smallest. BK only one not declining but can't climb barriers. Lifecycle – sea and water. Run through presentation – stages, eggs (eye dots at 2 weeks), larvae (blind, egg sack attached to them, float towards light). Once developed, eat phytoplankton, hang out in groups (other galaxiids don't). Inanga natural predators – heron, fish – critical biomass – important link in ecosystem.

Watched spawning video.

<https://www.youtube.com/watch?v=dnBbrijbmT3Y&feature=youtu.be>

Inanga don't swim too far up catchment, not great swimmers. Small spawning habitat. The 'love zone' where saltwater meets fresh. Great gains for restoring a small area of the river/stream. Bank really important – gentle slope, not steep bank. Having good vegetation also important – dense/rank grasses and some shade.

Introduced predators – slugs, mice, fish

Damage to spawning habitat – fewer good banks and less overhanging banks. Stock damage, erosion, man made changes, barriers.

Artificial spawning habitat (hay bales), planting, fencing, pest control. Can all help restore and encourage spawning at site.

Presentation – Shelley Hackett and Rachel Griffiths, Wai Care.

Talk Title: “Inanga Spawning Project in Auckland”

[View Shelley and Rachel's Prezi here](#)

Shelley - Since qualifying with a degree in Countryside Management at Aberystwyth University in Wales in 1996, Shelley has been lucky enough to follow her passion for the natural environment and work on a variety of environmental projects in Wales, England, Ireland and New Zealand. Since returning to NZ in 2002 she has had her own Environmental consultancy and worked as an Environmental Educator on a number of great programmes run by Auckland Council, including Wastewise, Trees for Survival, Community Shellfish Monitoring and finally Wai Care.

Rachel - Rachel has been an environmental educator for over 10 years. She has worked largely in the community engagement, citizen science and education space with schools, community groups and landowners in the Auckland Region, most recently helping to coordinate and deliver community engagement and citizen science programmes such as Wai Care (a community based freshwater monitoring engagement programme), Community Shellfish Monitoring and Learning Through Experience programmes. She is passionate about community engagement (and empowerment) around environmental issues, particularly with riparian restoration, water quality and aquatic ecology.

Notes from their presentation:

Rachel and Shelley chose not to present at the hui, as time was running short on the day. Please have a look at their Prezi – it is fantastic and a taste of what Inanga Spawning Projects they have been up to in Auckland in collaboration with many stakeholders.



Presentation – Matthew Bloxham, Auckland Council.



Matthew has worked as a freshwater practitioner for around 14 years including 8 years with Environment Bay of Plenty. He is interested in practically all aspects of freshwater ecology but his primary interest is in stream restoration ecology.

Talk Title: “A future for native fish in Auckland”

[Download Matt's presentation here \(7236 KB\)](#)

Notes taken from Matt's presentation: by Sophie Tweddle

Intro to: Auckland Council Biodiversity Team. Annually 10km of stream lost to consented stream reclamations. Mike Joy – native fish extinct within our lifetime? Stock take of Giant Kokopu made Matt re-evaluate his opinion on this as not many found. Grayling extinct – disappeared early 1900s. Don't know why. Huge land reclamation and exotic fish introduction but disappeared on west coast before introduced species got there. Don't know what tipped the balance. Could be a combination or one particular thing.

In Auckland, opportunity to improve streams is mainly habitat restoration. Usually rehabilitation as can't get them back to how they used to be. More sensitive species might not be a help though. Concerned less about species on limits of distribution but those who were once widespread and now aren't. Short-jaw, giant, inanga, lamprey and black mudfish priorities for AC.

Notes from Matt's presentation continued...

For species recovery, what are critical bottlenecks? What do we need to do to recover a species?

Mahurangi Tech have mastered captive rearing of giant kokopu – manipulate every stage of lifecycle. Can then use fish to replenish natural population but need population to be self-sustaining. May have to reintroduce several times.

Short-jaw kokopu - 4 populations, all within regional parks. None have migration barriers. Fully protected so why would we want to do anything? Piha stream, Hunua, Karamatua. Like deep pools with large substrate. Gregarious fish.

Small populations even in strongholds. What happens if you have one big flood?? Takes out a whole population. Galaxiid bottlenecks – spawning and larval stage. Ensuring spawning success is the key for these species. What impact will have global warming have on these populations?

Land locked populations – what if we could exclude the oceanic phase? Introduce some species above reservoirs. Only if food source and pest fish excluded. Builds resilience as you have a safe population. Banded kokopu have had great success in Waitakere reservoirs.

If not much genetic variation can use fish from other stocks to help restock.

Giant Kokopu – 30 known sites. Revisited 25 sites. No fish found in any of those sites. Historical records, few fish per site. If still present, likely to be in small numbers. Lowland species, can climb but love deep wetlands. Love sitting under things and ambushing prey. Streams default habitat but if lack woody debris to hide under, limits their potential habitat. Takes a long time after restoration. If inanga outnumber giant kokopu as larvae, suppresses their numbers. Forest galaxiids spawn within their adult habitat during a flood event. Very hit and miss.

Once find a site, intensive predator control. Mice and rats. This has to be forever. Also issues with sediment inflow and trampling.

Presentation – Craig McIlroy, Auckland Council.



Talk title: “What Auckland Council is doing to improve water quality in the Auckland region”

Notes taken from Craig’s presentation: by Sophie Twedde:

Healthy waters, formally Stormwater. Marriage between Stormwater (which has good budgets and political support) and wider responsibility to improve Auckland’s waterways. Have budget, have support, can make a difference. Craig’s role to provide support to staff. Someone has to own healthy water issue. List of departments dealing with water long, so one department has to be accountable for the problem. Needs community to help resolve the issue. Need massive community support to ensure that projects work.

Notes from Craig's presentation continued...

Region is now going to be broken down into 10 macro receiving environments. Each macro will have own issues. Put together plans for each receiving environment, 4-year cycle (political cycle). Revisit plans every 3 months to assess results and keep checking back. Need political support to get resources. We want to put work out into the community – different business model going forward.

Number of budgets already decided – community science, working with local boards. Also, driving Council input into the National Policy Statement for Freshwater Management (NPSFM). Proactive rather than reactive. Community wants water quality outcomes but not everyone wants to pay for it so have to be targeted with what we fund.

Keen to put effort into website and keep everyone informed. Collaborative initiative between Council and the community.

Questions:

Citizen Science – what commitment have Healthy Waters made to citizen science? Happy to support people with Wai Care, want to know what people want.

What level will our input be taken in at? Who is going to be supporting us and who is listening to what we are saying? We need a commitment from healthy waters to not only take what we had, but to grow resources, not cut them. We need further support not less. The only way we'll get any traction is to have more support.

Will be meetings coming up with community groups to ask them what they want from Healthy Waters and to do a stocktake. Nicky Nelson happy to be contacted if community groups have any questions. Challenge is there – support communities. Council wants a collaborative approach. Leverage off what's already there – Project Twin Streams great example.

Community have lost contacts and don't know who to contact now. Craig – we have handled communication poorly and are working on that now. We will resolve this shortly.

What if we have bad results and feel like Council is not listening to us? Nitrates around Pukekohe. Is Council going to be taking leadership on this? Craig – Waikato is a good model to follow. Still getting ourselves together but will be coming up with good plans that are collaborative.

Workshops will be coming shortly.

Closing...

In closing, we all agreed that we had learnt new things at the hui and met new people that we would be staying in touch with. Many agreed that they also had newly inspired actions to move forward with for freshwater. We were encouraged to provide feedback on the evaluation forms as a worthwhile way for the organisers to assess the effectiveness of the day and for planning future events and actions. Acknowledgements were made to the people that made this day possible:

- ❖ All of our speakers for giving up their time to come and contribute their expertise and passion to this kaupapa.
- ❖ Our facilitator, Megan Beard, who did such a great job of keeping us on track and engaged.
- ❖ Our caterer, Claire Inwood and her team, for keeping our minds and bodies nourished all without using any non-biodegradable or re-usable resources.
- ❖ All of the participants for taking the time out of their busy schedules to contribute to this kaupapa, special shout out to our two students from Kristen School for coming and inspiring us with their vision for the future.
- ❖ The organising crew; Sophie Tweddle, Shelley Hackett, Rachel Griffiths, Stacey Bensemman, Megan Beard, Belinda Studholme and Kim Jones.
- ❖ Sophie Tweddle for doing an amazing job of taking minutes on the day.
- ❖ Our sponsors of the day: Foundation North, Department of Conservation and Auckland Council Healthy Waters.

The hui was then closed with a karakia from Tamati Patuwai of MADAVE. Thank you Tamati for doing this so eloquently.



What Now...

As an immediate action that the Whitebait Connection has taken – the Inanga Spawning resources were put up on the website on the Friday following the hui. To help address some of the barriers/gaps identified during the workshop sessions:

- ❖ Proceedings were written up ASAP
- ❖ The list of funds were collated and included in the proceedings (**Appendix Two – Page 35**).
- ❖ We have had follow up discussions with many participants and look forward to connecting again soon.

See Appendix One (Page 25-33) to view the evaluation results.

[Click here for the list of participants \(686 KB\)](#)

Given the response from the feedback we will be working together with the 2016 hui participants to hold another hui in 2017 and to keep working on the actions that were identified in the workshops – we hope that you will all join us. Please keep in touch – we'd really love to hear about any actions that you take for freshwater or if there is any opportunities for future collaboration – sharing stories and celebrating successes! Mauri ora.

We'd like to close off with this whakatauki from Whitebait Connections' Trust (Mountains to Sea Conservation Trust) and a panui on the following page about an event we have happening in April 2017 that you may like to join us for at the beautiful Te Kiri marae in Leigh.

***Whakamana te maunga Whakamana te wai He mauri o ngā tangata
Ngā mea katoa he pai***

***If we look after the water from the mountains to the sea, it will look
after us. It is our life force.***





Mountains to Sea Wānanga Conference 2017

Friday 21st April – Sunday 23rd April 2017

Omaha, Te kiri Marae, Leigh, Auckland



www.whitebaitconnection.co.nz

Theme "Citizen Science" for marine and freshwater conservation action and education"

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 and projects around science communication
- 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 citizen science

Wānanga registration will include

- powhiri at 11am on Friday 21st April
- marine & freshwater keynote presentations **from Victoria Metcalfe and Sally Carson**
- fresh wholesome meals and marae accommodation over the 3 day conference- wānanga
- idyllic scenery at the location of New Zealand's first marine reserve
- marine and freshwater field trips including local conservation initiatives and attractions
- 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
- an additional 1.5 days of specialist training workshops for Experiencing Marine Reserves & Whitebait Connection coordinators prior to the wānanga (Wednesday 19th and Thursday the 20th of April)

Previous wānanga proceedings <http://www.emr.org.nz/index.php/events/55-annual-marine-and-freshwater-wananga-conference>

Registrations essential \$390 earlybird waged professional \$290 earlybird non waged/student/teacher/NFP

For more information and registration forms contact

Kim Jones (09) 425 5681 or 027 243 4818 or kim@whitebaitconnection.co.nz

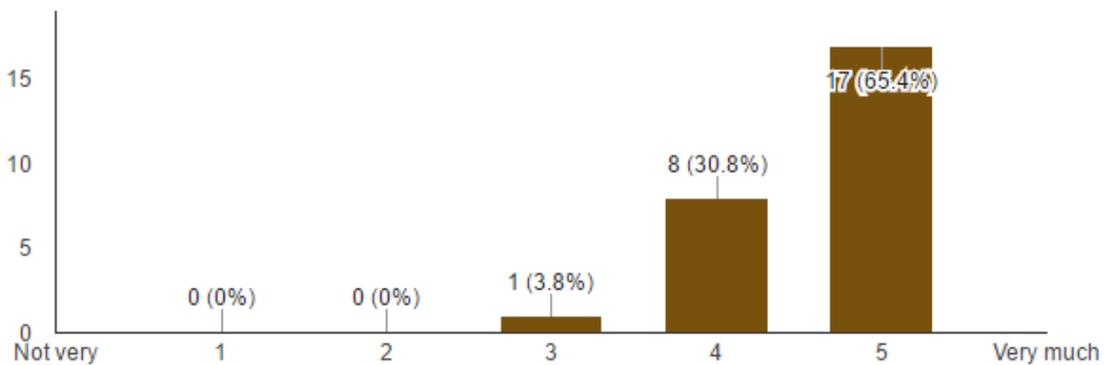
Mountains to Sea Conservation Trust would like to thank the [Tindall Foundation](#) and DOC Community Fund for funding support.



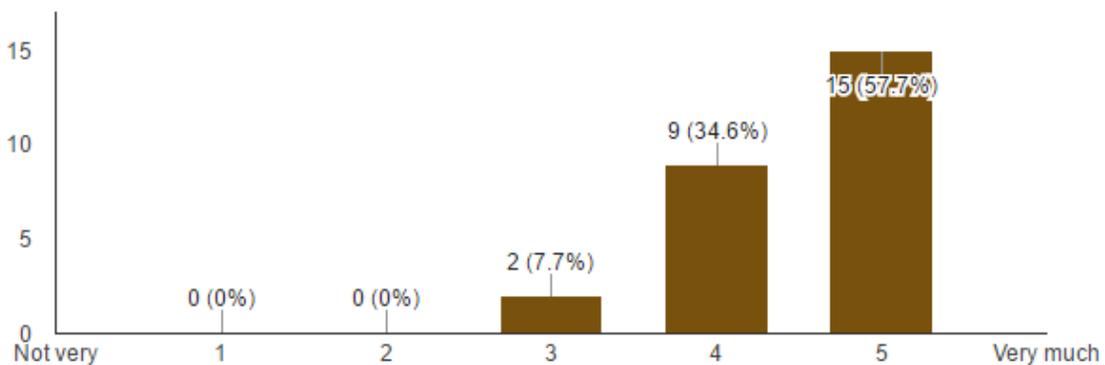
Appendix One – Evaluation Results

18 participants provided feedback

How satisfied were you with the hui? (26 responses)



How relevant and helpful do you think it was for your freshwater work? (26 responses)



Evaluation Results contd...

18 participants provided feedback

What the key points/messages you will take/have taken away from this hui?
(please share at least one)

(18 responses)

That There are great opportunities in this space to work collaboratively to take action to raise awareness for our native fish

Importance of inanga spawning sites and the problems that silt buildup in the bottom of stream causes

Great calibre of speakers

Connection and sharing knowledge to improve process

That there are lots of other groups which have similar challenges. Need some way to facilitate sharing between community groups - learning from eachother's challenges and successes.

All of the messages were great and I learnt so much. For me, communication and co-ordination with everyone at the hui is very important in the future of the freshwater environment and its protection.

How to "hook" into students interest in freshwater ecology

There is a large amount of concerned and competent people in Auckland.

Great to meet up with everyone else working in this space.

Dawn chorus under the water!

There is a groundswell of people that would like to do something but need direction or advice.

I was impressed by the number of people who have similar concerns and approach the issue from different perspectives. I was also impressed by the dedication of the people who have in essence spent their entire working lives working to improve the environment. The negative side of the story is the degraded environment and the endangered species signaling how much work needs to be done.

More support and money for community groups is required and more collaboration between professionals, community and Council.

The main benefit for me was about connecting with people and finding out how I can best galvanise the Forest & Bird branches into freshwater conservation

sharing your ideas and problems with your fresh water projects is essential to move forward and achieve results. The feedback at the hui was so valuable.

A lot of good people working in this area, keen to be involved

A growing community of knowledgeable people and groups committed to the kaupapa.

A sense of concern rehabilitation is less than restoration.

A determination that our community engagement techniques and processes are a powerful way forward.

That Inanga and Kokopu need us!

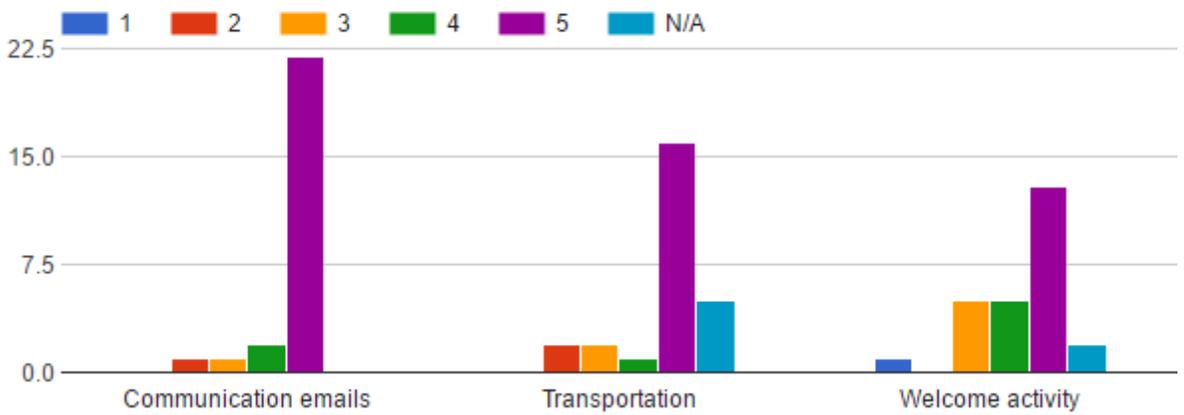
the support for our work, and the enthusiasm to work together

Inanga spawning monitoring techniques - will do this. and info on different Galaxiids habitats - will share this.

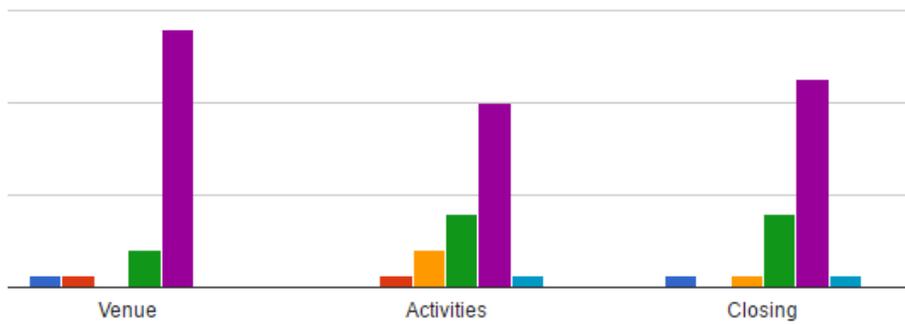
Evaluation Results cont...

18 participants provided feedback

How satisfied were you with the logistics?



How satisfied were you with the logistics?



How satisfied were you with the logistics?



Evaluation Results cont...

18 participants provided feedback

Additional feedback on logistics (15 responses)

Everything ran smoothly thanks to the organisers

A map displaying the route to Pixix creek. It was so simple but we followed cars heading west and got a little lost. With our ending off in the wrong direction we would have got there faster walking.

Mediator (Megan) was great!

Thank you for the care that was taken from the beginning of the process- contacting those keen to learn and share more, to the ease of registration & inclusion of online map, the clear and cohesive timetable of the days events through to the actual presentations & on hand experience.

A bit more time for group discussion/putting ideas on paper would've been better.

Whole day ran very smoothly, it was perfectly timed with the different events

Was confused by the brainstorming workshop and what its use would be. Also didn't feel that a participant's question was answered.

A very well run and informative event good to get groups together

The icebreaker meant I stood next to the people I worked or live with :-)

The important thing is that it happened. I can't fault the day itself. The nature of follow up will be interesting.

be great if could be held on a transport hub, near a train station?

Facilitation was great

It would be really useful to have photos attached to a list of people who attended (with permission of course). Obviously a pain logistically, but would be really useful

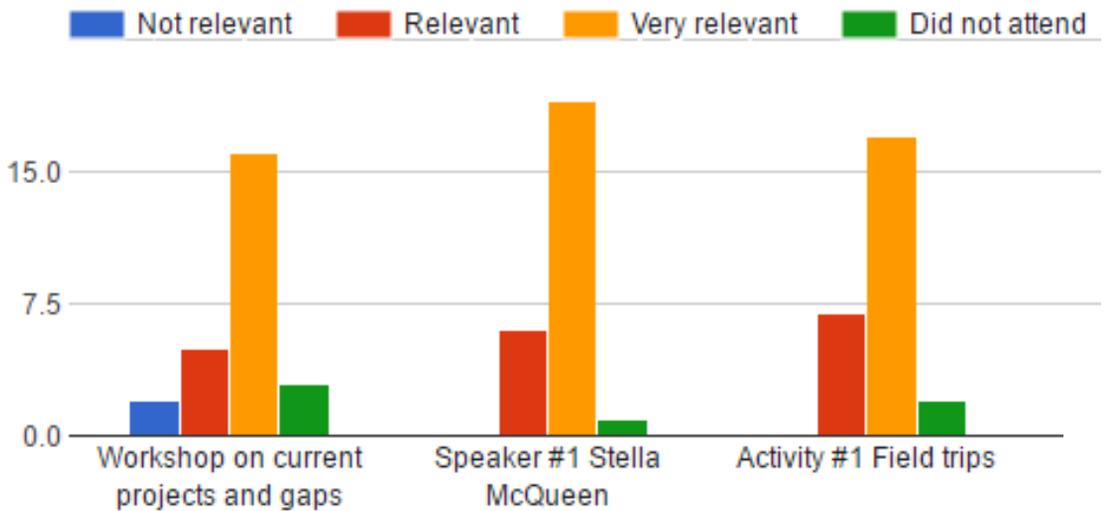
This work deserves a highly coordinated and comprehensive engagement process. More time to get to know each other. A range of views and approaches would've been appreciated. There was a bit of repetition throughout the presentations which shows the narrow themes on offer. Maori worldviews are potent. Community groups views and their own valuable cultural distinctions are worthy of listening to. The venue was squashed and stuffy.

there was no karakia but it was in the agenda, required more time for the workshopping in the morning and also clear guidance to what the information was to be used for. Great logistics with the short presentations and questions but ran over time.

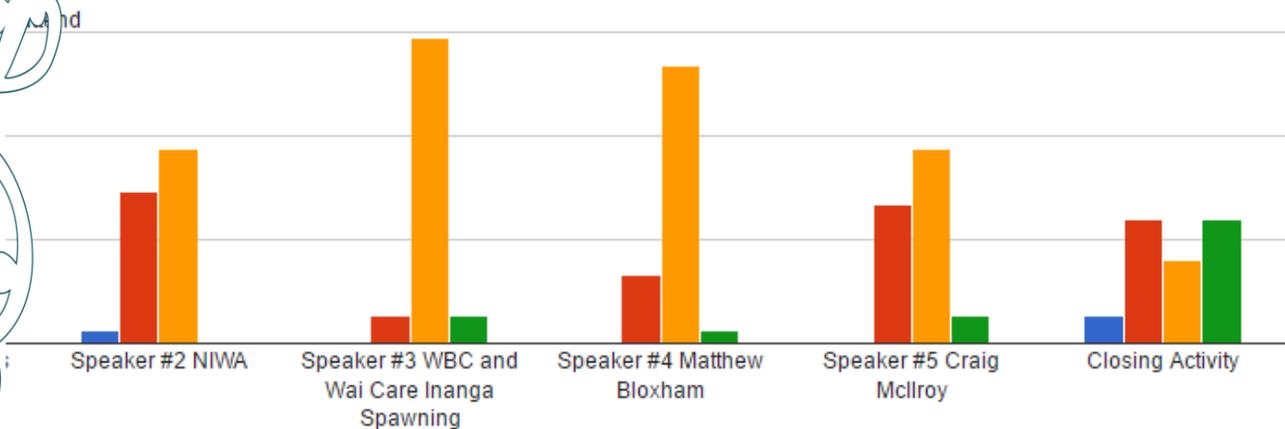
Evaluation Results cont...

18 participants provided feedback

Which sessions did you find most relevant?



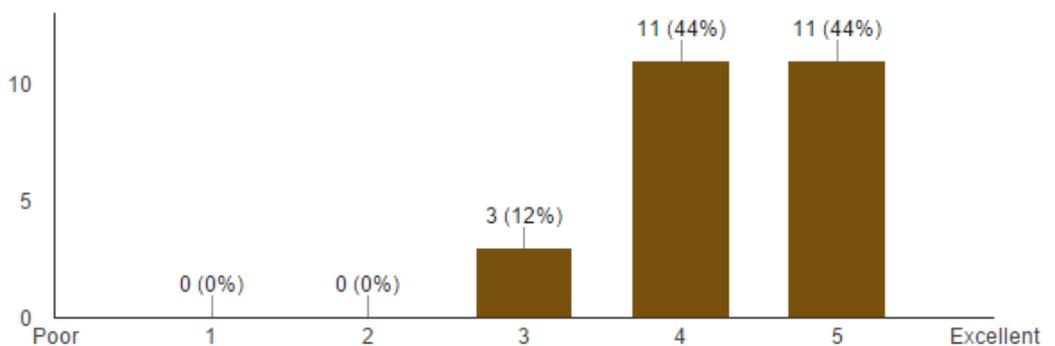
Which sessions did you find most relevant?



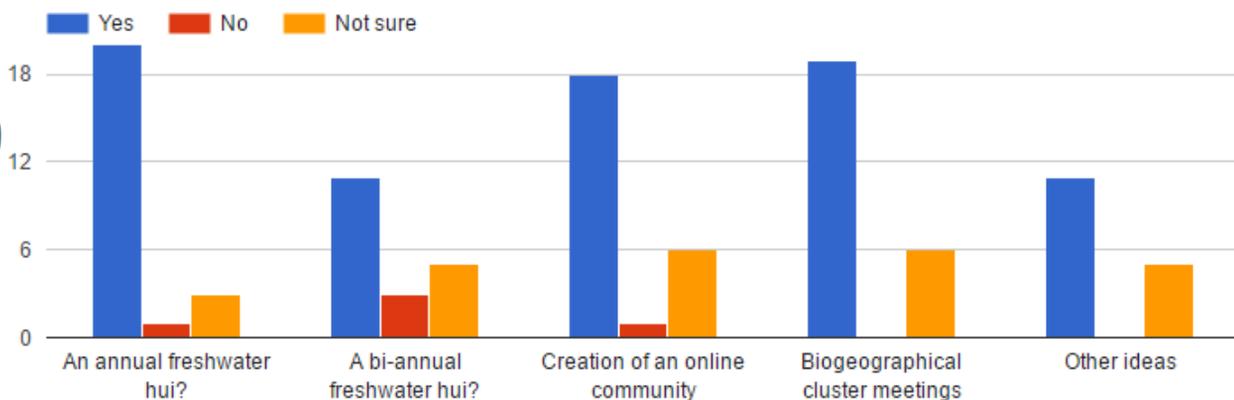
Evaluation Results cont...

18 participants provided feedback

How satisfied were you with the session content? (25 responses)



Do you think there should be similar events in Auckland in the future?



Evaluation Results cont...

18 participants provided feedback

If you chose 'Other Ideas' in the question above please share your idea/s with us in the space below...

(11 responses)

Being kept up to date with latest research/science is really important - if this can be accomplished in an annual hui?

Would be great to have an even longer session, like a mini conference (more people could talk about their projects)

Similiar set up to The Sustainable Society Green drink gathering maybe every quarter

Maybe one annual freshwater hui and one geographical.

Student, tamariki input from as many 'Fresh Water Carers' our puriwahi keen to share and develop their understanding: kindy-University

I have prepared a paper seeking suggestions on a proposal I have developed and will distribute to participants to gauge interest.

I am not an expert in freshwater, far from it. I wheel and deal with weed control, replanting etc... but am at a stage where I am somewhat limited to self learn about freshwater species, but would like to. I would be keen if an informal group of experts, keen enthusiasts and beginners such as myself could meet socially, with a local stream in mind to 'geek out at'. Going away to a stream even for a couple of hours once would set many I think - out of the track to useful self learning. Those new could learn tips and techniques, importantly how to safely handle wildlife or use equipment properly. Even where to get equipment would be useful. Perhaps something like a simple 'Meet Up group' or a freshwater network facebook closed group for keen geeks with a little time on their hands. Members could invite their colleagues, or passers by through facebook - keeping skills and enthusiasm bubbling. ????

I think it would be also beneficial to share info from riparian planting groups like Trees for survival

I mentioned above. More time to wananga and to hear differing angles and takes on the situation. Cultural, community ... the software, the stories, the people. This approach can give support to the work. MAD AVE is here to help.

I would definitely endorse regular meetings. Perhaps start a Freshwater collaborative forum? have meeting every 2 months to discuss our one goal unites us and smaller groups working to achieve these goals and how tracking and space to propose new ideas. I think things are always achieved best collaboratively, and if we have regular meetings more likely to complete our goals.

An Auckland working group to progress things from the hui's and online forums.

Evaluation Results cont...

18 participants provided feedback

Any additional comments or overall feedback regarding the sessions or overall agenda?

(14 responses)

The passion of the "fresh water team" is infectious. Keep up the great work!

Auckland Council Healthy Waterways/Biodiversity teams should be leading and financing this. As they haven't, it is great that Whitebait Connection have led it. However it should be funded by AC not the Whitebait Connection. P.S. Keep the caterer.

This was an excellent day and great to have a variety of like minded people in the same room, this does not happen often!

Great way to make contacts. Seamless integration from one activity to the next. Thank you for allowing time for all to question, confirm understanding. TUMEKE!

A very enjoyable workshop, thank you! A couple of comments: I would've preferred a slightly less packed agenda and more time for questions. Things felt a little rushed at times. I also feel that greater representation from agencies that make the rules around freshwater protection, urban planning, engineering etc (i.e. the powers that be) and can also support community action would have been appreciated by participants. I look forward to hearing what happens to the comments and feedback put forward at the workshop.

Majority of day was superb, very informative. However for me as a teacher the first part of the day was interesting to listen to but was not really relevant to me

I was very impressed. Communities want to help just show them how.

Would have been good to have media present. Not sure if they were asked and didn't turn up... probably.

Completely satisfied - learned a great deal. Any additional content would probably have been overload. The goal now is to produce tangible outcomes in the aftermath.

I certainly believe more thinking around collaboration, and meetings such as these are critical for the future. A key memory of the hui was at the beginning there were several discussions where individuals seemed to really be thinking about 'competition'. Yes everyone is a trust, or has a project that needs funding - but it is only if we use Outcomes based thinking we are going to get anywhere! I think one central forum where all can connect, and connect to Craig McIlroy from Healthy Waters is key. I reckon a brainstorming activity specifically about how all groups and projects can be supported in the future without competition would be good in the future. Get people to start really innovating how everyone's collective goals can be achieved. Perhaps it lays in the hands of corporate sponsors, greater roles as advocates to the public (of which all at the hui has a huge potential to be) or indeed with feedback to Healthy Waters. hmmm

The Hui was great in the fact that the spawning site info and talks from Stella etc gave everyone some support for what they are doing, or new ideas to implement. I can see that every time at future Hui. Overall a great introduction, interesting information and hopefully a big jiggle to people on how we can work together for the future.

P.S - I work for a trust that in turn works with several neighbourhoods across Auckland, covering many local streams. I would say almost all are either doing something with freshwater or wish to in the near future - could someone by any chance contact me (fionasmal@gmail.com) and talk through how I could go about purchasing one of your monitoring kits (yes I know expensive!) as I reckon sharing one around will keep the components in the kit fresh rather than wasting away. We could probably be using it every month on rotor :) Thanks!

Thank you for the wonderful opportunity to attend the Hui - great facilitation :)

Really excellent hui - well done.

Fantastic way to network bring different groups of Council and community together.

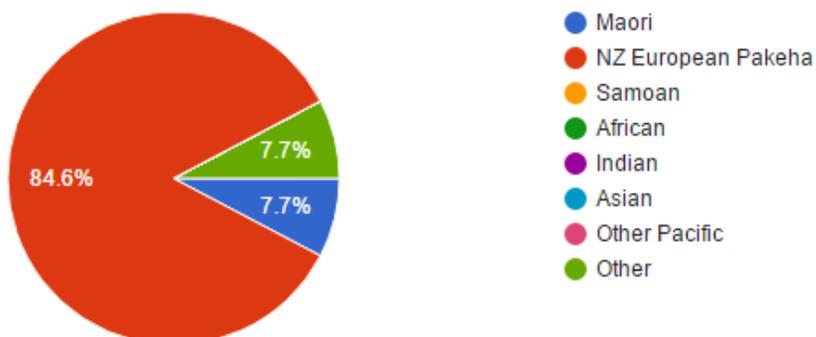
excellent variety of attendees from various orgs. but very few southern Auckland attendees

Stella and Kim's outdoor sessions for me needed more structure - e.g. talk us through the identifying inanga spawning habitat process

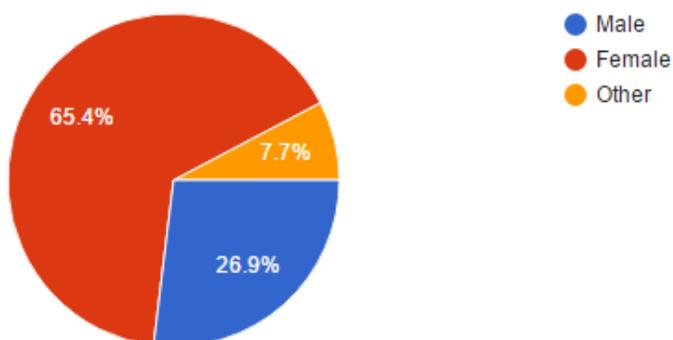
Evaluation Results cont...

18 participants provided feedback

What ethnicity do you most identify with? (26 responses)



What is your gender? (26 responses)



Appendix Two - List of funds available for freshwater – ideas from hui registration:

- Pub Charity
- Lotteries Environment and Heritage Fund
- Foundation North
- Ministry of Business, Innovation and Employment (MBIE) - Unlocking Curious Minds
- Million metres
- Fish and Game to create wetlands
- Youi - Raised \$2,400 for recent July planting. Aim to raise \$10,000 through Youi for next season activities. Believe that would be possible to raise millions for eco activity through corporate approaches.
- GIFTproject
- Crowd funding
- Wai Ora
- Whanau Koha
- Corporate donations.
- Department of Conservation (DOC) – Community Partnerships Fund, Nga Whenua Rahui
- Ministry for the Environment (MFE) – Community Environment Fund (CEF)
- Morgan Foundation
- Tindall Foundation
- Various Auckland Council funding opportunities:
environmentalfunding@aucklandcouncil.govt.nz
<http://www.aucklandcouncil.govt.nz/EN/newseventsculture/communityfundingsupport/Pages/findagrants.aspx#367>
 - Waterways protection fund,
 - Local board funding,
 - Community and Heritage Fund
 - Auckland Council LDI volunteer programme - funded by each local board.

Appendix Three - Freshwater Restoration Projects by Map Location

(Please note: this list is not comprehensive and only lists projects noted on the large-scale maps at the Hui):

North

Mahurangi River - inanga spawning site restoration project – Whitebait Connection

Snells Beach Stream – Identifying inanga spawning location – Whitebait Connection

Okura River - in catchment area for Long Bay Regional Park and Okura Estuary Marine Reserve – preserving, restoring and protecting these valuable areas – Friends of Okura Bush

East

Omaru River – restoring the Omaru River through Glen Innes – Mad Ave Community Trust

Puhinui Stream – restoration and clean-up of the Puhinui Stream through Manurewa and Manukau – Wai Care and Manukau Beautification Trust

West

Oakley Creek – Riparian restoration and preservation – Friends of Oakley Creek

Anamata Stream - rural neighbourhood stream restoration project

Waitahurangi Stream - Shadbolt Reserve restoration – Friends of the Whau, Whau River Catchment Trust and Community Waitakere

Whau River - Kurt Brehmer walkway – restoration of 1.5km of streamside walkway along the Whau River – The Whau River Catchment Trust

Whau River - Archibald Park – native planting alongside Te Whau pathway – Te Whau Pathway project

Waitakere Streams – restoration of riparian vegetation within the Henderson Creek catchment - Project Twin Streams, Community Waitakere

South

Mauku and Whangamaire Streams – riparian restoration project – Whakaupoko Landcare Trust

Awhitu Peninsula – restoration of coastal dune systems and preservation of remnant bush – Awhitu Peninsula Landcare

Wairoa River – restoration and fencing along the banks of the Wairoa River near Clevedon – Wairoa River Landcare Trust