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FROM THE CHAIR

Kyle Christensen

WELCOME to Issue 17 of the Rivers Groups Newsletter, "Flow", our first for 2017.

In this message from the Chair I'm going to provide a summary of the full day face to face meeting that the committee held in February.

The purpose of this meeting was to -

- evaluate our performance across our five objectives;
- consider feedback from the membership survey;
- identify current and future issues in NZ River management; and
- based on the above, programme our activities for the year and appoint committee members to be responsible for delivering these actions.

I provided a summary of the performance across our five objectives in the last newsletter, which was consistent with the views of the rest of the committee.

In terms of our short comings in Objective 4 (see <http://www.ipenz.org.nz/riversgroup/About.cfm> for details) we are aiming to have stronger links with the NZ River Managers Group which has representatives from all Regional Councils across the country as well as with Territorial Authorities through closer interface with our co-umbrella organisation – Water NZ. For Objective 5 we considered that this is too bigger task to deliver on our own and recognised that the Ministry for the Environment have a full time team working on this. Notwithstanding this we are very pleased that this years' symposium <http://isrs2017.com> is being jointly hosted by the Waikato River Authority, which is a great success story of integration of the values of the Treaty of Waitangi through co-management on a large catchment scale.

Key themes we picked up from the membership survey was a desire for more afterwork regional events as well as technical workshops and less interest in our support of research. To reflect this feedback we have reduced our annual research support by \$4,000 and redirected these funds towards holding more events. Some of the events we have planned for the year include – Modelling for Non-Modellers, Introduction to River Styles Framework, Fish Passage (replacing culvert workshop), Geomorphic Change Detection as well as 10 regional events across the country.

Other key issues we identified as important included managing the margins of large rivers, water quality in urban and rural environments and the interface between stormwater and rivers/streams.

These are broad issues covering a wide spectrum of interests and organisations across the country but we believe the events and networks that we are creating will help facilitate discussion and input into key pieces of national policy.

We are also working on a members only section of the website which will hold a library of key technical resources as well as leading the development of national guidance of application of freeboard in design.

To deliver the above activities for the year I am pleased to announce the following committee positions -

- Kyle Christensen – Chairman & Symposium Sub-Committee
- Mark Hooker – Deputy Chairman & Membership
- Sarah Basheer – Technical Secretary
- Laddie Kuta – Treasurer
- Brian Kouvelis – Newsletter Editor
- Jon Tunnicliffe – Contestable Funds
- Simon Newton – Students & Graduate Members
- Jo Hoyle – Website & Symposium Sub-Committee
- Sjaan Bowie – Regional Events
- Graeme Campbell – Central/Local Government Relationships
- Vicky McEnaney – Water NZ Liaison

I will also take this opportunity to accept the resignation of Mark Pennington from the committee. Mark has been involved since the inauguration of the group in 2009 serving on the committee for close to eight years with three years as Chairman. Mark has put an enormous amount of time and effort into the group through organising conferences, field trips, regional events, integration with the Water NZ Stormwater Group and leading the front on promoting the development of NZ Rainfall Runoff Guidelines. I wish to personally thank Mark for his contribution over the past eight years and I'm sure we'll continue to see him at Rivers Group events in the future.

With that I'll sign-off and I look forward to seeing you at one of the many great events we will be holding in the coming year.

Kyle Christensen
Chairman

RIVER MANAGERS WORKSHOP WRAP-UP

Graeme Campbell

Take out points from the presentations

- River Dynamics
- Large Floods
- Risk Assessment
- River Margins
- River Channel
- Other

River Dynamics

- How do you separate human and natural effects and when can we say we have reached an equilibrium from which to assess the next management intervention from.
- What data is going to be the information GOLD of the next century. What data should we be thinking of collecting now that is going to be useful in the future (currently get cross sections and aerial photography so what else?).
- Unless we say we need this data we will not get it. Always a temptation to say we can/have to make a decision on the data we have got but what/who will drive collecting data for the future.
- Ownership of Rivers and the definition of boundaries, with some clarification around accretion claims should be undertaken.
- What do we do to manage the vegetation in the wider corridor concept. There is always a fear by adjacent landowners that the areas will become a weed infested waste area.
- Do we want to manage rivers to a narrower channel even if we can and what will be the decision making process to decide to do so.
- Design Parameters. We should look at establishing a national inventory of design parameters to help in the design process.
- The Rivers Group would like to be kept up to date on where the River Managers Manual "Wiki Site" is up to.
- River Managers work looking at the "Overview of the state of management and the value proposition of New Zealand's river control, flood protection and drainage schemes" should be completed by March 2017.
- Think about the next person who will invariably have to deal with making the next decision.

Large Floods

- Is there the ability to use large flood events to produce a step change? To move towards giving the river the space required? Is this feasible? If this is the approach taken then you need to be prepared and have the response defined and agreed with the community before the event.
- There is an inherent faith by our communities in the engineering works and systems that have been constructed to protect them. Do we, as practitioners, need to be more proactive in communicating to our communities how the river will behave and respond, and explain clearly the residual risk.
- A system's design standard is not necessarily a performance standard and there is still the risk of under design event causing a stopbank failure.
- Maintenance is key in regards to willows.
- Do we need to be looking at alternatives to willows, given their susceptibility to pests, to create more resilient schemes?

Risk Assessment

- Everyone deals with risks on a daily basis and river management is no different. Although risk is a ubiquitous term used in everyday working lives it can be applied poorly. How do we best evaluate, communicate and then make decisions based on Risk? (How can we improve?)
- More emphasis required to identify the nature of risk upfront and to set out the ground rules for dealing with identified risks. Guidance is available in the from sources such as NZ Standards (Risk Management and Managing Flood Risk guidelines) and MFE guidance.
- Important to understand where risk exists and who owns it! Asset Management and Risk Management applications can greatly improve decision making processes and aids transparency.
- Climate Change is arguably the biggest (macro) risk we face and although there is a broad consensus around its existence and the potential impacts there is still challenges in applying factors to account for it and in selling it to communities.

River Margins

- Options around berm/bank management need to be explored further. Willows, and the good science behind them, provide much value in New Zealand's managed floodways; however, work should be progressed on the benefits and feasibility of vegetation diversity and the use of natives in berm/bank stabilization programs along New Zealand's floodways. The relationship between berm/buffer zone and the geomorphology of the active channel needs to be understood in greater detail. This relationship will be to a large extent site specific with grades, geology, vegetation, grain size, hydrology, amongst other factors dictating that relationship. However, efforts to understand general aspects of this relationship should progress to better relate sustainable floodway width requirements to our managed environments.
- A large part of river work design and its success is dependent on the experience of the designer. River engineering lacks specific codes that guide the standard and practice of other engineering disciplines. Efforts should be made to help progress the standard to which river engineering is done. This will not only ensure safer and better designs, but also help in passing on learned experiences to future river managers throughout New Zealand.
- Who pays! When the natural behaviour of the working environment is not understood well enough the risk of failure in any river work design increases significantly. This comment emphasises the earlier theme to allow the river room to naturally behave;

River Channel

- Amenity values can drive out needed works. River managers need to be aligned with policy makers to prioritise river values appropriate for river reaches, i.e. amenity, ecological, or flood protection. And communication is key to community understanding.
- Geomorphological change is much bigger than observed change over a few years, or even a career, how does the "short term" perspective of river managers affect management decisions?
- Time sequencing for channel change and the response for geomorphological change is not well understood in terms of significant events, or potential major river management regime shifts.
- River confinement is likely a bigger influence on channel morphology than upper catchment land use, but both are important. River confinement should be avoided by policy makers and river managers alike – confinement will create ecological and geomorphological problems for the river channel and will lead to costly maintenance for future generations to manage.
- Channel shape and form has effects on adjacent land and water resources. Impacts of channel management have been observed outside of the channel, e.g. adjacent shallow aquifers.

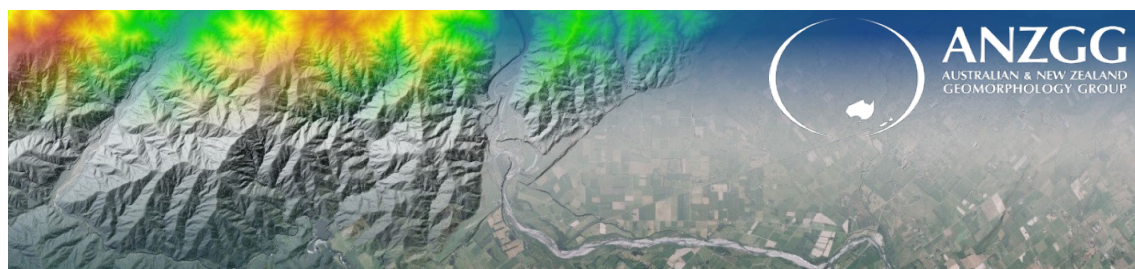
Wrap up Actions for the Rivers Group Committee

- Consider how to facilitate the transfer of Information (recording of successes and failures).
- Consider how we collect and disseminate information (Through the rivers group drop box, LAWAR, Web site as an opportunity to store river data, others?)
- Organise another session on how people have tried to address a particular issue raised at this session and what were the successes and learnings from the use of different approach.

Australian and New Zealand Geomorphology Group Conference, Greytown, New Zealand, February 2017

Sam McColl, Alastair Clement, Ian Fuller, Mark Macklin

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Conference Review

The 17th Australian & New Zealand Geomorphology Group (ANZGG) conference was held in Greytown, New Zealand 6-10th February 2017. The 2017 conference, organised by the Physical Geography Group at Massey University, attracted 83 participants – from Australia, NZ, Japan, China, USA and Europe – who delivered 63 oral presentations and 19 posters. Five of the twelve sessions focused on rivers. These sessions covered applied fluvial geomorphology, channel dynamics, fluvial systems over time, human impacts in river systems, and river habitats and management. Other sessions covered topics including mass movements, alpine processes & climate change, climate and tectonic geomorphology, and coastal geomorphology. The programme was reinforced by four excellent keynote presentations from Jacky Croke (Uni. of Queensland), Graeme Campbell (Greater Wellington Regional Council), Tim Davies (Uni. of Canterbury), and Alastair Clement (Massey Uni.). Each keynote presenter connected with the conference theme 'Integrated Geomorphology' which identifies the value of interdisciplinary linkages and working alongside practitioners to solve problems facing society. In this regard Graeme Campbell's keynote did an excellent job as he discussed, 'finding the balance between the community's desires for affordable flood risk management and a sustainable river environment'. This set up the mid-conference fieldtrip discussing 'room to move' in the Ruamahanga catchment at sites on the Waiohine, Tauherenikau and lower Ruamahanga Rivers. Two mid-conference fieldtrips in fact provided ~70 fieldtrip participants with a taste of the diverse landscape and management issues of the region. While Fieldtrip 1 'Room to Move' toured the Ruamahanga River, focusing on the difficulties and challenges of living alongside active rivers, and the management options, Fieldtrip 2 focused on 'Mountains to the Coast' and began at the famous Pigeon Bush site on the Wairarapa fault, where an astonishing ~18 m of dextral offset of a stream channel from the 1855 Wairarapa earthquake can be seen. Next was a visit to discuss a series of dune ridges that mark the former edge of a water body (Lake Wairarapa; formerly Wairarapa Bay) which has been gradually infilled during the Holocene. Another stop was up Putangirua Stream to view an example of badlands erosion in Miocene conglomerate. For both fieldtrips the final stop was Lake Onoke where participants enjoyed a beverage during sunset. The fieldtrip guides are available on the [ANZGG website](#).



Figure 1: Fieldtrip 1, aside Lake Onoke – where river meets sea. The spit is periodically opened for flood management. (Photo: W. Conley)



Figure 2: Putangirua Pinnacles, Fieldtrip 2. (Photo: K. McQueen)

Certified Environmental Practitioner - Specialist Category in Geomorphology

A forum at the conference, led by Mick Cheetham and Kirstie Fryirs, discussed the development of a professional accreditation system for geomorphologists in Australasia. The outcome of the discussion, and subsequent vote at the AGM, was to proceed in establishing a Specialist Category in geomorphology under the Environment Institute of Australia and New Zealand. This was seen as a positive step for giving geomorphologists in NZ & Australia better recognition and support in their work.

TE REO O TE REPO: THE VOICE OF THE WETLAND

Te Reo o Te Repo – the Voice of the Wetland is an online wetland handbook created collaboratively between the Waikato Raupatu River Trust and Manaaki Whenua-Landcare Research, and funded mainly by the Ministry of Business, Innovation and Employment (MBIE) Wetland Restoration Programme.

Last year Manaaki Whenua and Waikato-Tainui promoted the handbook by interviewing key people in the project. You can find the article and video link in Manaaki Whenua's [Discovery](#) newsletter and [Te Hookioi Waikato -Tainui tribal magazine](#)

The website for the book is : [Te Reo o Te Repo: the Voice of the Wetland](#)

Wetland health

The handbook highlights a range of mahi (work) undertaken by iwi (tribes) and hapū (sub-tribes) to increase the health and wellbeing of their repo (wetlands). Information shared includes processes for facilitating renewed and vibrant connections between whānau (families) and their resources, understanding our cultural resources, and learning from case studies on wetland restoration, cultural indicators, and monitoring, all led by or in collaboration with tangata whenua (indigenous people).

Cultural wetland values

The articles are written by Māori researchers as well as scientists who work with iwi and hapū partners. The handbook aims to provide best practice techniques for the enhancement and protection of cultural wetland values to share with tangata whenua throughout the motu (country). It will also assist local authorities, research providers, and community groups in their understanding of cultural priorities for wetland restoration.



WHAT'S BEEN...

Auckland Student Event and presentation of the Stephen Coleman Prize
December 2016. Review by Jon Tunnicliffe

The University of Auckland's School of Environment and Faculty of Engineering met for the annual River Research @ Auckland symposium, which brought together students with backgrounds in River Ecology, Fluvial Geomorphology, Civil and Environmental Engineering, Mechanical Engineering and Chemical and Materials Engineering. Postgraduate students presented their work in various river domains.

Damian Young (Morphum Environmental) provided an overview of issues, management options, and the role of the engineer in managing Auckland's rivers and streams. Sarah Basheer (Tonkin + Taylor) provided an overview of her work on the Tongariro River.

The Stephen Coleman Prize was awarded to Conrad Zorn for his work on the estimation of peak flood discharges for the Auckland Region. Students, staff and participants from around the Auckland Region enjoyed the opportunity to get caught up on recent developments in river work.



Joseph Chaloner Warman from Watercare is presenting to PhD Student Conrad Zorn
Civil and Environmental Engineering

WHAT'S ON...

An exciting range of events are being planned by the Rivers Group committee for this year as outlined in our Chairman's welcome, these include:

- Nine Regional Events across the country
- Students Events: Auckland, Waikato, Massey and Canterbury Universities
- Fish Passage Workshops
- Modelling for non-modellers workshop
- Introduction to Geomorphology short course
- Geomorphic change short course
- Annual Conference - See flyer below for more information on this year's exciting Annual Conference.

The details and dates of all events to be finalised and advised in the near future.

Apply now for the 2017 Thies International Riverprize

This year, the International River Foundation are awarding a AU\$200,000 prize for outstanding achievements in sustainable river basin management.

With the world in the midst of a global water crisis, the Thies International Riverprize, sponsored by the Bert & Vera Thies Foundation, seeks to recognise and reward excellence in the restoration or protection of freshwater resources.

Any organisation or partnership who has implemented a successful program of activities benefiting a river, lake, wetland or estuary, in any part of the world, is encouraged to apply.

The winner of the Thies International Riverprize will be announced in front of a global audience of river specialists at the Riverprize Gala Dinner, to be held in conjunction with the 19th International Riversymposium in Brisbane, Australia, on 19 September 2017.

Applications can be made online through the IRF website and stage one of the application must be completed by 24 March.

Good luck with your application!

Find out more

International RiverFoundation,
L5, 179 Grey Street
South Brisbane
QLD 4101 Australia
info@riverfoundation.org.au



NZ FRESHWATER SCIENCES SOCIETY ANNUAL CONFERENCE

19-24 November 2017 | Hamilton, New Zealand



In association with the 5th Biennial Symposium of the International Society for River Science (ISRS) and IPENZ/Water NZ Rivers Group Annual Meeting.
In partnership with the Waikato River Authority (WRA)



WELCOME

We are pleased to invite you to the 2017 New Zealand Freshwater Sciences Society (NZFSS) Annual Conference, in association with the 5th Biennial Symposium of the International Society for River Science (ISRS) and the annual meeting of IPENZ/Water NZ Rivers Group. These Conferences are being held at Claudelands Events Centre in Hamilton from 19-24 November 2017, in partnership with the Waikato River Authority (WRA).

CALL FOR ABSTRACTS NOW OPEN

Authors are invited to submit oral and poster abstracts under the following sub-themes:

- Environmental indicators and monitoring
- Freshwater restoration
- Community ecology and biological interactions
- Traditional knowledge
- Environmental flows and Ecohydraulics
- Floodplain interactions
- Ecological resilience
- Bioengineering and biomanipulation
- Connectivity
- Water quality

Abstract submissions close 30 April 2017.
Submit your abstract online at www.imav2017.com

FOR FURTHER INFORMATION
www.imav2017.com

Or Contact On-Cue Conferences
Phone: +64 3546 6330 // lea@on-cue.co.nz

CONFERENCE THEME

“Integrating multiple values”

Working rivers provide a range of goods and services that are important for biodiversity, ecological functions and human use. Balancing these multiple needs is a key challenge for water resource managers, and achieving outcomes that satisfy growing human demands while protecting environmental values is extremely difficult. This conference will provide a forum for sharing scientific and environmental knowledge underpinning management of rivers for multiple goals.

WHO SHOULD ATTEND?

The conference is targeted for a multidisciplinary audience of 300-500 delegates from the physical, natural and socio-economic sciences, as well as those who manage, create policy for and use riverine resources and their associated aquatic environments.

CONFERENCE FORMAT

The conference will include plenary speaker presentations as well as special and general contributed sessions, poster displays, a diverse array of exhibits, networking functions, and field trips that showcase New Zealand's unique river environments and attractions.

- ### KEY DATES
- Special Session Nominations Close **30 NOV 2016**
 - Abstracts Open **1 DEC 2016**, Abstracts Close **30 APRIL 2017**
 - Registration Opens **1 MARCH 2017**
 - Early-bird Registration Close **15 SEPTEMBER 2017**