



Issue 11 – Meeting 30

27 July 2017

Tutaekuri, Ahuriri Estuary, Ngaruroro, Karamū – the TANK project

This was a comprehensive meeting covering options for Clive River management, our first taste of stormwater, plans to form a water augmentation working group, a presentation on long-term groundwater trends, and Group input into advice to the Special Tribunal, shortly to consider the water conservation order (WCO) application for Ngaruroro River (including Clive River).

What we want for Clive River

Aki Paipper spoke on behalf of Ngāti Hori and Operation Pātiki, followed by HBRC's Sandy Haidekker and Gary Clode. Read a summary of what the speakers said, after the *Vision and Recommended Management* options below.

The Clive and Karamū Rivers are special to Hastings people in particular. The Clive River also has special significance to Ngāti Hori, with their key focus being on restoring the mauri of the river and bringing back the pātiki. Clive River is also subject to an application for a Water Conservation Order that seeks to recognise the Māori values of the river.

The TANK Group responded positively to the proposition that improving Clive River relies on catchment wide management, and that Clive River and associated tributaries can be better managed to be healthy soft-bottomed lowland ecosystems.



A Vision for Clive River - offered by Sandy Haidekker, HBRC Senior Water Quality & Ecology Scientist

“A healthy lowland ecosystem in a productive landscape that restores mauri, supports native biodiversity with a diverse and abundant fish community, healthy riparian vegetation, and provides for safe recreation”

Feedback from the Group was positive and supportive.

Recommended Management Direction Agreed by the Group

- Water quality – riparian land planting for shade and whitebait spawning. There is a preference for native plants, but this would be part of a long-term strategy that allows for shorter term ecosystem improvements
- Macrophyte ‘weed’ management – continue weed boating including weed retrieval (cut and carry) in the short to medium term until riparian vegetation becomes more effective
- Research & investigation – gather more information on sources of *E.coli* contamination, develop mitigation measures, and consider options for channel design
- Water Quality – a focus on measures to reduce sediment and nutrients being discharged into the rivers in the catchment and better management of urban stormwater and industrial discharges
- Water Quantity – establish an allocation limit and water allocation rules.

The Group supported these, with an included focus on better management of urban and industrial inputs – particularly to reduce fish kills; adding education and communication for awareness and understanding; and creating public space access so people can better connect with the Karamū.

Feedback also included emphasising good land management practices (with a focus on stock exclusion/ fencing), improving water quality, creating native bush corridors over time, and understanding the sources and composition of sediment.

Aki Paipper - Ngāti Hori and Operation Pātiki

Clive River has many sacred sites of waahi tāpu significance. It was once a healthy source of seasonal food and ‘route 66’ - part of a vibrant transport network for mana whenua; increasingly the front yard with growing use of the river, walkways/ cycleways and planted corridors. Kohupātiki Marae has been especially focussed on bringing back pātiki to the river and has been heavily involved in better riparian land management and ensuring the historical significance of the river is recognised. Aki noted that the woolscour at Clive is on the original site of Otanenuiarangi Pā.

Operation Pātiki has been learning about estuary flounder to better understand what is needed to restore the fish habitat, the state and health of the awa. Unacceptable issues to be managed better include excessive weed growth, sediment inputs, and urban and industrial stormwater. Aki advocated for an urgent integrated catchment planning approach.

Sandy Haidekker - Water quality and ecology in Clive River

Our management measures have to meet the values identified by the Group, such as: swimmability (we need to find out more about sources of *E. coli* and other bacteria), pātiki/ whitebait health (the right spawning sites and food sources), tukemata waka and waka ama suitability. Native plants tend to be favoured for riverside planting, while considering that willows are fast-growing, shady, soil binders and fish habitat providers. Sandy found that a soft (sediment) river bottom would function as a healthy lowland river system, but to improve the Clive, both water quality in the Karamū and riparian land management need to be improved.

Gary Clode – Manager, Regional Assets: Clive River sediment and flows

This presentation answered long held questions about whether sediment can be removed from the lower reaches by changing river management – and essentially concluded that it could not.

Sediment removal is thought to improve ecosystem habitat (though Sandy reported this would not be necessary) and improve activities for boating in the lower Clive.

Below the Karamū-Raupare confluence, Clive River gains about 6-7mm sediment per year, but about 30-50mm per year at Clive River mouth and up to the rowing club.

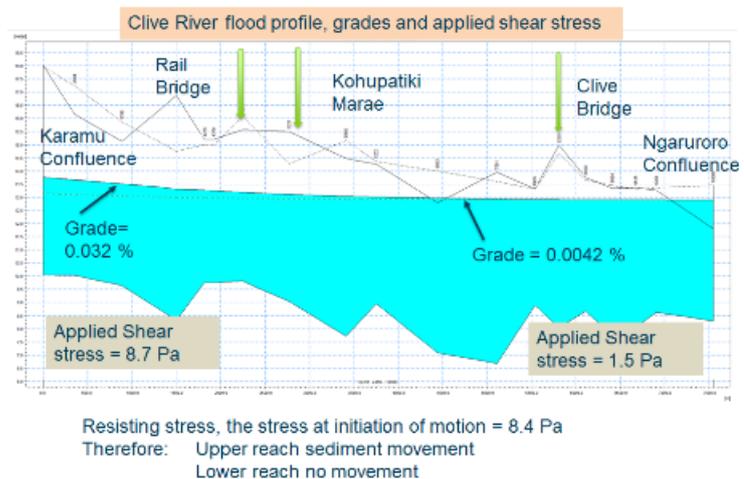
Dredging has previously occurred every 10 years to clear the build-up of sediment, mainly to serve recreational users in the lower Clive. This is expensive, around \$1 million each time.

It was a necessarily technical presentation to explain the amount of force or pressure required to mobilise sediment.

Gary explained why there isn't enough flow 'pressure' in this river system. It's due to the flat grade of the river and back-pressure from the sea mouth. The concept of a training wall to set the river mouth position would

not help sediment to move through the system, even at times of high flow. Higher flow into the Clive River from the Ngaruroro for example would mean more sediment coming in, without sufficient pressure to clear or move sediment through the system.

When asked for a recommendation on how to move in the direction of our desired values for Clive River, Gary's response was riparian planting and land management.



Water Augmentation

Can more water be added to the river-aquifer system?

We now know, from recent presentations, that augmenting lowland stream flows to manage the stream-depleting effects of groundwater takes is viable. The project team will develop this more as a management option. Other augment and/ or storage options will look to address:

- Mitigating Ngaruroro River flows reduced by the combined effect of groundwater takes
- The impact of a possible new minimum flow regime for the Ngaruroro River
- Investigating opportunities to satisfy currently unmet demand, i.e. Te Tua Lake, Ngaruroro pre-feasibility, managed aquifer recharge and lowland augmentation.

In summary, the TANK Group agreed to create a new Water Augmentation Working Group to inform freshwater management decision-making. A subset of members, volunteered from current TANK members, will consider options and bring recommendations back to the TANK Group table.

James Palmer – HBRC CEO

The new working group will look at available options, and how they might work IF water augmentation makes sense – subject to HBRC's current Capital Structure Review and Long Term Plan development. James acknowledged the chicken and egg nature of this work. Citing the Ruataniwha

Scheme and Tukituki Plan, James cautioned the grave risks in developing a plan based on a piece of infrastructure that may or may not occur. “Let’s not do that again” and make sure the TANK Plan can stand on its own two feet. He advocated that the Group look at accommodating potential tools such as water storage but not to make any flow or allocation decisions dependant on them.

The Stormwater Challenge

Stormwater systems have historically been designed to clear water quickly while regulating the flow of water to avoid flooding. Improving the aquatic ecosystem habitat and quality of stormwater discharges in the Napier and Hastings urban areas is subject to significant challenges because of this legacy approach to drainage and flood management.

A stormwater working group has been meeting for some time to discuss and develop options.

The TANK Group agreed on four main areas of policy development to improve the way our stormwater discharges are managed and reduce impact on aquatic ecosystems:

- New urban infrastructure planning and design to have a retention/ detention focus
- Increase pressure on the management of industrial sites to reduce sources of contamination at point of origin
- Improve the aquatic ecosystem performance of legacy infrastructure
- Integrate city, district and regional



council rules and processes to ensure city, district and regional councils have a consistent approach and collaborate effectively to manage stormwater.

The Group also suggested including focus on more education with urban and industry people about better stormwater management, more monitoring, stronger penalties and fines, and allowing for innovative stormwater treatment. The Group noted the need to account for possible costs of new site management requirements for existing and new industry.

The potential for TANK members to make a submission to city and district council Long Term Plans was agreed as worth pursuing, once the policy framework and rules was further developed.

Rowan Wallace – HDC, Proposed District Plan Aquifer Provisions

Rowan presented a summary of how the Hastings plan manages risks to the unconfined aquifer. Hastings has a place-based plan, identifying the life supporting capacity of the Heretaunga aquifer and the Kaitiaki role of mana whenua. The storage, handling and use of hazardous substances - including preventing these entering stormwater - is subject to performance standards. The standards include requirements that facilities stop contaminants (including those related to the use of arsenic, and organic matter containing animal waste) being spilled or washed away to ground. The plan also has controls for roofing to prevent further zinc contamination.

Jason Strong – NCC, Stormwater and treatment in Ahuriri Estuary

Jason advised that 70% of Napier stormwater goes untreated into Ahuriri estuary. Napier Council is aware that this is now seen as unacceptable practice. Napier Council is now working with the Regional Council, in relation to meeting stormwater discharge consent conditions, to stop point-source discharges from industrial sites entering the stormwater network and improve site



management, create stormwater treatment wetlands and improve riparian land management and design of the estuary edge.

Alongside this, Napier is developing a 'master plan' to recognise and provide for the cultural, ecological significance and recreation values of the Ahuriri estuary. The master plan covers the upper estuary, lower estuary and inner harbour for water quality improvements. The master plan is being

developed alongside a Joint Estuary Management Plan with HBRC, NCC, Mana Ahuriri and the Department of Conservation to address coastal erosion, inundation, water quality, economics, recreation, development pressures and to retain the area's special character.

Napier City Council will be seeking public input into the master plan.

Long Term Trends – Groundwater

Pawel Rakowski – HBRC Senior Resource Modeller

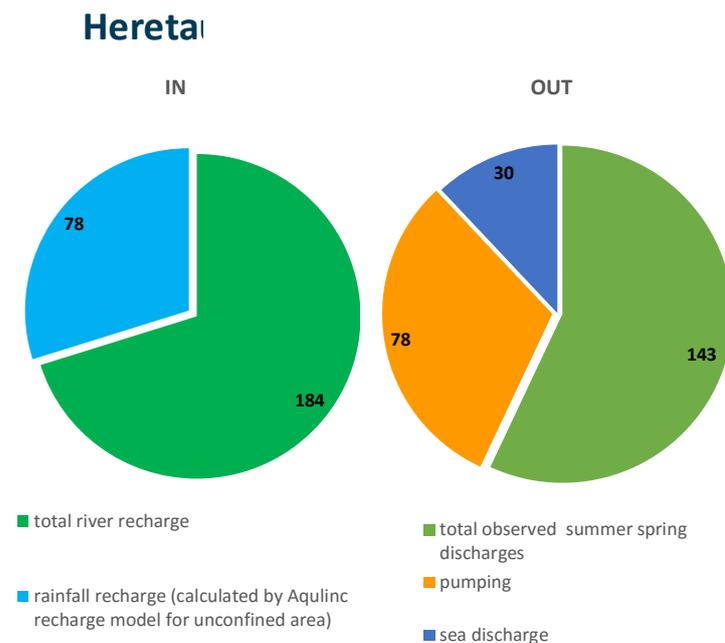
The Group received some preliminary information about long-term trends in groundwater levels and the annual water budget, i.e. how much water comes in and goes out of Heretaunga Plains - below. This was to help the Group visualise what happens to groundwater levels at current use, and what might happen if this changed.

There is more water available in the Plains system than is currently being used, but extra use may have adverse effects on the health of rivers, streams, fish, bugs and insects - if allocated.

Pawel explained that if pumping is kept at current annual levels, no further decline of water levels and flows from springs is predicted.

However if pumping continues to increase at current trends, there will be an overall groundwater level decline, seen

as reductions in water flows from springs and reduced river flows in future decades, depending how much more water was being pumped.



The water budget shows water in millions of metres³ per year.

The WCO

TANK and the Ngaruroro Water Conservation Order application

An application for a Water Conservation Order was made some time ago covering the Ngaruroro River, its tributaries, connected groundwater and the Clive River.

The Special Tribunal appointed to make decisions about the application have asked for submissions by 24 August. The Council has previously advocated that the WCO process consider the TANK Group's decision-making about how to manage the water bodies in the lower reaches.

The Council will make a submission to the Tribunal about the order of decision-making and hearings.

The TANK Group agrees that the upper reaches of Ngaruroro River have very high environmental, recreational and cultural values, which are worthy of protection, and that the upper reaches warrant consideration for a WCO by the recently appointed Special Tribunal.

The TANK Group is considering a possible submission on the WCO process. Project team members are working through the implications of this and have prepared a draft.

The Group submission acknowledges there are a wide range of values and management purposes for the lower reaches including community flood protection, irrigation, land drainage for horticulture and recharge for irrigation including municipal use for the regional population.

Due to the multiple values that exist in the lower reaches, the TANK Group considers that the TANK Plan Change should be the primary vehicle for considering these and managing land and water in an integrated manner.

TANK Group's Message to the Special Tribunal

The TANK Group's draft submission (if lodged) will request the Special Tribunal to consider the upper and lower reaches of the Ngaruroro separately, taking the upper reaches first. This will allow the TANK Group to work through the issues in the lower reaches and develop management provisions that can then be used to inform the WCO process.



Upper Ngaruroro River and its pristine waters.

www.hbrc.govt.nz, #tankresources © 2017, HBRC

Please share this newsletter-panui. Mary-Anne.Baker@hbrc.govt.nz