Greater Heretaunga and Ahuriri Land and Water Management Collaborative Stakeholder (TANK) Group

TANK

Meeting 30:
27 July 2017

HAWKE'S BAY
REGIONAL COUNCIL

Karakia

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Karakia

Ko te tumanako

Kia pai tenei rā

Kia tutuki i ngā wawata

Kia tau te rangimarie

I runga i a tatou katoa

Mauriora kia tatou katoa

Āmine

Water is a taonga

This guides our work together.

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Agenda

9:00am	Notices, meeting record
9:15am	Clive River Management • Kohupatiki Marae's journey • Management options
11.30	Water Augmentation Working Group
12:00pm	**LUNCH**
12.30pm	Stormwater management: • HDC's District Plan provisions • NCC's plan for new stormwater wetlands • Policy direction
2:00pm	Further groundwater modelling results: • Long term effects of pumping on GW level • Effects of combined lowland stream augmentation
3:30pm	**COFFEE BREAK**
3.45pm	Updates
4:00pm	**CLOSE MEETING**

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Engagement etiquette

- Be an active and respectful participant / listener
- Share air time – have your say and allow others to have theirs
- One conversation at a time
- Ensure your important points are captured
- Please let us know if you need to leave the meeting early

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Meeting objectives

1. Agree Clive River management direction and Plan drafting instructions

2. Consider whether to establish a Water Augmentation Working Group

3. Agree stormwater management direction

4. Consider further groundwater modelling outputs

Ground rules for observers

- RPC members are active observers by right (as per ToR)
- Pre-approval for other observers to attend should be sought from Robyn Wynne-Lewis (prior to the day of the meeting)
- TANK members are responsible for introducing observers and should remain together at break out sessions
- Observer's speaking rights are at the discretion of the facilitator and the observer should defer to the TANK member whenever possible.

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Meeting Record – TANK Group #29

- Matters arising

Jeff Smith gave some further explanations on stream depletion including in relation to recharge of the aquifer and discharge ~~at the coastal margins~~ to streams and offshore. He reiterated that the modelling was providing a means to explore options for management and that managing ~~the spring~~ discharges to surface water bodies is a more effective way of managing GW ~~and SW then~~ than rule of thumb methods including percentage of ~~discharge~~ recharge.

- Action points

Action points

		Person	Status
29.1	Staff to ensure that bookings allow for earlier start at future meetings.	Nicky van Pelt	Done
29.2	Staff to model fully consented water takes.	Pawel	On to-do list
29.3	Staff to circulate a copy of Dr Morgenstern's presentation to the Tank Group.	Desiree	To be added to portal and TANK webpage
29.4	Wetland Working Group to consider how a storage scheme can overlap with a wetland		Wetland Group to report back in Sept
29.5	Staff to update TANK Group on what's happened to the work done by Monique Benson on Otamauri?	Monique	Referred to Water Augmentation WG

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Clive River; Values and Options for Management

Aki Paipper
Operation Patiki
Sandy Haidekker
Water Quality and Ecology Scientist
Gary Clode
Manager Regional Assets

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Clive River Management

- Relevant to Karamu management already considered (meeting 25)

- The Clive is subject to a Water Conservation Order application.

- Also of particular significance to Māori especially Ngati Hori;
  - Iwi management plan – Operation Patiki
  - Key management decisions are required

- Community input into developing a better future for this part of the catchment.
  - Local hui and input

- **Presentations today;**
  - Māori connection and aspirations
  - Stream ecology
  - Flow management

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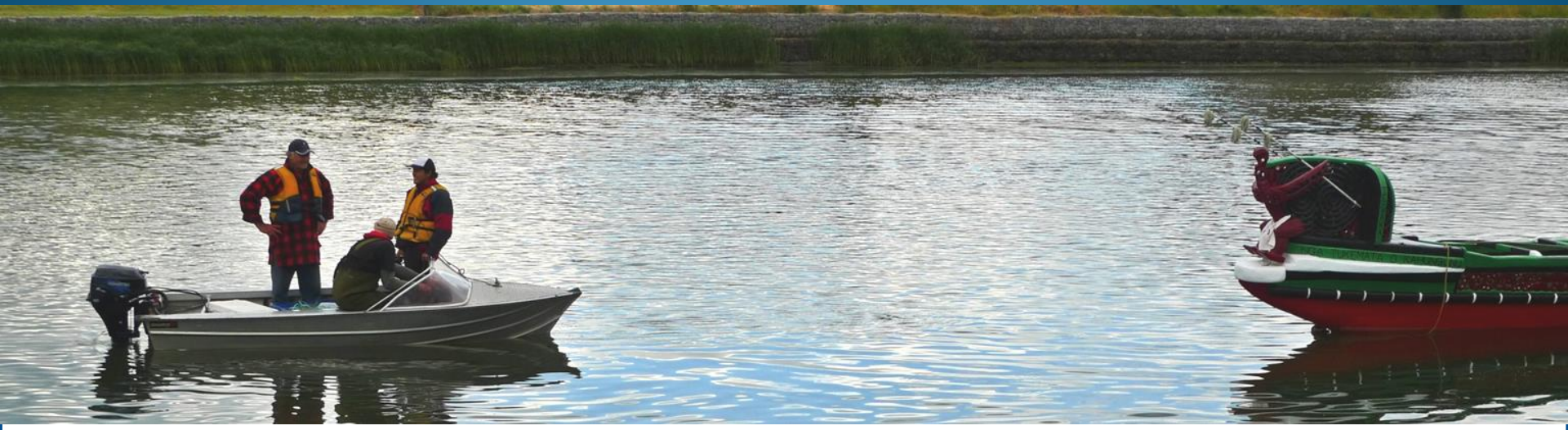
Breakout session – 2 questions

1. Do you agree with the proposed vision for the Clive River?

2. Do you agree with the recommended package of management measures to meet the needs of the above values?

Kohupātiki Marae



Ngāti Hori

TANK

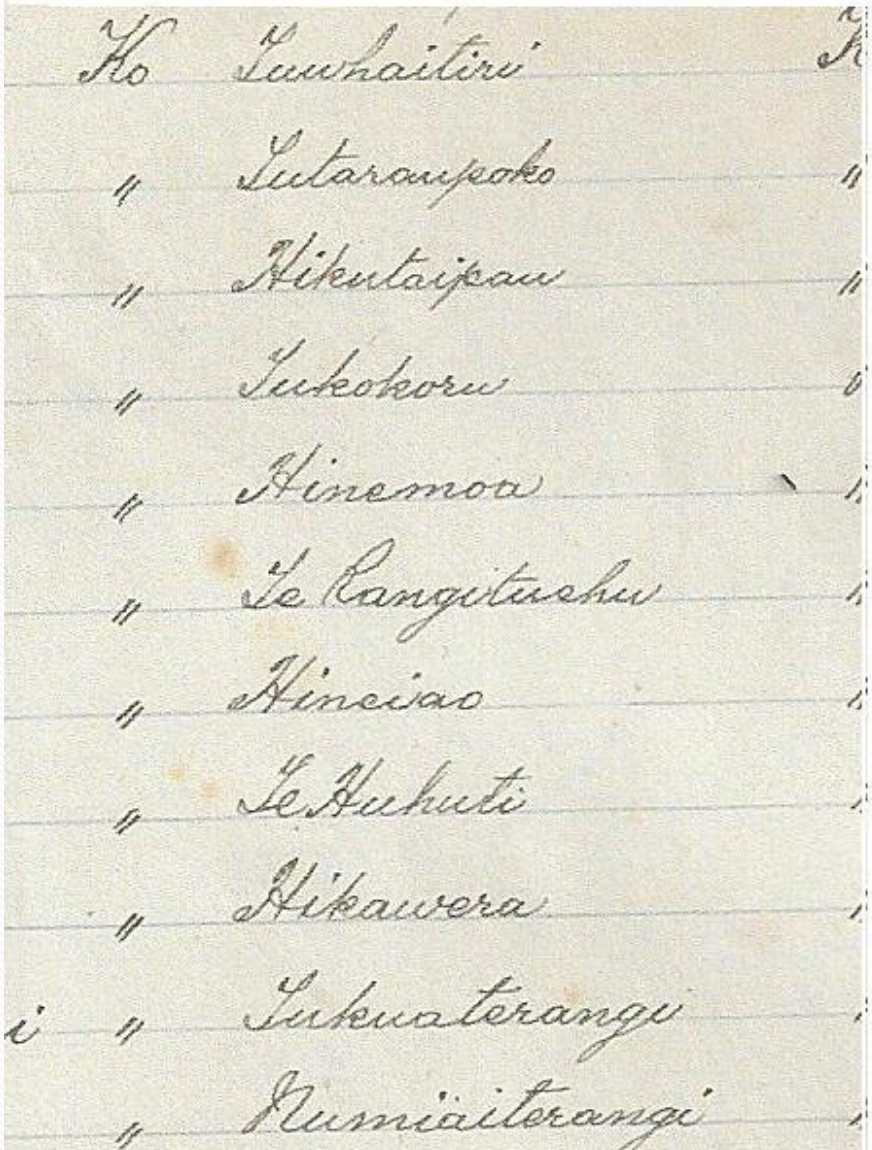
July 2017

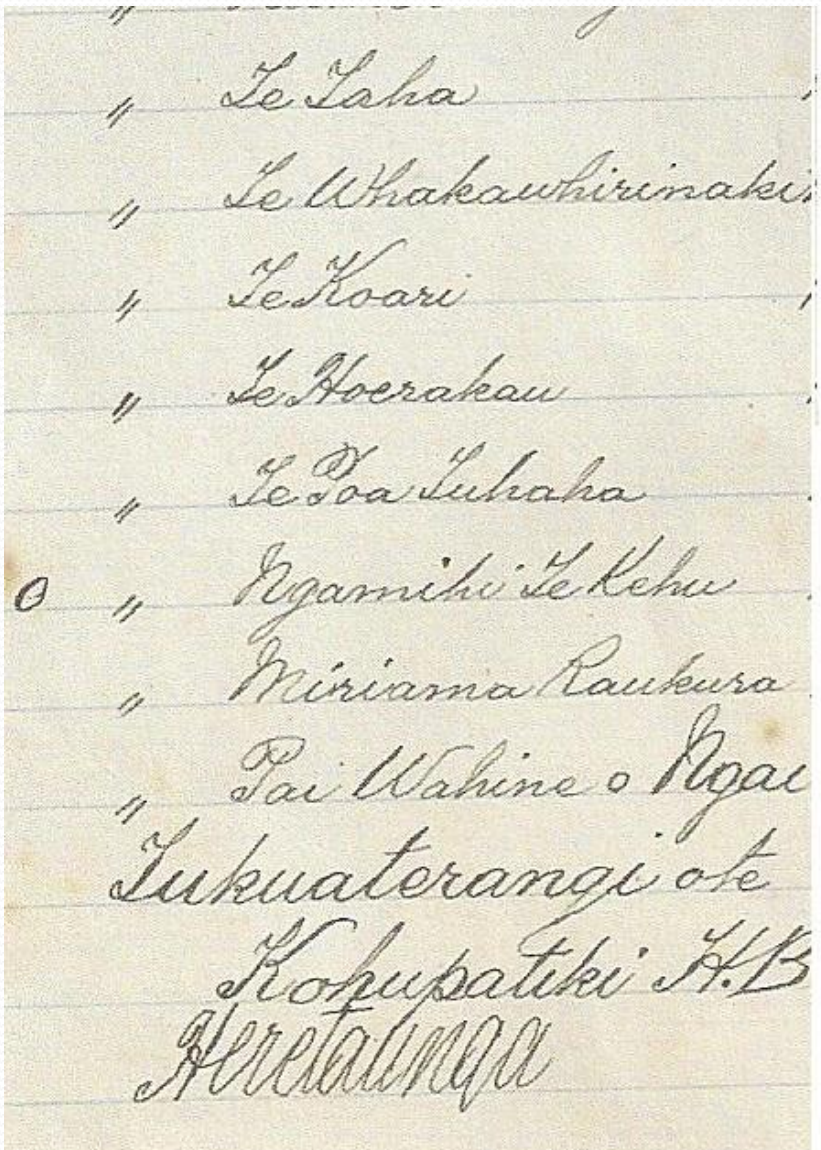
Ngāti Hori Freshwater Management Plan 2009/12

Whakapapa Kaitiakitanga Ngāti Hori

22 generations decending from Kahungunu and Te Whatuiapiti

Ngā Hapu Ngāi Tukuaterangi me Ngāti Hori

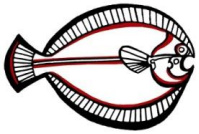

Ko Tuwhaitiri
" Tutaraupoko
" Hikutaipau
" Tukeokoru
" Hinemoa
" Te Rangituahu
" Hinciao
" Te Hukuti
" Hikawera
" Tukuaterangi
" Rumiaiterangi


" Te Taha
" Te Whakawhirinaki
" Te Koari
" Te Hoerakau
" Te Oa Tuhaha
" Ngamihi Te Kehu
" Miriama Raukura
" Pai Wahine o Ngai
Tukuaterangi ote
Kohupatiki H.B
Heretaunga

"Matauranga Māori"

"Observation over time"

Our plan is based around the following priorities of Ngāti Hori in freshwater:



= Achieving sufficient water flow ensuring the allocable volume is within sustainable limits

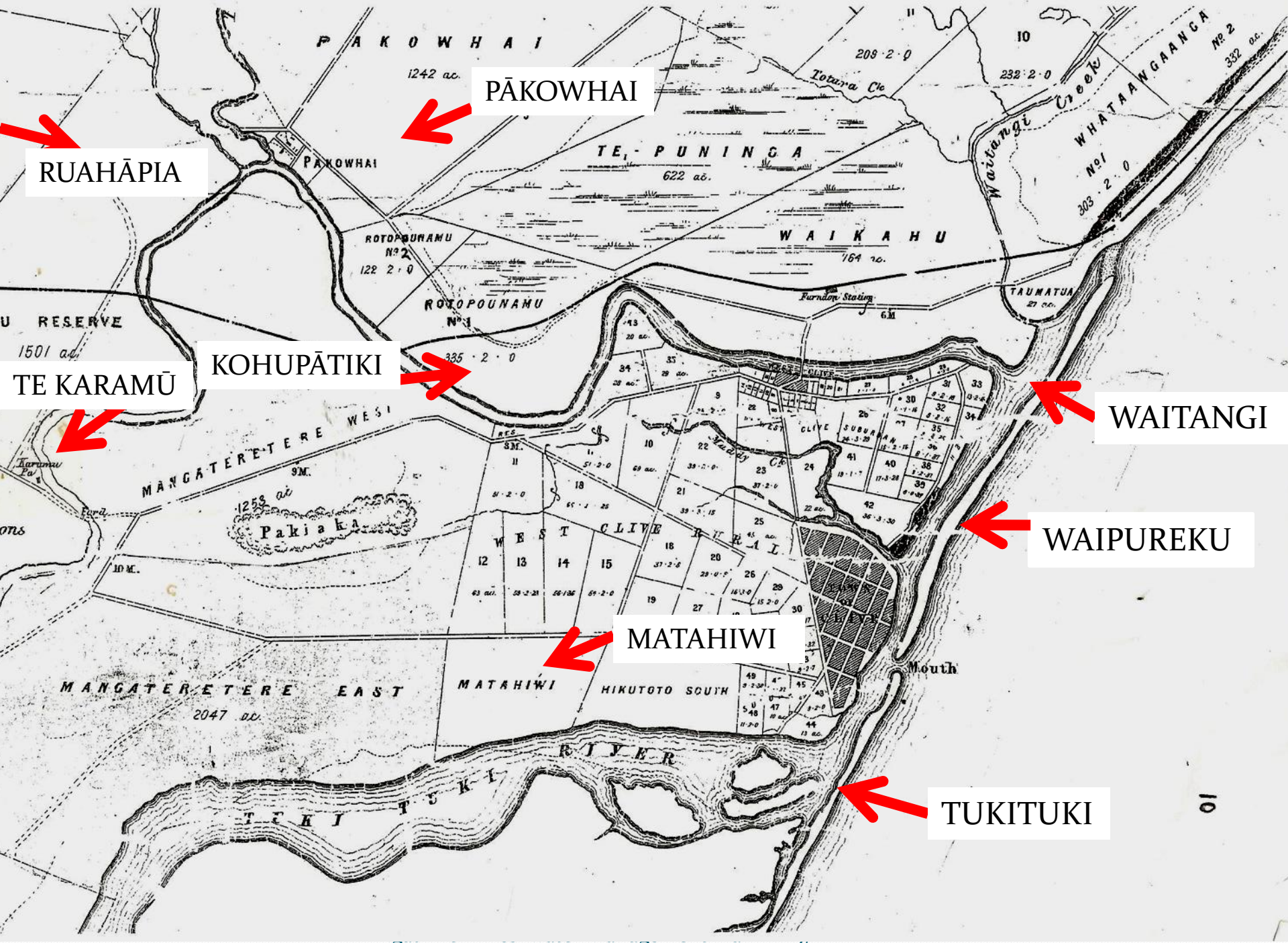
= Improving water quality - swimable

= Protection and restoration of traditional riparian vegetation

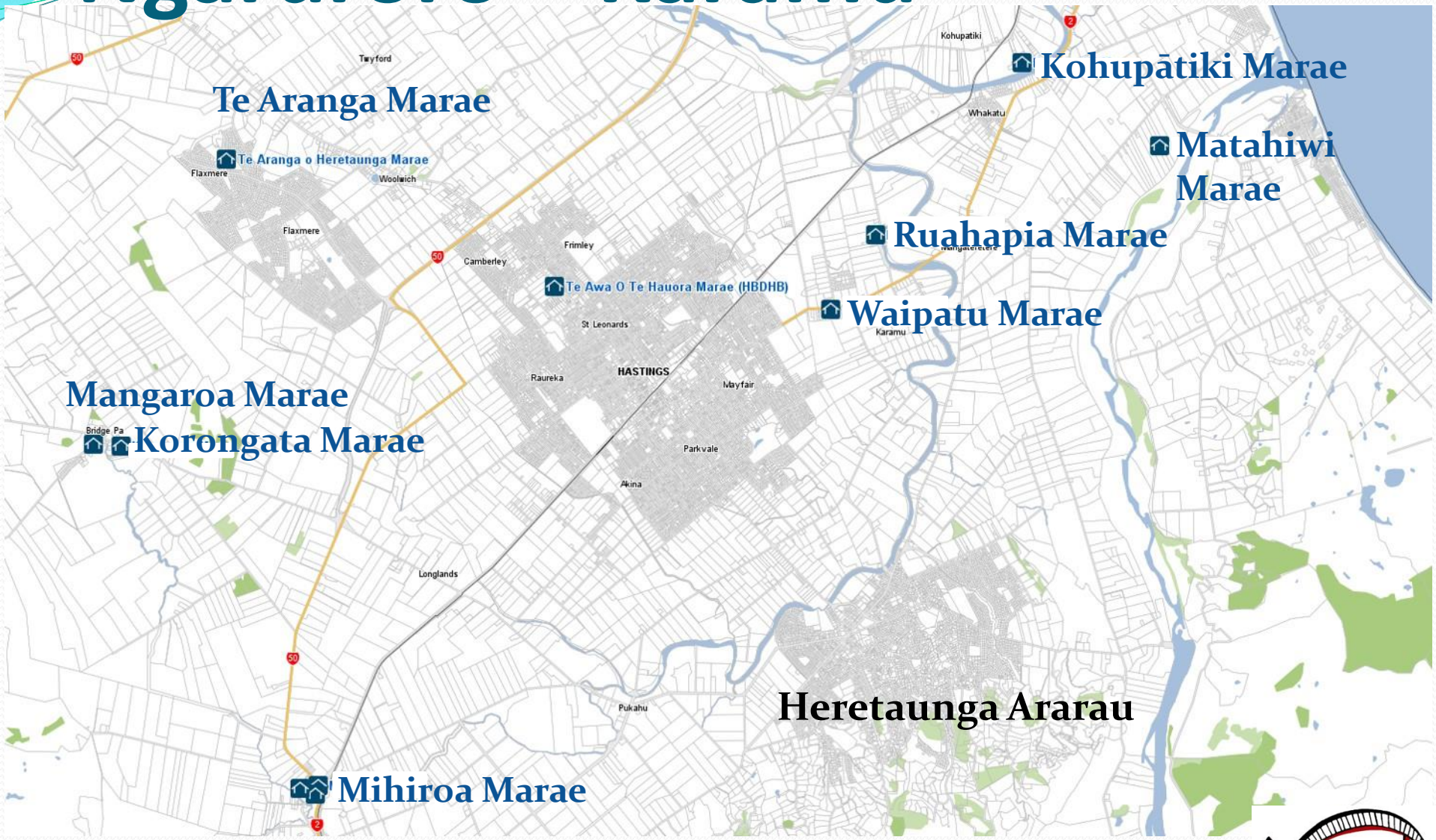
Protection and restoration of endemic fish, habitat and migration

To maintain our physical, mental, emotional, spiritual & cultural wellbeing

"Information is not knowledge, knowledge is only arrived at through direct experience" ***Einstein***


PĀKOWHAI
RUAHĀPIA
KOHUPĀTIKI
TE KARAMŪ
WAITANGI
WAIPUREKU
MATAHIWI
TUKITUKI
PAKOWHAI
1242 ac.
TE PUNINGA
622 ac.
WAIKAHU
164 ac.
ROTOPOUNAMU
No 2
122 2 0
ROTOPOUNAMU
No 1
335 2 0
RESERVE
1501 ac.
MANGATERETERE WEST
Pakiaka
1258 ac
MANGATERETERE EAST
2047 ac.
MATAHIWI
HIKUTOTO SOUTH
WEST CLIVE RURAL
CLIVE
TAUMATUA
27 ac.
Furndon Station
Totara Cr
Waitangi Creek
WHATAAWGAANGA
No 1
No 2
Mouth
RIVER
TUKI TUKI

Ngaruroro – Karamū



Pākowhai Concept Plan

Whakatū Landscape & Awa Enhancement Plan

WHAKATU LANDSCAPE PLAN AND AWA ENHANCEMENT | WHAKATU, HASTINGS
HAWKES BAY REGIONAL COUNCIL | HASTINGS DISTRICT COUNCIL

scale: 1:750 @ A1 | date: 27-02-15 | drawing no: NZ0414155-C800-LANDSCAPING-02 | sheet: 1 | issue:3

p 64 6 876 0007 | e hb@cardno.co.nz www.cardno.co.nz | 507 Eastbourne Street West, Hastings, New Zealand 4156

Second Phase Cycle Path Whakatū

Harakeke Plantation

"Change is imminent, the most powerful thing we can do is to build a beautiful path forward."

Severn Cullis-Suzuki, Haida Gwai

DJI0222.MP4

OTANENUIARANGI PĀ

MAORI SITES OF SIGNIFICANCE

O

OTANENUIARANGI

POU

RURU

Waka Ama recreation and sport

Waitangi Estuary Concept Plan

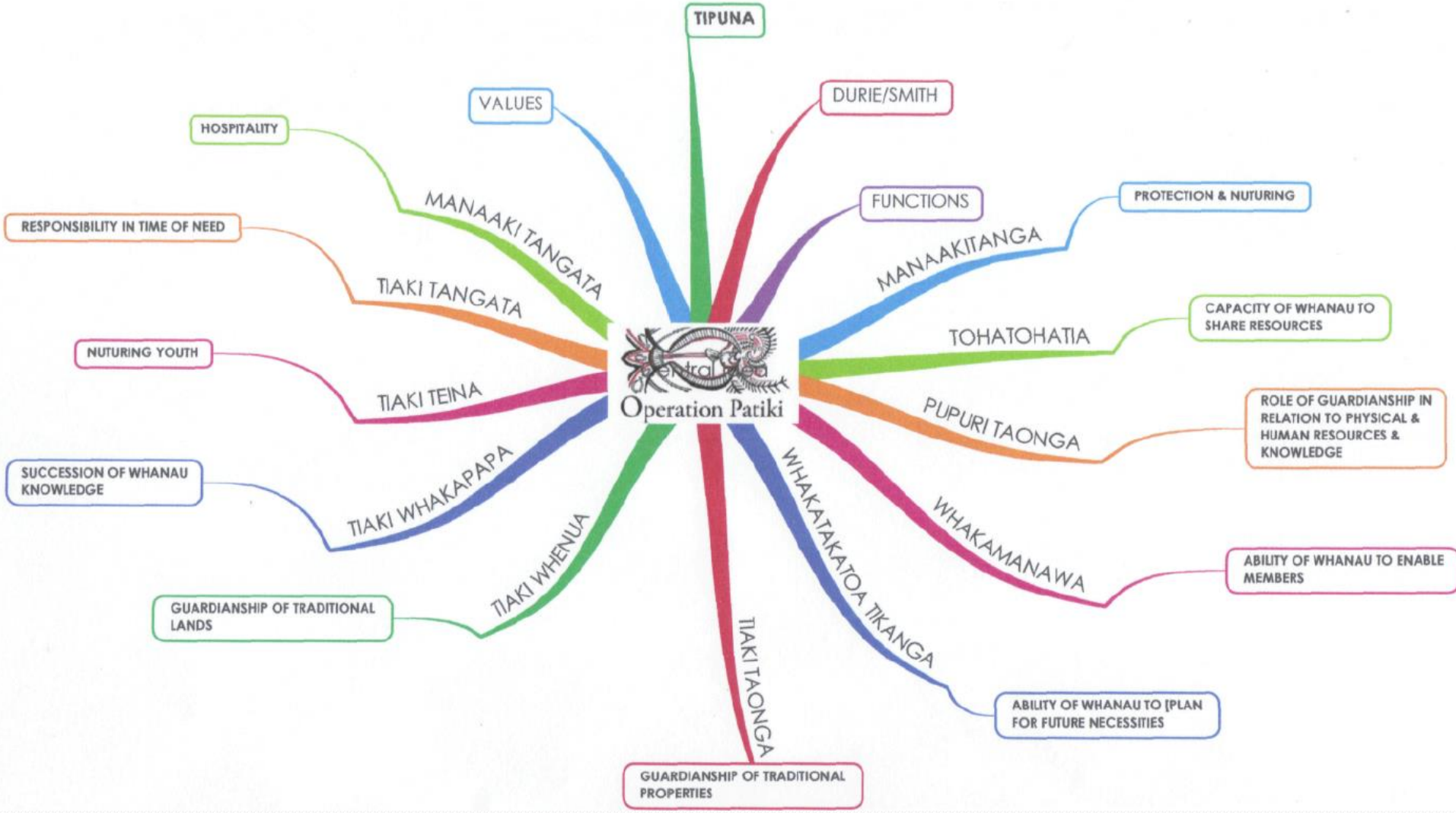
Waitangi Celestial Star Compass

Ngā mihi ki a koutou katoa

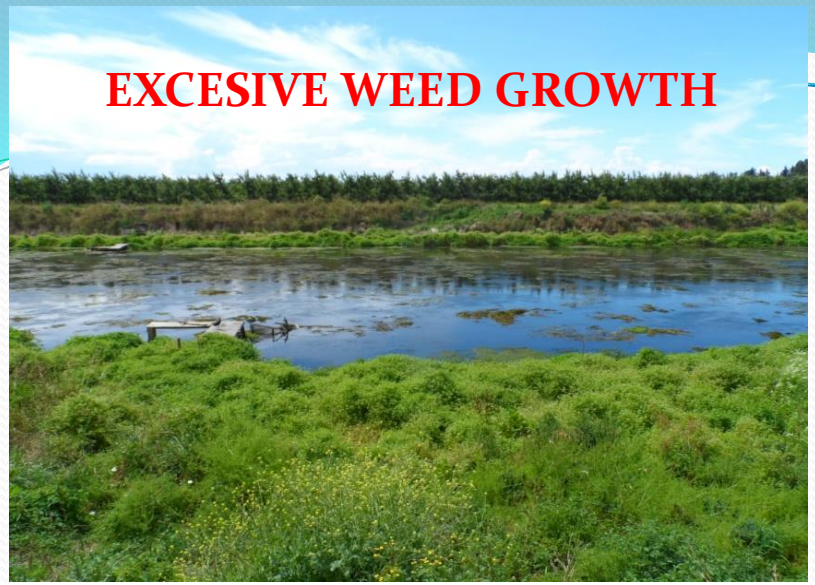
Lisa McGlinchy
Pa McGowan
Department of Conservation
Enviroschools HB
Fish & Game
Forest & Bird
Guardians of HB Fisheries
Dr Mike Joy, Massey University
Ngā Kaitiaki o te Awa a Ngaruroro
Ngā Whenua Rāhui
Ngā Kura O Clive me Haumoana me
Mangateretere me Te Ara Hau
Te Kohanga Reo O Whakatu
Lindisfarne Collage
Naiper Boys High
Peterhead Kura
Hastings District Council
Hawke's Bay Regional Council
Hawke's Bay District Health Board
Ngāti Kahungunu Iwi Inc
Surveying the Bay
Te Taiwhenua o Heretaunga
Whakatū Community
Whakatū Industry

Whānau, Friends & Neighbours

Operation Pātiki Monitoring with rangatahi



Ngati Hori Freshwater Management Plan 2009/12



"You wont change things by fighting the existing. To change something build a new model that makes the existing model obsolete."

Buckminster Fuller

WHERE TO FROM HERE?

- An intergrated catchment plan required

Will we be creative, inovative or STATUS QUO

ASK YOURSELF?

Kohupātiki Mārae

Wai Māori, Wai ora,

Nau Mai Haere Mai

“Tihei Mauri Ora”

Sandy Haidekker, Water Quality and Ecology Scientist

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Karamu/Clive River: Water Quality and Ecology

This presentation

- recommends management measures to meet identified values
- suggests an integrated management approach
- provides information to discuss a strategy and action plan for the Karamu catchment

Outcomes of Meeting 25:

Recommended objectives:

Primary attributes for managing Karamu water quality are dissolved oxygen, temperature and flow.

The management objectives are

- to reduce aquatic plants (a long term goal to ca. 30% cover)
- to improve MCI (long term)
- to improve fish health (short term).

Next steps

HBRC to develop options and priority for planting and stream redesign to be reported back

- Public land by councils, Private land options, including Māori land

HBRC to report back on flow management

Further discussion and information on nutrient management and wetland management

Lower Karamu Catchment: Clive River

Ngati Hori ki Kohupatiki: kaitiaki of the lower Clive
→ close historic and traditional relationship to the river

Priorities Operation Patiki Management Plan:

1. Achieving sufficient flow (allocation within sustainable limits)
2. Improving water quality
3. Protection and restoration of traditional riparian vegetation
4. Protection and restoration of native fish and fish habitat

Lower Karamu Catchment: Clive River

Further values and objectives:

- Water quality - swimmability
- White Bait – important spawning grounds, need protection and recognition. Patiki.
- Tukemata Waka – educational, tourisim; reminder of tupuna and traditional knowledge; advocates.
- Waka Ama – reconnecting with the awa, sport, leisure, enhancement of river ways.

Clive River - local management

- Traditional riparian vegetation
- Tukemata waka – educational, tourism, traditional knowledge
- Waka Ama - reconnecting with the awa; sport, leisure

Values Clive - catchment management

1. Swimmability / recreation
2. Protection and restoration of fish and fish habitat
   a. Patiki
   b. Whitebait
3. Water quality, Ecosystem health, Mauri

Discussion on swimmability

Swimmability Clive

1. Clive at the boatramp: D-Band for swimming, (A-Band for boating/wading)
2. NOF objectives are being revised
3. We are not certain of the source of the bacteria → different risk for people from different sources (human, ruminant, avian, plant)
4. Management options depend on bacteria source

→ more investigation needed on the source of bacteria

Clive River - local management

- Traditional riparian vegetation
- Tukemata waka – educational, tourism, traditional knowledge
- Waka Ama - reconnecting with the awa; sport, leisure

Catchment management

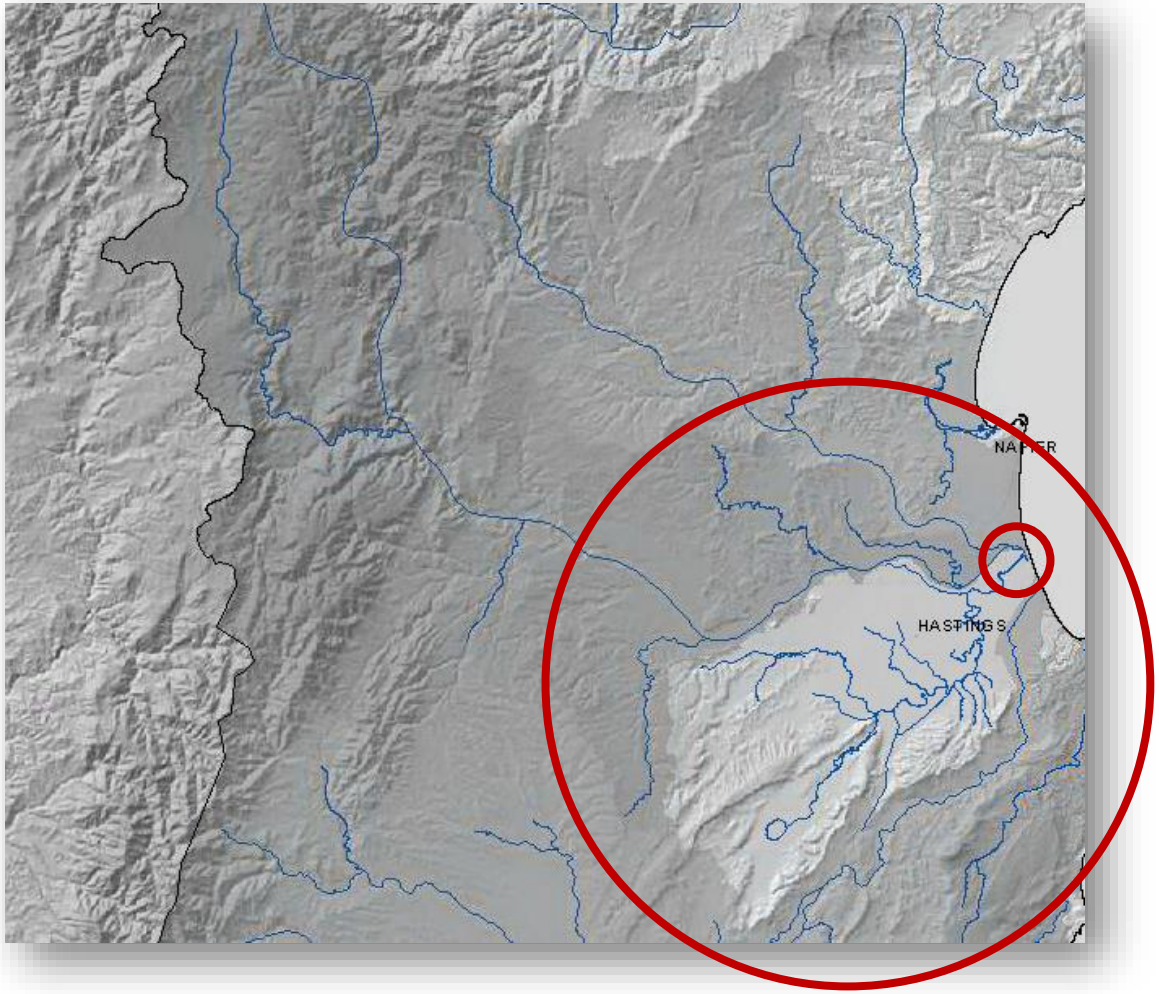
1. Swimmability
2. Protection and restoration of fish and fish habitat
   a. Patiki
   b. Whitebait
3. Water quality, ecosystem health, Mauri

Catchment management

Te Karamu:

Historically a tributary to the Ngaruroro…

now a true lowland catchment in its own right



Patiki

Preferred habitat of Patiki:

- On sand and mudflats in estuaries; lowland, brackish lakes;
- In slowly flowing, sandy pools and backwaters of lowland rivers
- Unique: Patiki live also in rivers with coarse, gravelly substrates inland, can truly live in freshwater

→ **Lives on any substrate from silt to gravel**

Water quality needs:

- Not researched yet
- Temperature?

Food:

- Invertebrates
- Small fish

Whitebait

Critical for spawning sites:

- Ungrazed grasses (e.g. *Bolboschoenus*) in upper estuary
- Instream cover (logs, overhanging branches, macrophytes)

✓Inanga spawn on stream banks in upper estuary on high tides

✓eggs develop when out of water

Whitebait – typical lowland species

Juveniles and adults

Ideal habitat:

- Channels with slowly moving water in low altitude, low gradient
- Most whitebait: altitudes < 20m and less than 10km from coast
- Preferred sites (young and mature *Inanga*):
  - Feeding: slow moving water (3 to 7 cm/s for feeding) and relatively deep pools (>30 cm)
  - usually with fine bed materials.

http://www.doc.govt.nz/nature/native-animals/freshwater-fish/whitebait-migratory-galaxiids/

Lowland open water fish

Riparian habitat:

- Overhanging branches, instream wood
- Erosion control
- Shade

Instream habitat:

- Habitat diversity
  → A mix of aquatic plants and open water for different preferences of fish species

Water quality:

- Low suspended sediment
- High oxygen (> 80%)
- Low temperature (<21-23°C)

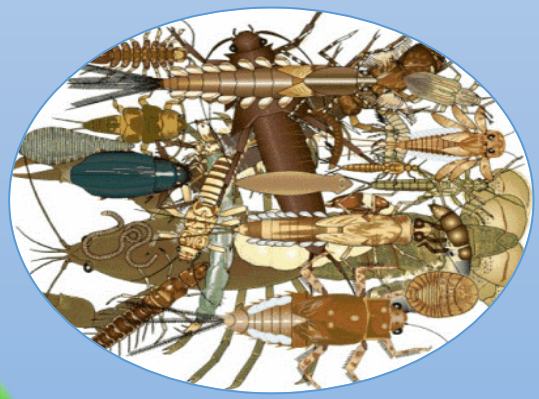
Summary: What is a healthy lowland catchment?

1. Diverse habitat
2. Intact riparian zone
3. Good water quality

- Temperature
- Oxygen
- Low level contaminants
- Clarity

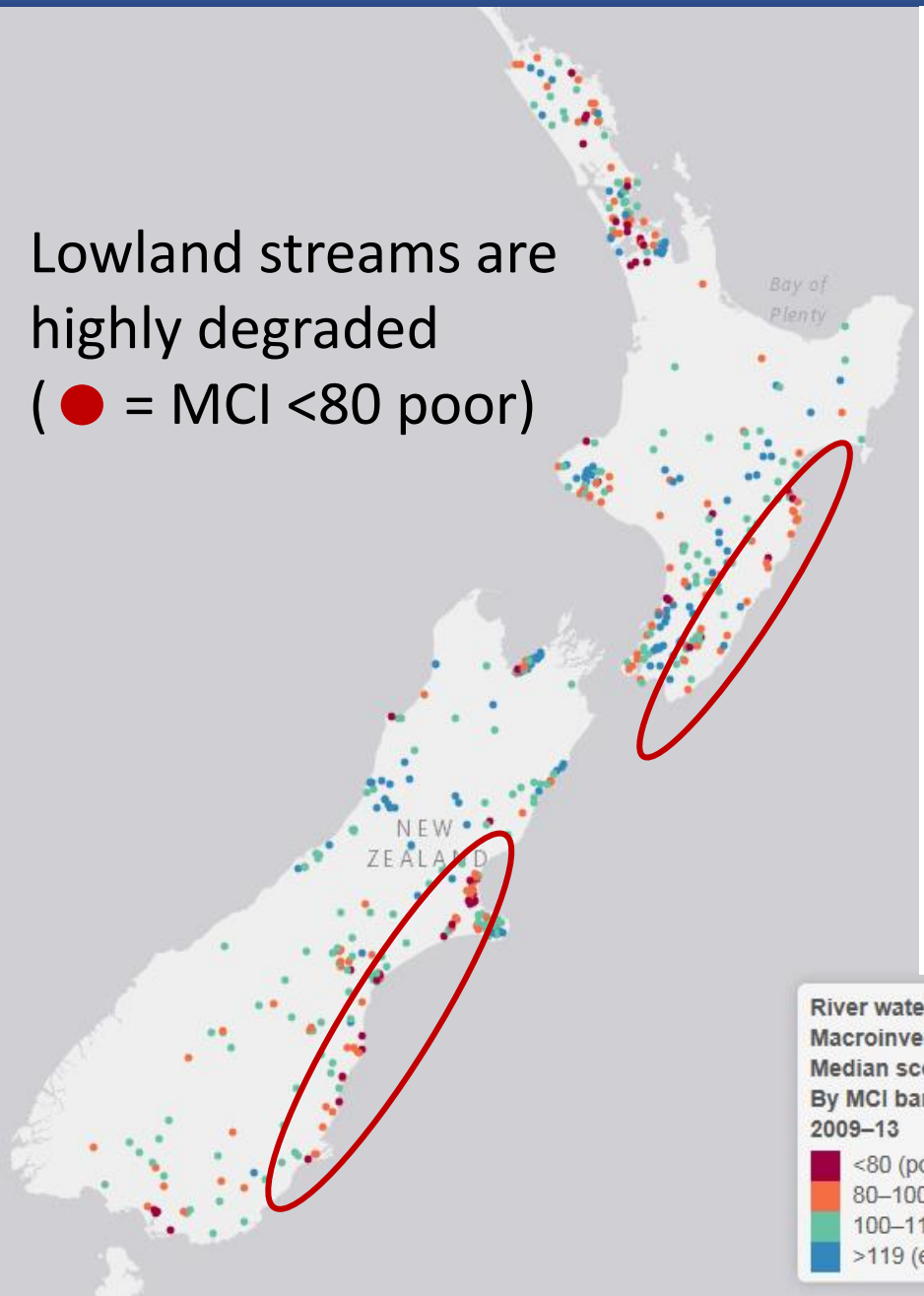
Diverse and abundant fish community

Diverse and abundant macroinvertebrates



Healthy lowland catchments?

Lowland streams are highly degraded
(● = MCI <80 poor)



- Nationally, lowland catchments are highly degraded
- 4 of 5 whitebait species are threatened or at risk (declining)
- 3 of these only exist in NZ
- 67% of NZ fish are threatened or at risk

→ Opportunity for us to think big?

River water quality
Macroinvertebrate community index
Median score
By MCI bands
2009–13
- <80 (poor)
- 80–100 (fair)
- 100–119 (good)
- >119 (excellent)

A Vision for the Karamu Catchment

Diverse and abundant fish community

- Positive story
- Platform to show active management
- Possible funding for something bigger?

→ Collective community ownership

A Vision for the Karamu Catchment

Managing riparian planting

Planting for ecosystem health: any shading plant will do, however...

Planting NZ native plants supports other objectives:

- **Traditional values**: traditional plants, culture, education
- **Tourism**: New Zealand specific highlight
- **Indigenous Biodiversity**: New Zealand globally important: endemism, biodiversity hotspot, unique heritage
- To support **native ecosystems**: connectivity, life cycles water-land

A Vision for the Karamu Catchment

Our vision for the Clive river and Karamu catchment is a healthy lowland ecosystem in a productive landscape, that restores mauri and supports native biodiversity with a diverse and abundant fish community, healthy riparian vegetation, and provides for safe recreation.

A Vision for the Karamu Catchment

What should the plan look like?

First steps: objectives, management

Timeframe?

Monitoring/showing/celebrating?

Management objectives

Recommended objectives Meeting 25:

Primary attributes for managing Karamu water quality are dissolved oxygen, temperature and flow.

The management objectives are

- to reduce aquatic plants (a long term goal to ca. 30% cover)
- to improve MCI (long term)
- to improve fish health (short term).

New management objectives: Vision

Improved fish health (long term: diverse and abundant)
Improved MCI
Riparian vegetation (any plant / natives ?)
Diverse habitat (aquatic plants long term goal ca 30%)
Improved water quality: temperature, dissolved oxygen, clarity, contaminants

Gary Clode, Manager Regional Assets

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A Vision for the Karamu Catchment

Our vision for the Clive river and Karamu catchment is a healthy lowland ecosystem in a productive landscape, that restores mauri and supports native biodiversity with a diverse and abundant fish community, healthy riparian vegetation, and provides for safe recreation.

Recommended Management

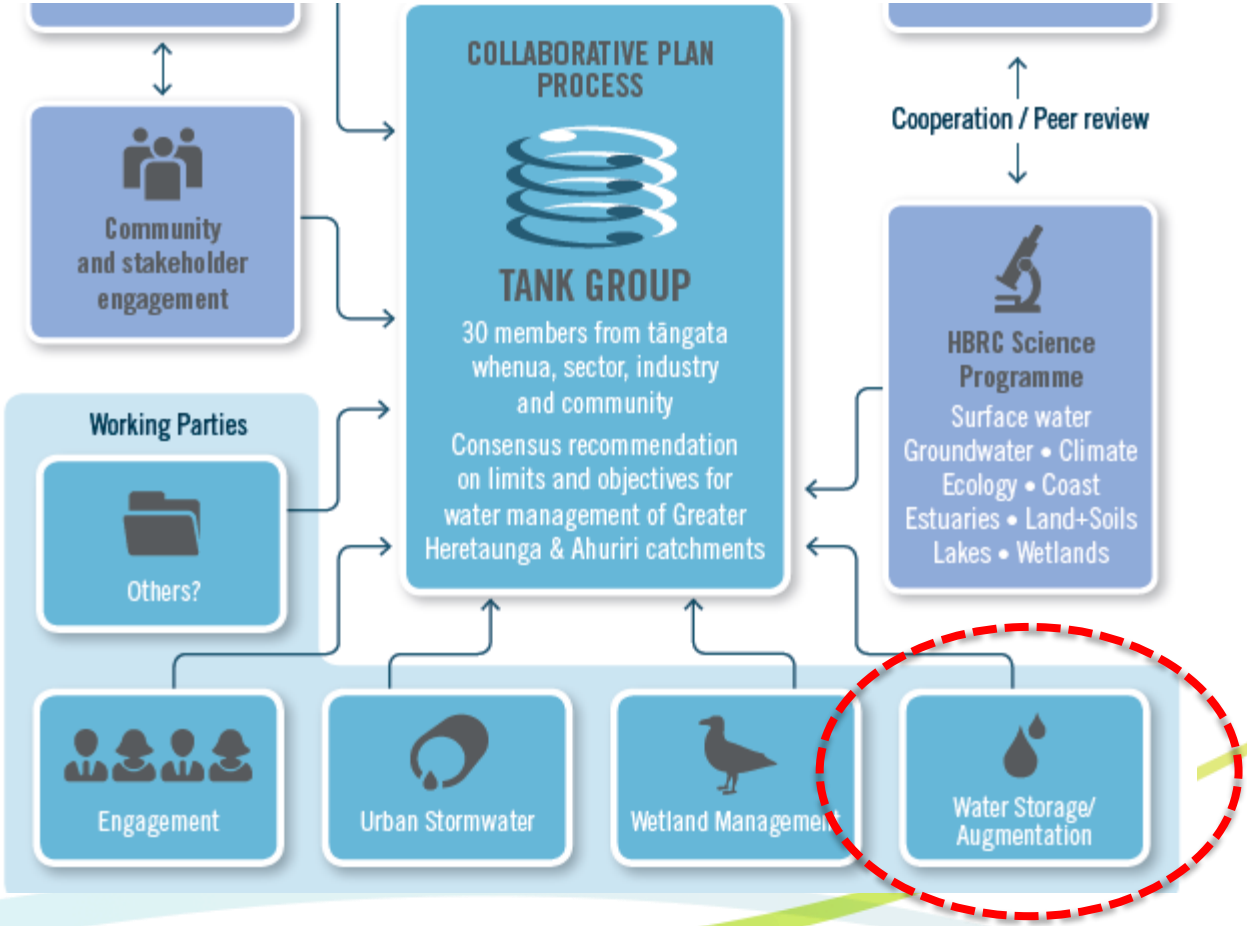
1. **Water quality**; catchment management for
   - Riparian land planting for shading and whitebait spawning
   - Native plants preferred but not exclusively? (depending on site constraints or landowner aspirations)
2. **Macrophyte plant management**
   - Short to medium term weed boat – but with weed retrieval
3. **Research and Investigation**
   - Sources of E. coli contamination
   - Development of mitigation measures
   - Options for better channel design
4. **Water Quality**; catchment management for
   - Sediment (in prep)
   - Nutrients (tbc)
   - Urban Stormwater (in prep)
5. **Water Quantity**
   - Allocation limit and flow management regime

Breakout session – 2 questions

1. Do you agree with the proposed vision for the Clive River?

2. Do you agree with the recommended package of management measures to meet the needs of the above values?

Water Augmentation Working Group



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Water Augmentation Working Group

Purpose: to assist the TANK group in its decision making about freshwater management. Its key purpose is to consider options (including timing and transitional arrangements, if any) and provide recommendations to the TANK group.

Scope: To consider modelling and likely future information needs for the technical feasibility, ecological impacts and indicative cost estimates for -

- Te Tua Lake (out-of-stream storage)
- Pre-feasibility Ngaruroro (in-stream at 2 tributary sites)
- Managed Aquifer recharge
- Lowland Augmentation

Call for WG member nominations/volunteers

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Stormwater management

- HDC's District Plan provisions (Rowan Wallis)
- NCC's plan for new stormwater wetlands (Jason Strong, ISTHMUS Group – Grant Bailey and/or Sarah Bishop)

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Stormwater Management

Progress Update
Stormwater Working Group
Rina Douglas
(Mary-Anne Baker)

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What have we been doing?

- Building on the significant work done by the SW Working Group in identifying issues with urban SW in the TANK catchments
- Working with TLAs to shape up some potential draft rules, issues and objectives for better SW management.
- The purpose of today is to provide you with a general direction of travel and seek your views and input.

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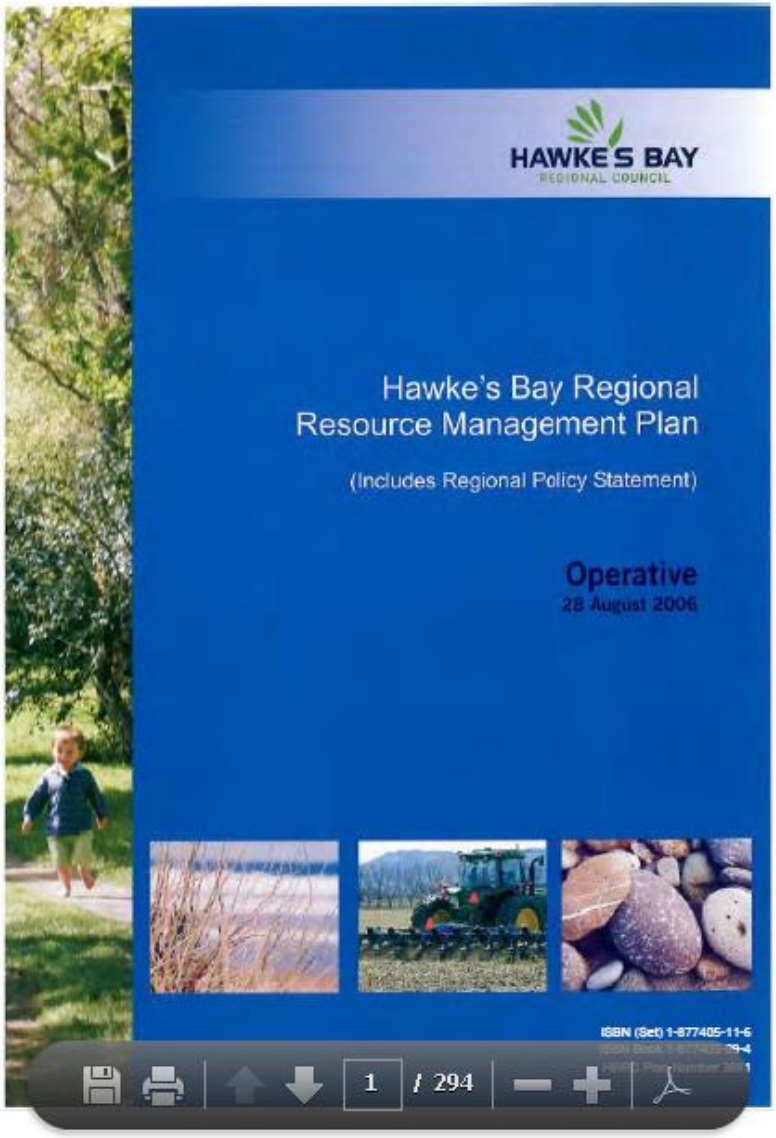
The Stormwater policies will guide decision making



How stormwater discharges are to be managed;

- conditions and standards (in rules)
- thresholds for resource consents
  - how to make decisions for resource consent applications
- addressing legacy issues
  - enable priority approach for resources and attention

How the council intends to work with other agencies

- Integration and consistency
- Efficient and effective processes and systems

Proposed direction for plan change

- Using new subdivisions and developments as an opportunity to introduce good practice design
- Better onsite design and ‘housekeeping’
- Managing the legacy
  - Working with TLAs to understand and adopt best practicable options to manage public stormwater network discharges and inputs
- Align TLA and RC requirements for better consistency
  - Adopt new processes/management systems

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Proposed policy 1: Stormwater network design for new development and infrastructure

- Increase retention or detention while not creating flood hazards
  - A site **and** network perspective
    - Taking into account site constraints in areas with high groundwater
    - Align with HPUDS focus on infill urban development (small houses on small sections, unit blocks).
    - Develop advice (in consultation with TLAs) on suitable options
      - E.g. extension of the Waterways Guidelines to be more specific

Proposed policy 1: Stormwater network design for new development and infrastructure

- New urban infrastructure (SW and drainage, roading networks, public space)
  - must account for potential contamination and identify mitigation measures
  - adopts a good practice approach
  - design standards specified – e.g criteria for road design

Proposed new policy 2: Source Control

- Reducing sources of SW contamination at the source through:
  - Appropriate **site design**, including installation of SW interception devices
    - New sites – rules consistent for direct discharges and through s/w networks

Proposed new policy 2: Source Control

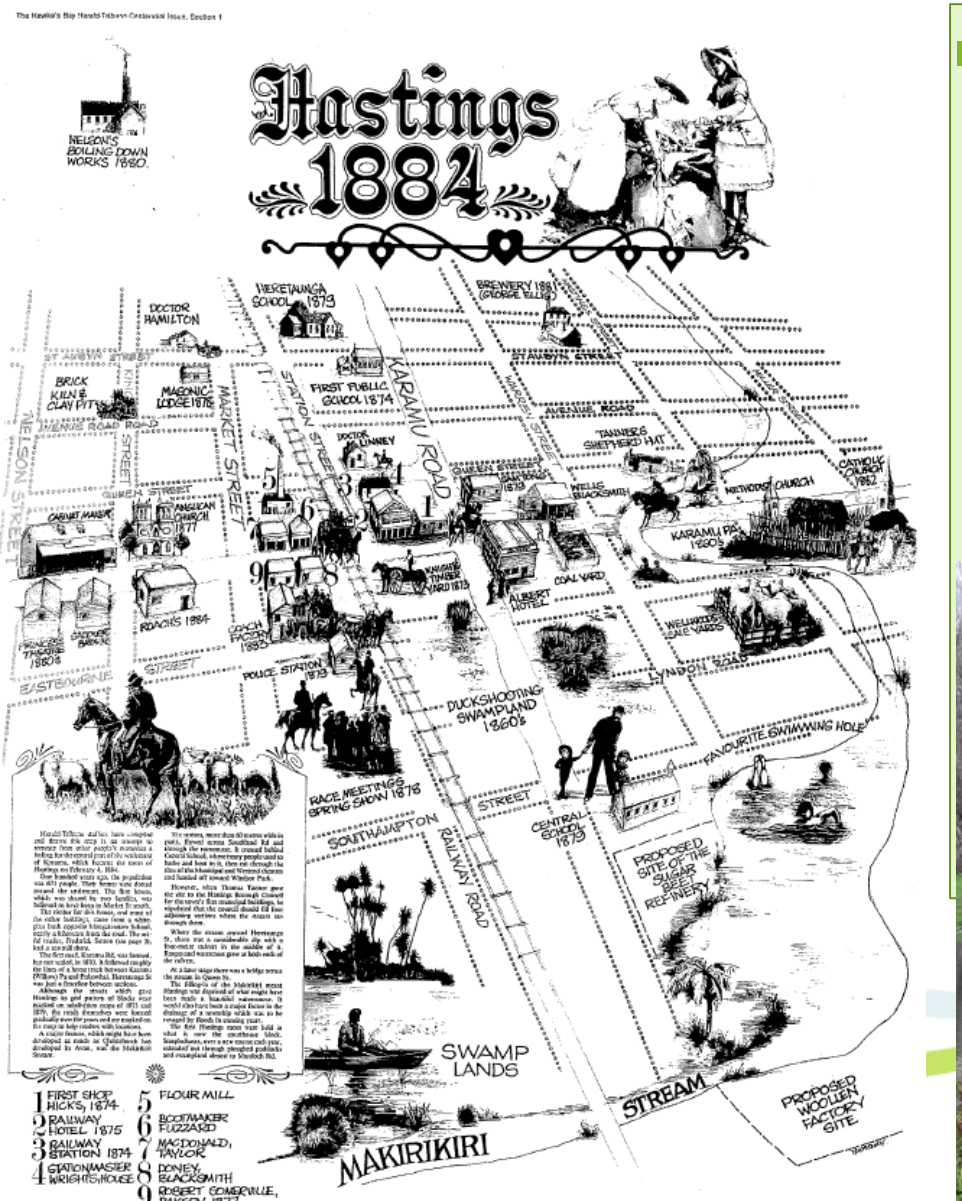
- Reducing sources of SW contamination at the source through:
  - Good **site management**
    - A balance between advocacy and regulation
    - Implications for compliance & monitoring
  - Dealing with the legacy
    - Priority approach to existing industrial and commercial sites
      - High risk activities
      - High priority locations
      - Retrofitting opportunities

Proposed new policy 3: Managing the legacy Integrated Catchment Management

Resource consents:

- Priority approach to retrofitting/upgrading
  - Options and feasibility;
    - Recognising the constraints
    - Installation of treatment devices within the drainage network
    - Stream planting/re-alignment for aquatic ecosystem enhancement

Proposed new policy 3: Managing the legacy
Integrated Catchment Management

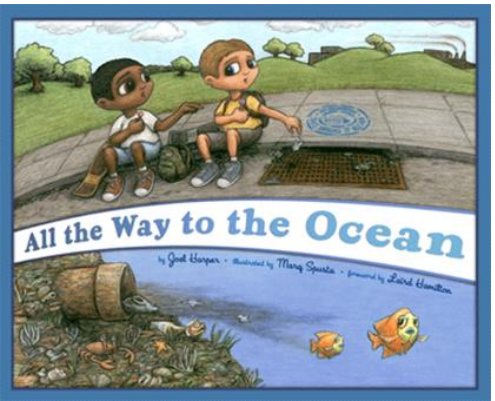


- Priority Approach
  - Targets and timeframes
  - SEV analysis
  - Sensitive locations e.g
    - Wetland recreation for Ahuriri estuary
    - Ruahapia for Karamu River

Proposed policy 4: Consistency and collaboration

Integration of city, district and regional council rules and processes;

- Shared services and standards;
  - Engineering standards/ RRMP rules/bylaws
    - Good practice approach
    - Requirements consistent for all site owners & developers
  - Education and advocacy – communications strategies
  - Monitoring and auditing (site management)



Proposed policy 4: Consistency and collaboration

- Flooding and drainage management objectives accounted for;
  - Consistent and shared levels of service
  - Integrated catchment management approach

- Joint hearings to ensure more integrated management
  - Aligning resource consent and TLA consent processes

He aha whaakaro? Patai?
(thoughts, questions?)

Breakout Question and Next Steps

Four main policy development areas are being proposed;

Do you agree/disagree with these?

- Is there anything missing?

Next steps;

1. Further refinement of policy direction with TLA staff
2. Involve TLA councillors
    - TANK reps to attend council workshop?
3. Possibility of a TANK submission to Council LTPs (depending on timeframes)

Do you agree/disagree with these?

- Is there anything missing?

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Four main policy areas are being proposed;

- Better and consistent s/w design
  - retention/detention where possible
  - good practice approach for public infrastructure
- Better onsite design and ‘housekeeping’
- Legacy issues addressed
  - Priority approach
- Align TLA and RC requirements for better consistency

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GW modelling results

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Senior Resource Modeller

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Breakout Question 1

Options for managing Groundwater levels

1. Model effect of **increasing pumping** to a new groundwater level and assess impact on groundwater levels and stream flows
2. Seek to **cap pumping** at current levels of use
3. Model the effect of **reducing groundwater** pumping and assess impact on stream flows and groundwater levels.
4. Other options?

Which Option do you prefer?

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Breakout Question 2

Options for managing stream flow augmentation;

1. Further progress stream flow augmentation as preferred option to mitigate effects of stream depleting groundwater takes
2. “Live with” stream depletion effects of groundwater takes
3. Develop a ban option for managing stream depleting groundwater takes
4. Model the effect of reducing groundwater pumping and assess impact on stream flows and groundwater levels.
5. Any other options?

Which Option do you prefer?

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Verbal updates from Working Groups

- Engagement
- Economic Assessment
- Stormwater
- Wetlands/Lakes
- Mana whenua

Next meeting – 17 August 2017

- Monitoring Plan
- GW modelling outputs
- Scenario results for SW
- Base case economic modelling outputs
- Report back from farmer reference group

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Next meeting – 7 September 2017

- Nutrient management (inc. discussion paper)
- Plan framework for attribute objectives and reporting
- SW-GW modelling outputs and further scenario refinement
- Report from Wetland Working Group

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Closing Karakia

Nau mai rā

Te mutu ngā o tatou hui

Kei te tumanako

I runga te rangimarie

I a tatou katoa

Kia pai to koutou haere

Mauriora kia tatou katoa

Āmine