



MASTERPLAN

FOR THE GREATER HERETAUNGA AND AHURIRI
(TANK) PLAN CHANGE

April 2016
HAWKE'S BAY REGIONAL COUNCIL |

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1. Introduction

1.1 Purpose

The purpose of this Master Plan is to draw together in one place all the relevant information related to the complex Greater Heretaunga and Ahuriri (TANK) Plan Change Project and show the deliverables (major outputs and inputs) and interdependencies. It also describes the project management approach and resourcing to give decision-makers and project partners' confidence that the various "moving parts" are being well managed.

1.2 Background

In 2012, the Hawke's Bay Regional Council (the Regional Council, Council or HBRC) prepared and notified a progressive, catchment-based programme to implement the National Policy Statement on Freshwater Management (NPSFM). The Regional Councils is required to give effect to the NPSFM by setting objectives and limits in its Regional Resource Management Plan (RRMP) for abstractions and discharges for all freshwater bodies by 2025 to 'maintain or improve overall water quality'.

The Greater Heretaunga and Ahuriri area, consisting of the Tūtaekuri, Ahuriri, Ngaruroro and Karamū (TANK) catchments are being considered together reflecting the interconnectness of the Heretaunga Plains aquifer and surface water resources in these catchments. A collaborative stakeholder group was convened in 2012 to represent the diverse interests in the TANK catchments. It is intended that by investing time and effort into a collaborative planning approach upfront will reduce areas of contention when the plan is notified. However, the large geographic scope, the collaborative approach and the significance of the water bodies within the TANK area make the plan change development complex and resource intensive.

The current timeframe for notifying the TANK plan change, as signalled in the 2015-2025 Long Term Plan is December 2017. A major timing driver for the TANK plan change are 222 (unconfined aquifer area) resource consents for current water takes that will expire in May 2019 and the need to provide certainty to consent holders and submitters.

There are also a number of water quantity and quality issues that make it priority plan change. For example, the Ngaruroro catchment is at full allocation and the Karamū catchment is considered to be over allocated largely by virtue of the RRMP setting zero allocation limits. Issues have also been raised about the methodology for setting minimum flow in the current plan. Reflecting its priority status, the Regional Council has committed new resources, including a number of new staff to manage the project.

2. Project Outcomes

The TANK plan change aims to provide an integrated approach to managing the Tūtaekuri, Ahuriri, Ngaruroro and Karamū catchments so that the overall quality of fresh water in the TANK catchments is maintained or improved. In line with the NPSFM 2014 the plan change aims to *safeguard the life-supporting capacity, ecosystem processes and indigenous species, improve and maximise efficient allocation, protect the significant values of wetlands and phase-out any over allocation.*

3. Project Objectives

The project objectives are:

1. To complete the plan change project on-time in order to provide clear and transparent policy to guide upcoming consent renewals.
2. To ensure the plan change complies with legislation, including the:
 - Resource Management Act 1991 (RMA),
 - NPSFM and other National Policy Statements including the National Coastal Policy Statement (NZCPS),
 - National Objectives Framework (NOF) and the
 - Regional Policy Statement (with amendments where required).
3. To ensure the plan change reflects the strategic objectives of the HBRC Land and Water Strategy, namely:
 - *Planning and Governance*: Government agencies, land owners, Mana whenua, and stakeholders work together towards the unified goal of sustainable land and water management
 - *Sustainable Land Use*: the future viability and resilience of Hawke's Bay's land and landscapes is enhanced and water quality is improved through appropriate land management and land use practices.
 - *Sustainable Water Use*: Long-term prosperity of the region is enhanced through sustainable and efficient water use while maintaining and/or improving the overall quality of freshwater ecosystems for agreed management objectives.
 - *Information and Communication*: Relevant and timely resource information is collected and communicate in a transparent manner to all interested parties.
4. To ensure the plan change is informed by a comprehensive science programme resulting in evidence-based decisions.
5. To use a collaborate planning process based on principles of inclusion and participation via the TANK Collaborative Stakeholder Group.
6. That decision-makers (namely the RPC) own the process and the final plan change by involving them in all major steps including regular updates from the TANK Collaborative Stakeholder Group.
7. To produce a robust and future-proof management plan (unlikely to need regular amendments and remains fit for purpose for its 10-year life).
8. To ensure that staff workloads and priorities are aligned across departments.
9. To promote continuous improvement in plan development processes and implementation by embedding lessons learnt from other plan changes.

4. Deliverables

4.1 Major output

4.1.1. New RRMP Chapter by December 2017

The major output for the project is a new chapter in the Regional Resource Management Plan (RRMP). The Chapter will include objectives, policies and methods for the TANK catchments in an integrated manner. In other words, it will manage surface and groundwater quality and quantity and the effects of discharges, takes and landuse intensification together in one chapter.

The plan change will be adopted by the Regional Planning Committee and recommended to council in December 2017. The Council will adopt for notification in February 2018.

4.2 Major inputs

4.2.1 Consensus recommendations from the TANK Group by October 2017

In line with the new approach to freshwater decision making proposed by the Land and Water Forum, a collaborative stakeholder group was formed in 2012. The role of the group is to provide the Council (via the Regional Planning Committee) with consensus recommendations regarding objectives, policies and methods, including rules for the TANK plan change to the RRMP.

In February 2014, the RPC agreed to have particular regard to any TANK consensus outcome, if one emerges, and the Regional Council has given a good faith undertaking to implement the recommendations of the TANK Group as long as it is consistent with the RMA, LWMS, RPS and LTP.

The following infrastructure is in place to support the TANK Group structure decision-making:

- Terms of Reference (currently under review and a separate item on the RPC Agenda for 20 April 2016)
- TANK Group Work Programme (attached to the Masterplan as Appendix One) including the dates for the next 14 meetings and, what will be covered at each meeting and the required policy, science and other staff inputs .
- Working Groups (Engagement, Stormwater, Wetlands, Mana Whenua and Scenarios)

Outputs from the TANK Group will include:

- Draft Plan Change document
- Monitoring Plan
- Implementation Plan

4.2.2. S32 RMA Evaluation Report by December 2017

Section 32 of the RMA requires that:

- new proposals must be examined for their appropriateness in achieving the purpose of the RMA
- the benefits and costs, and risks of new policies and rules on the community, the economy and the environment need to be clearly identified and assessed
- the analysis must be documented, so stakeholders and decision-makers can understand the rationale for policy choices.

A s32 Report must be prepared by Council in support of the TANK plan change. It will be based on the analysis by the TANK Group on costs and benefits and its assessment of the implications of their management decisions.

4.2.3. TANK Science Programme

HBRC has a major science programme underway in the TANK catchments to, in particular, enhance understanding of ground and surface water interactions.

To assist in the development of the science programme, a Technical Advisory Group (TAG) has been established by HBRC's Group manager Resource Management. The TAG will advise HBRC on science related matters to ensure that science experts agree on the approach being taken to fill the science gaps.

The TANK Group meeting schedule and work programme has been designed around the timing of the science inputs, in particular the completion of the Heretaunga hydrological model in November 2016. Therefore it is critically important that the timeframes are met. The science programme is also dependent on the progress of the TANK Group in particular the development of limits and scenarios.

The science team inputs are integrated into the TANK Group Detailed Work Programme via a separate column in the table on p15 of this document. More specific information on the science inputs is also listed in the table below. Figure 1 lists the technical reports (and in some cases interim information) that will be used to inform the TANK decision making as per the TANK Group meeting schedule. Noting that many of these reports are relevant to more than one catchment so will inform the discussion at more than one meeting. For the purposes of this report, they have only been listed the first time they will be used in the table below.

The technical reports (and the research, investigations and analysis required to produce the reports) fall under the following headings:

- Land Use Studies
- Coastal
- Estuary
- River Flow
- Hydrological Modelling
- Freshwater Studies
- Climate Studies

Figure 1: Technical information available by TANK Group meeting date

TANK Meeting	Date	Meeting Topic/Technical Information (reports and interim outputs)
No. 22-23	9 Aug 16 20 Sep 16	Tūtaekuri and Ngaruroro Quality
		• Summary State of the Environment (SOE) Reporting “ <i>Hawke’s Bay Trends</i> ”
		• TANK Technical SOE reports
		• Nutrient limitations in Tūtaekuri and Ngaruroro
		• Nutrient leaching modelling (Overseer outputs)
		• Report on sediment generation and fate
		• Land use mapping report and map
		• Land use intensification map and report
		• Water Quality Ecology (WQE) TANK report
• Outstanding Freshwater Bodies CEF project (assessment criteria/methodology for separate plan change)		
No. 24	2 Nov 16	Ahuriri
		• Ahuriri catchment - scoping of issues
		• Wetland identification, prioritisation
		• Saline transition zone report
No. 25-26	13 Dec 16 9 Feb 17	Karamū (and low-land streams)
		• Karamū life-support capacity report
		• Karamū investigation on dissolved oxygen
		• Spatial oxygen report
		TANK Quantity modelling
		• Steady State GW quantity model development report
		• Transient GW and SW quantity model development reports
		• Initial scenario modelling results
		TANK Quality modelling
• GW and SW nutrient transport model development reports		
• Initial scenario modelling results		
No. 27-28	22 Mar 17 3 May 17	TANK Quantity and quality modelling
		• Additional quantity and nutrient transport scenario modelling results
		• Scenario modelling reports
No. 29-31	14 Jun 17 26 Jul 17 5 Sep 17	Quality/Quantity Alignment and CBA
		• s32 Report: economic, social, cultural impacts
		• Monitoring report

Note: This may not be an exhaustive list and the availability of the information is the best estimate at this point in time.

4.2.4 Community Engagement

The RPC adopted “*The Greater Heretaunga/Ahuriri Plan Change Process: An Engagement Plan*” in February 2015. This sets out principles for engagement and identifies the range of stakeholders to engage with. It identifies the TANK Group as a key feature of community engagement but also identifies other parties that HRBC consider should be specifically engaged. Further work on engagement activities will be completed by the Engagement Working Group, a subset of the TANK Group coordinated by Drew Broadly, Communications Manager.

4.2.5 Iwi and Hapū Engagement

A separate, yet complementary iwi and Hapū engagement plan has been drafted, led by Dale Moffat (Te Taiwhenua O Heretaunga). In addition Ngāti Kahungunu Iwi Incorporated (NKII) has scoped a values assessment project for the Ngaruroro catchment. Further work is underway to progress these two initiatives and integrate the results into the TANK Group structured decision making framework.

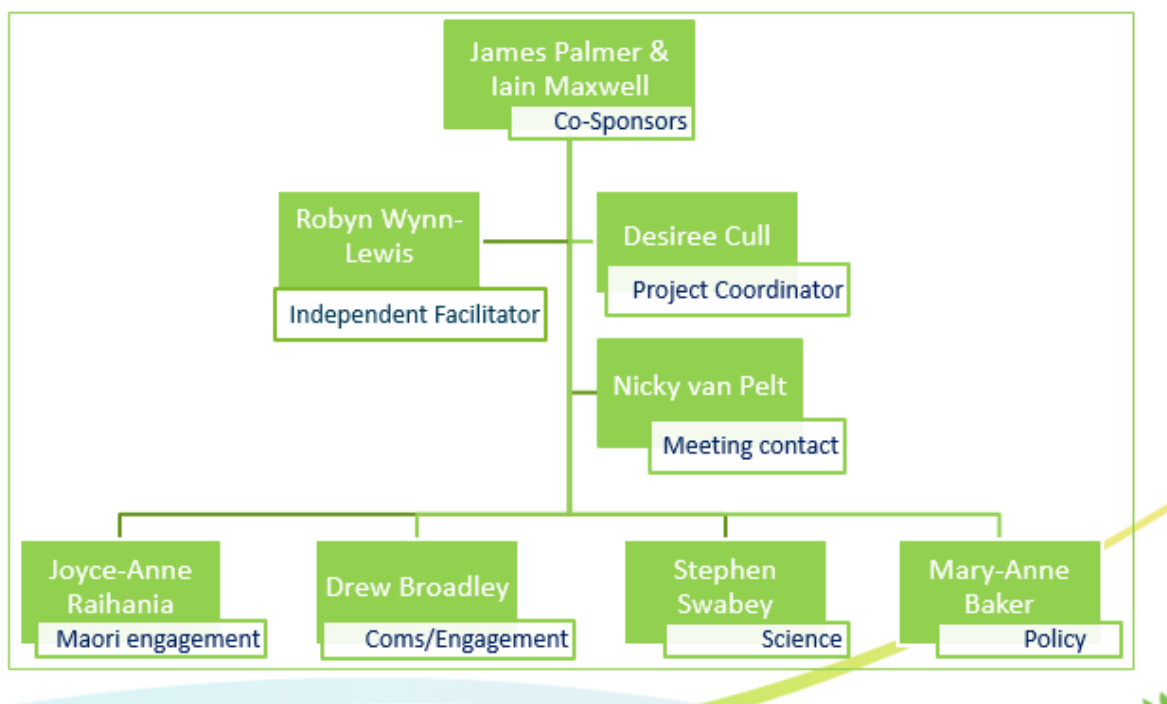
5. Project Dependencies

Name of other project/work	Dependency
Water Conservation Order	The WCO process poses a significant risk to the roles and responsibilities of the RPC, by overriding the mana of the only recently constituted RPC and its current efforts to develop planning leadership of natural resources in the region. If the Minister approves the application (decision due mid-April), the Special Tribunal set up to manage the WCO including public notification, submissions and hearings will divert council's efforts which could result in missed deadlines for TANK plan change.
Resource Legislation Amendment Bill	Provides for collaborative planning processes to be given statutory recognition and obviate some aspects of the Schedule 1 planning process (specifically, the right to appeal on point of substance collaborative decisions).
Heretaunga Aquifer Investigations – deep well drilling programme	Diverts science staff effort

6. Project Structure

6.1 Project Approach

In February 2016, a small multi-disciplinary project team was established to drive the remaining phases of the plan change project from within the Regional Council. The core project team meets fortnightly with each member responsible for reporting progress and issues in their workstream (policy, science, engagement). A key role for the team will be to provide the information and drive the decision-making process for the 6-weekly TANK Group.



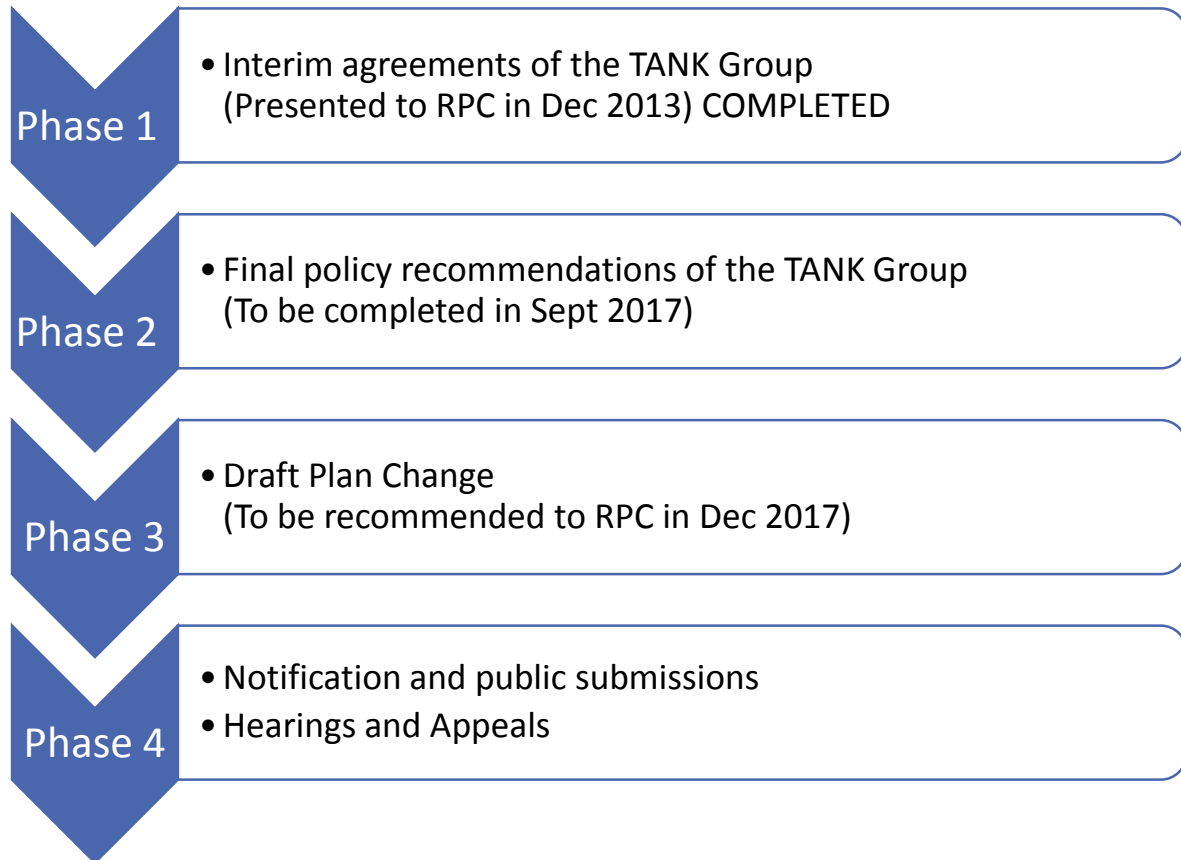
6.2 Roles and Responsibilities

Project Role	Name	Key Responsibilities
Co-Sponsors	James Palmer and Iain Maxwell	Leadership, assist with major issues, problems, and policy conflicts; remove obstacles; active in planning the phase; point of contact for RPC members and stakeholders on substantive matters.
Core Project Team	Desiree Cull	Project Co-ordinator responsible for managing interface between technical, policy and engagement work streams, responsible for communication, including status reporting, risk management, escalation of issues that cannot be resolved in the team, and, in general, making sure the project is delivered in budget, on schedule, and within scope.
	Robyn Wynn-Lewis	Independent Facilitator

Project Role	Name	Key Responsibilities
	Mary-Anne Baker	Policy Workstream Lead including primary drafter of plan change, connector and agenda setter for TANK Group
	Stephen Swabey	Science Workstream Lead
	Joyce-Anne Raihana	Māori engagement Workstream Lead
	Drew Broadley	Coms/Engagement Workstream Lead responsible for both communications within the TANK Group and awareness building within the broader community.
	Gavin Ide	Strategy and Planning Manager
Science Team	Jeff Smith, Rob Waldorn, Pawel Rakowski	Heretaunga GW/SW model
	Dougall Gordon	Groundwater Quality
	Sandy Haidekker	Freshwater Quality
	Barry Lynch	Nutrient Model, Land Science
	Anna Madarasz-Smith, Oli Wade	Coastal Marine Estuaries
Project advisors	Nathan Heath	Land Management
	Martina Groves	Asset Management
	Malcolm Miller	Consents
	Wayne Wright	Enforcement
VMO Team	Jim Sinner, Richard Storey, Suzie Greenhalgh	Values Monitoring and Outcomes (VMO) Research Project is a 4-yr research programme funded by MBIE looking at the workings of collaborative stakeholder groups. The VMO Group will share their findings and have been part of the TANK Project Team since in the inception of the TANK Group.

6.3 Milestones

The project is divided into four phases each phase reflecting a significant milestone during the life of the project.



7. Project Management

Standard project management disciplines are being applied to the plan change project. This includes project budgeting, resource management, an activity list as well as proactive risk, issues, stakeholder and communications management as well as regular status reporting during the execution phase of the project.

8. Appendix One – TANK Group Work Programme



TANK

TANK GROUP Work programme

FOR THE GREATER HERETAUNGA AND AHURIRI (TANK) PLAN CHANGE

April 2016

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Output – Draft Plan Change to manage water quality and quantity in TANK catchments.

Draft Plan Change to include:

1. Objectives for water management in relation to identified values
2. Selected attributes applicable to values
3. Desired or minimum acceptable state (objective) for selected attributes
4. Any necessary limits that will be required to ensure attribute state is met and objectives achieved
5. Water and land use rules necessary to ensure limits can be met
6. Any other methods identified as necessary to meet the objectives including methods to ensure equitable allocation and efficient use of allocatable water

The TANK Group will:

1. Make recommendations to the RPC on objectives, policies and methods to be included in the regional plan.
2. Consider implications of the recommended methods and limits, and any potential alternatives, including in relation to the economic, social and cultural well-being the affected communities and the resource users.
3. Provide regular updates to the RPC about progress and any agreements reached.
4. Maintain regular contact with sub-group work and outputs including for the engagement, stormwater and wetlands groups

Timeframe

Draft Plan Output by the TANK group is due by the end of 2017.

In order to meet this target, meetings will be held approximately every 6 weeks – with additional meetings as and when required for sub groups.

The time frame is guided by commitments in the Council's Progressive Implementation Programme. This programme provides the outline of the staged implementation of key projects that Hawke's Bay Regional Council (HBRC) will undertake to implement the 2014 National Policy Statement for Freshwater Management (NPS-FM). The financial and resourcing requirements for the TANK project are included in the Council's Annual Plan and Long Term Plan.

In addition, a number of water permits in the Maraekakaho area are due to expire in 2015 with the bulk of the Tūtaekuri consents due to expire in 2018 and the a number of consents to take from the Heretaunga Plains aquifers expiring in 2019. New plan provisions that refine and improve the water allocation regime will provide clearer policy direction for consent applicants and submitters before then.

Project team

Project team to meet approximately fortnightly;

- agenda planning prior to each TANK group and subgroup meetings
- debrief following each meeting
- strategy and programme management meeting

Meetings to be attended by key support staff as necessary.

Decision Points

TANK Group

- Confirm Values identification for all water bodies –
 - assign according to water bodies groups for management purposes
- Select attributes (indicators) that are the measurable characteristics of freshwater which support the values
 - Select from performance measures already discussed
- Select attribute state at which identified value is to be supported
 - Consider attribute 'bands' in relation to significance of value – use NOF or sources such as ANZEC, guidelines etc.
- Compare current state with desired state of each attribute
 - Understand threats and risks to desired state – need to know where unmet water demand still exists and potential for land use change where there are water quality implications).
 - Use whatever modelling and land use data to help predict possible changes to attribute state
- Select policies and methods to implement limits and to meet other objectives
- Review management variables in light of the risks and threats to each of the attribute states
 - Refine decisions about key management options (already discussed)
 - Set limits (targets) as necessary (but include minimum flow regimes and allocation limits)
 - Account for learnings from the Tukituki plan change
 - Refine decisions about allocation of resources
- Examine implications of the limits set and management measures (costs and benefits)

There will be some iterations of these various steps as draft or interim decisions are tested and checked alongside other related decisions and cost benefit assessments.

- Develop monitoring plan – refine decisions already made in respect of indicators, take into account NPS requirements for “accounting”

Science Advisory

Two technical groups currently exist to provide science input and advice.

A Science Technical Advisory Group has been established to support TANK decision making by ensuring there is robust, credible and defensible science data and information.

The council has established a Technical Advisory Panel to ensure any science tools and methodologies are selected and applied according to best scientific practice.

Key Staff

<p>HBRC Manager</p> <ul style="list-style-type: none"> • James Palmer, Group Manager- Strategic Development • Iain Maxwell Group Manager, Resource Management 	<p>Scientists</p> <ul style="list-style-type: none"> • Jeff Smith, Rob Waldron, Pawel Rakowski (GW SW model) • Dougall Gordon (Groundwater quality) • Sandy Haidekker (Freshwater quality) • Barry Lynch (Nutrient Model, Land Science) • Anna Madarasz-Smith and Oli Wade (Coastal Marine Estuaries)
<p>Policy Staff</p> <ul style="list-style-type: none"> • Mary-Anne Baker, Senior Planner • Desiree Cull , Programme Leader • Joyce-Anne Reihana, Senior Planner 	<p>Land, Asset and Resource Management</p> <ul style="list-style-type: none"> • Nathan Heath (Land Management) • Martina Groves (Asset Engineer) • Malcolm Miller (Consents)
<p>Administrative Support</p> <ul style="list-style-type: none"> • Nicky Van Pelt, Executive Assistant • Erin Petuha Consents Officer 	<p>VMO team</p> <ul style="list-style-type: none"> • Jim Sinner (Cawthron), Richard Storey (NIWA), Suzie Greenhalgh (Landcare Research)
<p>Facilitator</p> <ul style="list-style-type: none"> • Robyn Wynne-Lewis 	

All meetings will be attended by Mary-Anne Baker, Desiree Cull, Erin Petuha, Robyn Wynne-Lewis, Joyce-Anne Reihana, Drew Broadley, and Jeff Smith with other staff attending as necessary.

Work Programme: Summary

MEETING	TANK MEETING OBJECTIVES	COMPLETION BY
Meetings 19 and 20	Reset TANK focus and work programme Review Values, select attributes Establish working groups	5 April 2016 24 May 2016
Meeting 21	Critical value(s) for selected attributes, and attribute thresholds	28 June 2016
Meetings 22 and 23	Tūtaekuri and Ngaruroro Rivers Water Quality	9 August 2016 20 September 2016
Meeting 24	Ahuriri Management	2 November 2016
Meeting 25 and 26	Karamū Management First look at TANK quantity and quality modelling	13 December 2016 9 February 2017
Meeting 27 and 28	TANK quality and quantity modelling Scenario modelling results and reports	22 March 2017 3 May 2017
Meeting 29	Quality and quantity alignment Review all decisions for Tūtaekuri and Ngaruroro and Karamu Costs/benefits and implications assessments	14 June 2017
Meeting 30 and 31	Review all decisions for Karamū and Ahuriri Allocation options, Other methods, Costs/benefits assessments Monitoring programme	26 July 2017 5 September 2017
Meeting 32	Plan drafting	18 October 2017
Meeting 33	Reserve	22 November 2017

Work Programme: Detailed

MEETING	TANK MEETING OBJECTIVES	HBRC SUPPORT			OTHER
		POLICY	SCIENCE	OTHER STAFF	
Meetings 19 and 20 5 th April 2016 May 2016	<p>Reset TANK focus, outputs, operation.</p> <p>Agree on work programme / meeting frequency</p> <p>NOF and structured decisions making.</p> <p>Review values information and values objectives.</p> <p>Select attributes (indicators) relevant for each value.</p> <p>Consider establishing working groups - (Terms of Reference required)</p>	<p>Provide;</p> <ul style="list-style-type: none"> - draft new TOR incl roles /responsibilities - new work programme and timeframes <p>NOF and structured decision making session</p> <p>Collate values work</p> <p>Use meeting records, WCO application and Cawthron values report to assemble all the agreements (and other information) around values across all water bodies.</p>	<p>Assemble information on attributes –(BBN work, NOF, SOE and any other relevant sources of information and data) (Refer also to PMs and MVs from TANK)</p> <p>Provide background information on connection between each attribute and values</p>	<p>Assistance/resources/liais on for working groups – each group will need convenor</p> <p>Communication support in planning wider engagement (on-going need).</p> <p>GIS support for map work</p>	<p>NKII work on iwi values/attributes project....aligning findings with TANK decision making</p> <p>Working group options;</p> <ul style="list-style-type: none"> • Engagement • Urban stormwater • Wetlands • Water augmentation/storage • Mana Whenua
Working group options	1. Engagement – on going and regular throughout project	<p>Identify needs for community and iwi/hapū engagement</p> <ul style="list-style-type: none"> - Messages, timing and processes for engagement. 	Information	Developing collateral managing information and media etc.	Provide for connection between NKII project/iwi/hapū engagement
	2. Wetlands	<p>Review scope of project, existing plan provisions, identify gaps, opportunities</p>	Land science - review scope of project,		

MEETING	TANK MEETING OBJECTIVES	HBRC SUPPORT			OTHER
		POLICY	SCIENCE	OTHER STAFF	
			Describe existing programme, identify gaps and risks		
	3. Stormwater – Ahuriri Estuary focus (meeting 24) and Waitangi Estuary focus (meetings 22/23 and 29)	Set out scope of working group project – local focus but with regional context. Review history of management action and existing provisions – identify gaps and opportunities.	Coastal Science - Water quality, threats and risks assessment Groundwater science – aquifer management, quality, threats and risks assessment	Consents data – managing s/w discharges. Information on how we currently manage existing and new discharges from the s/w network and managing d/c to land or water. Mapping support – urban areas, s/w networks	TLAs to contribute to assessing current (and any proposed) s/w management/ service delivery. Managing s/w risks from urban (all residential, commercial industrial) land use change.
Meeting 21 June 2016	Understand and agree key attributes - account for any knowledge or data needs Identify any critical value(s) in respect of each attribute (which value is most sensitive to the attribute).	As above	Prepare information on key attributes (what value is most sensitive/highest need for each attribute) Prepare info on attributes/ bands	Spatial distribution of values	Check for industry sources of information. Refer also BBN work
Working group meetings	1. Engagement				
	2. Wetlands				
	3. Stormwater				
Meeting 22 August 2016	Tūtaekuri and Ngaruroro Rivers Water Quality –	Review TANK agreements to date Check BBN settings.	Science - Collate/present by upper, middle and lower reaches Information on current	GIS /mapping support	Other info than SOE Check WCO support information – consider

MEETING	TANK MEETING OBJECTIVES	HBRC SUPPORT			OTHER
		POLICY	SCIENCE	OTHER STAFF	
	<p>Confirm values and attributes. Confirm upper/lower river management areas.</p> <p>Select attribute state (NOF management objective) in each management area.</p>	Need to review all information about values (ref also WCO application)	(quality) attribute state for each reach – compare with desired state (SOE)		level of protection/significance
Working group meetings	1. Engagement				
	2. Wetlands				
	3. Stormwater				
Meeting 23 September 2016	<p>Continue Water Quality Provisions for Tūtaekuri and Ngaruroro</p> <p>Identify where there is a gap between current and desired states.</p> <p>Understand other risks and opportunities to achieving or maintaining desired states</p> <p>Establish objectives for each attribute and limits/loads where necessary/possible</p> <p>Review options for management if time (MVs)</p>	<p>Risks and threats identified – (i.e. land use or water use changes, hydro other impacts etc.).</p> <p>Review work on management variables</p> <p>Manage debate in light of model outputs to come – (esp for N and possibly for P)</p>	<p>Land science input.</p> <p>Model existing land uses, riparian information, sediment and nutrient loss data.</p> <p>Information to show impact between management choices and water quality outcomes - use the BBN to inform this Sed-net and Riparian models</p>	<p>Resource consent information – discharges</p> <p>Map support for land use, land use change</p> <p>Learning from the Tukituki catchment plan implementation</p> <p>NIWA – BBN display of effects of management options (May need to wait till next meeting – once options have been selected)</p>	<p>Industry input into understanding current practice</p> <p>Economic assessment of mitigation options -</p>
Working group meetings	1. Engagement				
	2. Wetlands				
	3. Stormwater				

MEETING	TANK MEETING OBJECTIVES	HBRC SUPPORT			OTHER
		POLICY	SCIENCE	OTHER STAFF	
Meeting 24 November 2016	<p>Ahuriri Management</p> <p>Understand and agree values.</p> <p>Understand and agree relevant attributes, attribute states and desired attribute state</p> <p>Understand key risks and opportunities</p> <p>Minimum flow regime – consider options and methodology</p>	<p>Collate relevant values information.</p> <p>Assess water quality and quantity threats and risks.</p>	<p>Coastal science – connection between freshwater management and Ahuriri estuary values</p> <p>Water science – current and desired state and trend information.</p> <p>Hydrology - Flow data and methodology choices for setting limits for ecosystem values</p> <p>Land science– land use current, likely changes, potential impacts on water quality and abstraction demand</p>	<p>Stormwater working group input</p> <p>Consents information – Existing and potential new land/water demand (urban s/w impacts on water, water supply needs)</p>	<p>BBN check for Ahuriri</p> <p>Check urban water demand/urban development (s/working group)</p> <p>Link with HBUDS</p>
Working group meetings	1. Engagement				
	2. Wetlands				
	3. Stormwater				
Meetings 25 and 26 December 2016 February 2017	<p>Karamū Management (quality and flow)</p> <p>Understand and agree values.</p> <p>Understand and agree relevant attributes, attribute</p>		<p>Science – ecology</p> <p>Summarise information on current (quality) attribute state compare with desired state and trends</p> <p>Land science; provide information about</p>	<p>Consents –collate information about d/c and water takes</p>	<p>Industry input into scenarios</p> <p>Information on security of supply needs from industry</p> <p>NIWA – BBN</p>

MEETING	TANK MEETING OBJECTIVES	HBRC SUPPORT			OTHER
		POLICY	SCIENCE	OTHER STAFF	
	<p>states and desired attribute state</p> <p>Understand key risks and opportunities</p> <p>Minimum flow regime options –will need re-visiting once final model results available</p> <p>Consider Management options and costs to meet desired state</p>		<p>existing and potential changes to land and water uses (abstraction demand), riparian land management information, and nutrient loss data. (Riparian model?)</p> <p>Hydrology - Flow data and methodology choices for setting limits for ecosystem values</p>		
Working group meetings	1. Engagement				
	2. Wetlands				
	3. Stormwater				
Meeting 27 March 2017	<p>Tūtaekuri and Ngaruroro Rivers – quantity management</p> <p>Understand flow regime management options for main stem and tributaries for flow setting</p> <p>Understand how flow regime and security of supply choices will influence allocation limits. – (and vice versa)</p>	<p>Does the group know how the flow regime/security of supply/allocation limit components all interact?</p> <p>Review existing agreements by TANK</p>	<p>Ecology – identify critical value flow requirements</p> <p>Hydrology –data and statistics; show security of supply and allocation limit consequences for each minimum flow regime option</p> <p>Model results in relation to ground surface water connection and impact this has on where allocation limits apply</p>	<p>Modelling team – review information so far on s/w and g/w connections</p>	<p>Options for managing water abstraction within allocation limits, including during low flows/droughts.</p>

MEETING	TANK MEETING OBJECTIVES	HBRC SUPPORT			OTHER
		POLICY	SCIENCE	OTHER STAFF	
	Understand g/w s/w connections		(g/w impact on surface flows accounted for)		
Working group meetings	1. Engagement				Final reports
	2. Wetlands				
	3. Stormwater				
Meeting 28 May 2017	Tūtaekuri and Ngaruroro Rivers – quantity management (continued)				Costs and benefits of allocation choices – economic assessment report
Meeting 29 June 2017	Review all management decisions Tūtaekuri/Ngaruroro – complete where necessary. Consider allocation priority regimes	Commence Plan drafting based on decisions to date		Land management options/current and potential processes. Compliance input. Consents (and water metering) management	BBN to review options selected
New working - group?	Plan drafting and review??				
Meeting 30 July 2017	Review all management decisions for Karamū and Ahuriri Review costs and benefits of choices Consider/ review possible alternatives Monitoring plan	Commence Plan drafting based on decisions to date	Monitoring Plan input	Land management options/current and potential processes. Compliance input. Consents (and water metering) management	BBN to review options selected
Meeting 31 September	Commence review of plan drafting outputs to date	Provide plan drafts for discussion			

MEETING	TANK MEETING OBJECTIVES	HBRC SUPPORT			OTHER
		POLICY	SCIENCE	OTHER STAFF	
Meeting 32 November 2017	Plan Drafting – review outputs				
Meeting 33 November 2017	Reserve				