

# Whaitua Kāpiti Committee hui

**13 December 2023**

**Venue:** Otaihanga Boating Club, 19 Makora Road, Otaihanga, Paraparaumu

## Committee members present:

### *Mana Whenua Whare*

Dr. Mahina-a-rangi Baker (Taurite) – Ātiawa ki Whakarongotai Charitable Trust

Dr. Aroha Spinks – Ngā Hapū o Ōtaki

Sharlene Maoate-Davis – Ātiawa ki Whakarongotai Charitable Trust

Caleb Royal – Ngā Hapū o Ōtaki

### *Kāwanatanga House*

Jenny Rowan (Taurite) – Kāpiti Coast community representative

Jocelyn Prvanov – Kāpiti Coast District Councillor

Kerry Walker – Kāpiti Coast community representative

Monique Leith, Kāpiti Coast community representative

## Apologies:

### *Mana Whenua Whare*

Shane Parata – Ngāti Toa Rangatira

Naomi Solomon – Ngāti Toa Rangatira

### *Kāwanatanga House*

Penny Gaylor – Greater Wellington Regional Councillor

Pātaka Moore – Kāpiti Coast community representative

### *Facilitator*

Dr. Kathie Irwin, GWRC Contractor (Kathie Irwin & Associates), Mana Whenua Whare

## Kaimahi present:

### *Mana Whenua whare*

Claire Gibb – Mana Whenua Whare Co-ord, Ātiawa ki Whakarongotai Charitable Trust

Torrey McDonnell - Planner, Mana whenua whare (was there)

Dr. Russell Death - Professor of Freshwater Ecology

### *Kāwanatanga House*

Nicola Patrick Director Catchment

Michele Frank – Catchment Manager Kāpiti Coast, Catchment, GWRC

Phill Barker – Senior Policy Advisor, Environmental Policy, GWRC

Ames Donovan (Minutes) – Senior Catchment Advisor, GWRC

Chloe Nannestad – Policy Advisor, GWRC

Tim Stoddart – Planner, GWRC Contractor (Incite)

Rita O'Brien – Stormwater & Coastal Engineer, Kāpiti Coast District CouncilHQI

9:45 am – Start

## 1. Kārakia, Mihi and Welcome

## 2. Confirm agenda and sequence of decisions

**Kāwanatanga:** The Kawanatanga house does not think we can finish today. Premise is that we have done so much work and the ownership of this work in community driven discussions, I'm not comfortable handing that over to the GW system to finish. I'd like the process to receive the dignity it deserves and see it through. With that underpinning thought, there are some aspects today I think we can just move on. I recognise we all want to finish these discussions and there is a lot of goodwill and strengthened relationships through this process that I want to acknowledge.

### Director Catchment, Greater Wellington

Speaking to future timelines of the process:

- The Kāpiti Whaitua have a Draft WIP and Section 32. Special thanks to Mahina-arangi, grateful for your leadership and expertise as we work together moving forward in some way.
- Thinking that the Whaitua could work through to March and submit to council in April. Can extend the honorarium through this time, including January.
- Outstanding, including Russell's work, await the kaimahi to summarise and feedback to the committee and then we can have a plan for getting through to the finish line. Submitting to council will need to tie in with a GW full Council committee and then we move into designing Phase 2. GW policy team with input from Incite planning team to determine what needs to occur as part of the RMA.
- This will happen before the plan change documentation and alongside the WIP process. The good news from the other Whaitua, is that the vast majority of the WIP recommendations have been picked up by Plan Change 1.
- Council colleagues are spread thin across two haring panels. Unlikely to have plan change analysis by start of 2024 completed based on experience of how much is involved. End of 2024 deadline is for the notification of the NRP plan change for the NPS-FM components and this might change with the new government. GW has said to the minister that we are open to a date extension, but we also highly value the use of a deadline to ensure progress continues for freshwater.
- Very real limit on all our resources. Limited market for experienced planners and budget constraints. However, progressing the plan change and honouring the work of the Committee is key.
- There is the option to combine the Ruamāhanga and Kāpiti Whaitua plan change processes to save on resources (e.g., hearing costs, engagement, and consultation etc), but noting that combining would delay the plan change for Kāpiti.

- Hope that we can work together through that period then we can present options for Phase 2 and a new model and determine your individual involvement. I appreciate your thinking and teamwork that the committee has brought.

**Mana Whenua:** When regional council provided advise to the minister about an extension to the implementation of the NPS-FM what consultation occurred with mana whenua before they provided feedback?

**Director Catchment, GW:** Don't think any additional consultation occurred.

**Mana whenua taurite:** That's a treaty breach, anytime they want to approach the government, about changing a statutory framework. Reasonable expectation that there would be consultation with a treaty partner. Being in a partnership approach and being aware this has been taken to the minister, they have treaty obligations as the treaty partner. I understand why GW might want to push back but I think it lacks integrity because it has been done without informing us.

Before we engaged in this process, mana whenua discussed the benefits of being involved or just preparing ourselves for working in an adversarial approach and I wonder what approach we might have taken knowing this. It separates iwi from Council in the partnership and positions iwi to have to go to the minister separately. Once we lose a timeframe, we lose the urgency with which Te Mana o te Wai (TMoTW) will be delivered.

The council [Greater Wellington] has known about this for four years and have been able to budget for that. We [mana whenua whare] just don't accept the explanation that there isn't enough resource. It needs to be said that there is a very sinister behaviour of the kawatanga, acutely aware of the government policy and how the ACT party wants to get rid of the NPS-FM.

It's unconstitutional that the entire Kāwanatanga regime is changing based on this. The behaviour of the crown across the public service that it's not appropriate to use Tikanga and Te Reo based on an election campaign and not what the law is. Very disappointing that this Council is acting in this way. Using politics to not follow their own law.

We insisted on this deadline because it is in this council's [Greater Wellington] own plans that are operative – regardless of what this government does or doesn't do. That is potentially a red herring. GW must deliver on its own plans. To summarise, the ART Whare might caucus, and we might decide to let go the principles of having the timeframe of Dec 2024 but that's been our position to date. For Council how can it possibly suggest it's following a Te Tiriti approach without coming to this Committee to discuss. With an active tribunal in play, this is another example of the inability to work in a Te Tiriti compliant way.

**Director Catchment, GW:** I hear you. I'm the messenger and will take this back.

**Mana Whenua:** Frustrated by hearing these messages at the start of the hui and would like us to get on and stop being derailed by the process matters. We are here for TMoTW and I'd like to get on with the decisions that we came here today to discuss.

**Kāwanatanga taurite:** The law is the law, and this is the reality of what we are operating in. The shocking changes proposed will have to go through a real process before becoming to law. Concern about a final date, can we get to a date as quickly as possible. With a commitment to stand on that early next year.

**Mana Whenua:** Unsure that I support this. It's been a treaty breach; we will be replying in writing. Waitua Kāpiti is working to December 2024. Today is about concentrating on what we need to do.

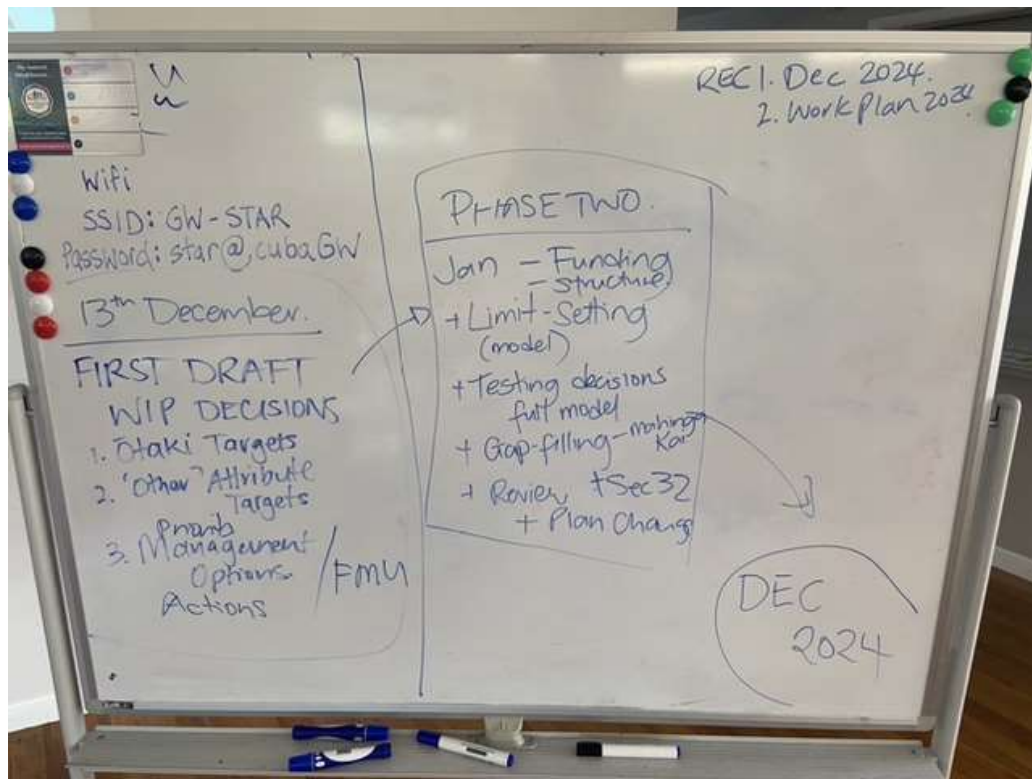
**Kāwanatanga:** The committee had proposed last week that we might need more time before handing this over.

**Mana Whenua:** Let's do admin stuff about next year later. I get nervous about a timeframe potentially being moved. Leaves us open to governmental shifts. I'd rather propose that if we are all in agreement about that date being the final date, I'd push back, if we agree to that to meeting it, that then it's an exemplar that we aren't subscribing to what is coming. I don't think we should roll over to the first iteration that the new government is proposing. Would like us to still stand up as the Kāpiti Waitua with its own mana and mauri. To say that too, we are as a committee are aligned.

**Mana Whenua:** I don't accept this proposal to stretch out. We have changed and altered the whole timing of our committee to fit meetings in to make the timings. I don't accept delaying the process. If it means action plans being delayed for an unspecified time, that's a cop out and I don't accept that. I am part of this to make real changes and this has been on the cards for years we can't delay it. Am sick of the excuses.

**Mana Whenua:** By contrast can we get an outline and a course of action of what we need to do, and what it would take for Council to deliver then plan change in the next 12 months

**Kāwanatanga:** We feel like we have been tagged on the end of everything.



**Mana Whenua:** There were things could have done this year and haven't. Not fair to have mana whenua technical officers here without future resourcing for them guaranteed. But

there is no certainty for mana whenua on how to get our people to the table. As Kāwanatanga have heard, mana whenua has a different funding structure which aren't fit for purpose and an actual funding agreement in place before we can be here.

The committee need to leave today with a whole WIP product and showing what work is required going forward. That should give Council officials with enough to continue the plan change work. Aim today to complete a first draft of the Whaitua Committee's decision on the WIP.

The committee also need to make residual decisions on the attribute targets as NHOŌ weren't at the last meeting.

The committee can focus on what are our priority management options for each FMU. If there is agreement that this sets the agenda for today, we need to recognise that we already have a whole lot of info on what those management options are. Like to suggest a principle that we know those recommendations that have been drafted are already in the future doc. What we haven't talked about is what are the big-ticket items for the FMUs. Like we know for Waikanae we need a wastewater treatment plant. If we do this today, we have something to handover.

**RD:** In the absence of any data to make decisions I think we need the summer period to consolidate data to inform the decisions you are needing to make.

List of actions for next year:

- Funding and structure of the Committee, maybe in a different form.
- Gap-filling to test decisions through the modelling including info that hasn't been there yet.
- Limit-setting, MW and community, there is good reason for MW to be involved in the limit setting process.
- Review and Section 32.

There are some decisions to be made that can't be made yet due to data but we can handover what we can decide on today. Gives us a solid foundation.

MORNING TEA

### 3. Remaining target setting across FMUs

\*\*\* The notes below detail the discussion around the Freshwater Management Unit= Target Setting, for a visual representation please refer to the tables in Appendix 1 \*\*\*

*Ōtaki:*

**Mana Whenua:** What is the current state of macroinvertebrates in these FMUs, do we retain or make higher? On top of that we reviewed what do the other attributes need to be set at to improve macroinvertebrate health. We have a baseline and a current state in the

two areas that are monitored are an 'A', agree to keep them the same band. What is baseline band B? Monitoring 2017.

Other key attributes include deposited fine sediment – retain as an 'A', Dissolved Phosphorus retains as an 'A'.

*Mangaone:*

**Mana Whenua:** Do we need to increase it from a 'C'?

**RD:** B was seen as the ideal. Compared to A which is a high bar.

**Mana Whenua:** For it to go to a B, C or D, what is required?

**RD:** Nutrients.

**Mana Whenua:** One of the monitoring sites is where it's always going to slow and fine sediments are going to be.

**RD:** The A, B, C fuzzes out a lot of the actual information you need to understand the stream health.

**Kāwanatanga:** Suggest we suggest the aspirational target as high as we can.

**RD:** It's a sick river.

**Mana Whenua:** In terms of what we want to start regulating is it better to aim for a 'B' and get there.

**RD:** It will be almost impossible to achieve a 'B'. Think you will even struggle to get it to a 'C'.

**Kāwanatanga:** Maybe monitoring and enforcement of consents on this stream hasn't been as tight as it could be. If we look at some of the causes of contamination, if some things were tightened up it could make it easier to achieve what we want.

**Mana Whenua:** Can we capture as a management option for this catchment, that we want to capture diffuse management to really look at where monitoring stations should be set.

**Kāwanatanga:** I bring it up now as it might be easier to improve the stream health by wider actions.

**Mana Whenua:** People know that there are a couple of polluters who run a lot of stock near waterways.

**RD:** Its full of sediment too and considered a soft-bottom stream. In the model you would need to drop the DIN down to an 'A' band, DRP not an issue, deposited sediment a 'B'. So, a 'C' is aspirational.

**Mana Whenua:** To get the 'C', we need to set an 'A' band for nitrates. What was clear at the council meeting, a lot of the community are sick of this stream being in this condition.

**Kāwanatanga:** For the community this is a biggie. If you were to look at the stress indicators, the community would be highly stressed.

**RD:** A 'B' for DIN. Limiting nitrates and sediment will lift the ecosystem health. 'B' nitrate, 'C' for Dissolved Phosphorous and 'B' for Macroinvertebrates. MfE characterises it as a soft-bottom streams but a lot of the ones that MfE think are, aren't.

**DECISION:** 'A' band for nitrate, bottom line C for DRP, B for deposited fine sediment, B for DIN (0.6), C for MCI.

*Kōwhai:*

**Mana Whenua:** C for macroinvertebrate. If the Ministry for the Environment (MfE) says it's a soft bottomed stream it doesn't have any limits on deposited sediments. This is the implication with government having them classified as soft-bottomed.

**Kaimahi:** Even outside the hard and soft bottom discussion a lot of the sediment that enters is imported fill – sand that washes off.

**DECISION:** Macroinvertebrates– C, DP – B, Phos – C, DIN – B

**RD:** Attributes around mahinga kai that need to be added.

**RD:** Fish IBI and Habitat index added to the model.

**Mana Whenua:** What can we make decisions on today?

**RD:** You want to have similar aspirations for Fish IBI, there is more data on the fish IBI. Which comes back to the monitoring site and the outcomes.

**DECISION:** Whatever is an 'A' for Fish IBI remains an 'A'.

Kowhai: No modelling on the Fish IBI.

**Mana Whenua:** We have caught a lot of fish in there suggesting relatively high Fish IBI.

**DECISION:** 'A' for Kowhai Fish IBI.

Wharemauku has a B for Fish IBI. MW: only B across the district, should we be aiming for an A across the district?

**DECISION:** Wharemauku 'A' for FIBI.

#### 4. Quantifying habitat quality (Dr Russell Death)

*Presentation attached in Appendix 2*

- Critical component – healthy awa requires somewhere for those animals to live.
- You can have high water quality but if it's channelised it offers no habitat value whatsoever.
- A good habitat environment has riffles, meanders, and different species live in different parts of the river and will move to different places in the river during storms.
- You can't have high ecosystem health by high quality water and lots of it. It's part of TMOTW. Interestingly the foresight of GW got scientists, Mana Whenua and flood experts to look at retaining habitat.
- Initial work was completed with GIS, aerial and LIDAR data.
- Index of 1 = no change from the baseline state (depending on where that has been recorded from), the closer to 0 it gets the poorer the natural condition.

- Had measures for many of the downstream measures for Ōtaki and Waikanae but you might like to be more aspirational.
- If sinuosity hasn't changed = 1. Closer to 0 = more change.
- Note – photos from the presentation of the river sinuosity changes for in the WIP.
- LIDAR – shows you what's under the vegetation.
- Ōtaki town is on a floodplain.
- Permitted flood plain measure and natural flood plain width. 1 = natural flood plain width, closer to 0 = less permitted flood plain width.
- A critical aspect of ecological health is habitat and management might include restoring. Backwater and undercutting are important for habitat.

**Mana Whenua:** For setting a Habitat Quality Index target, what would be your proposed method for habitat index target setting?

**RD:** I don't know any other way to include habitat other than the Habitat Quality Index (HQI). Once it gets below 0.3 its poor. For waterways that haven't had an HQI assessment I would suggest you might like to agree to a 1. It's a critical part of the ecosystem that isn't protected in any other way. The measure has different factors so it allows for engineering as other parts can be improved.

**Mana Whenua:** What about streams that have been heavily modified and setting a 1, wouldn't we need to go for more than a 1?

**Mana Whenua:** What about engineered habitats that provide good habitat?

**RD:** You look at a particular reach and just assess the habitat for fish – doesn't matter if engineered or natural. If you adopt a target of 1 it would be a way of maintaining the existing habitat. And the habitat can go above.

**Kaimahi:** You could look at the catchments where there is land, and you have room you can require the developers to leave more space.

**RD:** Ecosystem habitat doesn't work for lakes. Little data for periphyton.

**Mana Whenua:** A question for Council, knowing what is required, why isn't there the data that is needed to decide these attributes, periphyton in particular, why haven't they been generated? It doesn't make sense to me.

**Kaimahi:** We can contact the K&I team leader and ask.

**RD:** There doesn't seem to be much data available in the Kāpiti on periphyton

**DECISION:** Wairongomai FMU – macro: B, Deposited sediment – C, Diss phos – B, DIN – A.

**Mana Whenua:** Significant that we have made several decisions that set the conditions for other decisions to be made across the FMUs. Setting a clear picture for TMoTW.

Team has compiled sets of recommendations per FMU, the result of discussion we have been having. For our FMU's we focused very rapidly on what the priorities are. We felt it would be helpful to really signal the priorities and on what can be done right now. In the 3.5



hours after lunch, we want to have 15 mins to agree what are the priorities and if and what we need to say about HCI for each of these FMUs.

**RD:** Setting outcomes for habitat is leading the way nationally.

**Kāwanatanga:** It would have been good to receive the papers sooner. I would really like to flag having something dumped on us late is not acceptable. Feel we are do it right or do it late. I don't think this is the first time I've said about the timing of documents and the timeframes to see the documents. It's hard when everything is rushed. I don't know what the process in the new year will look like.

**Mana Whenua:** I don't think the options are do it right or do it rushed but might be now or never?

**Kāwanatanga:** Suggest that we go through one of the FMU and see how that goes.

## 5. Agreeing priority FMU specific actions and recommendations

### *Waiorongomai discussion*

**Kāwanatanga:** Farmers are allowing cattle to breach fences and there is no enforcement. Constantly undone by people taking measures into their own hands.

**DECISION:** Amend point a). to "stock exclusion and enforcement" and d). to add "and community" which can also be a district wide change and include these parties for joined up actions.

**Kāwanatanga:** Recognised the significance of the community group contribution to environmental restoration in the district.

**Mana Whenua:** The HQI, is there a need to increase it from a 1?

**RD:** Going from 1 to 1.5 should provide a dramatic improvement.

**Mana Whenua:** If we set it as a targeted attribute, it would really be a regulatory requirement for planting. So, it's feasible to say we'd have an action plan to have it 1.5 so it becomes part of the catchment planning.

**Kāwanatanga:** So, it would mean financial support from councils.

**DECISION** – HQI = 1.5

**Mana Whenua:** I'm considering what coordinated monitoring looks like. Can we add the words, "coordinated monitoring", to D and across the board for all recommendations?

**RD:** The issue of macrophytes in your waterways is an issue, they remove the power of that river to restore its nature habitat. Reducing macrophytes in the lower rivers would make a big difference and provide bang for buck. Do you try and make the worst sites better or maintain the existing ones?

**Mana Whenua:** Might revisit the need to prioritize removal of macrophytes across the region due to the high benefit for ecosystem health.

**RD:** Macrophytes are the key first step for enhancing ecosystem health as they stop the sediment from moving out to sea.

**Kaimahi:** Can confirm that there is a cross-district recommendation for accurate reclassification of streams.

**Mana whenua:** Support recommendation 59, to identify and map incorrectly identified streams.

**DECISION:** Action plan developed by December 2025.

**Mana Whenua:** In terms of the Te Ātiawa kaitiaki plan we had “priority huānga” priority actions. Also – in terms of the WIP scope being broader than the Plan Change stuff, there is stuff we could be doing right now, like stock exclusion. We want to give guidance on how to prioritise BAU as well. After today, kaimahi, you have commentary from the committee on what the priorities are so you can prioritise BAU.

The last district-wide thing to capture is – there is a strategic order to certain restoration and management actions e.g. Russell’s example of remove macrophytes first, sediment second. Make sure you include a recommendation so something systemic is in place to ensure that the order of actions between GW and KCDC are coordinated.

*Waitohu FMU*

**Kāwanatanga:** There are stock exclusion regulations in place under the Natural Resource Plan.

**Mana Whenua:** Something missing, limit setting in the strict sense, like DIN, 1 is the target for the catchment, then council needs to allocate who discharges what and how much. I think this is the first moment we start to recommend the importance of setting limits.

**Mana Whenua:** Dairy farming is the main land use which will be creating the nitrogen. I suspect it’s not just about stock exclusion but potentially about land use changes.

**Kāwanatanga:** There are different ways of using nitrogen – you can use 20/30kg a year, or if you have a different stocking rate you might use 200kg a year.

**RD:** the NPS-FM limit for Phosphate equates to 190kg per hectare.

**Kāwanatanga:** what about riparian planting?

**RD:** It doesn’t affect nitrogen levels because it goes underneath the soil; riparian planting only helps for phosphate and sediment. Other councils have enforced farm environment plans that have something about nitrogen caps in them.

**Mana Whenua:** For me to make this robust, it can’t be silent on land use. If we know it means turning down dairy farming or that land use needs to reduce in some areas.

**RD:** Could be a non-permittable activity that requires consent. Every farm above 40 hectares requires a farm plan. This is being rolled out across the country and will be down here next year. In my humble view, the just identify threats as opposed to active management.

**Kāwanatanga:** They’ve done capped nitrogen levels in Canterbury we could do something similar.

**Kaimahi:** Plan change 1 did yes, cap and “no intensification”, but the cap is if you change from this land use to the other. You are staying stop. Then we introduced the FEPs that have a 40-hectare trigger. Introduced a rule that requires farm plans for 4-40 hectare dependent on intensification. The cap is designed to help things getting worse and the Farm Plans are hopefully going to work on reducing nitrates.

**Mana Whenua:** There are questions around a nitrogen cap, do you measure nitrogen going in or what’s going off the land?

**Kāwanatanga:** Measure what's going into a farm. A cow will excrete as much nitrogen as whatever, easy to work out. And then the other part is whatever you apply, which is easy to quantify because of invoices etc. For farmers it's all about what makes sense financially. There are lots of methods to reduce nitrogen from dairy farming but sadly farmers aren't doing it. Set some caps but have education too about how they can farm more efficiently and better, and their animal health improves as well. There must be some stick and carrot; farmers are really sick of rules from regional councils.

**RD:** It can be done.

**Mana Whenua:** We want to make it real and if we were to set a nitrogen target what would it be?

**Kāwanatanga:** Feel unqualified to state what that would be due to the financial implications for farmers.

**Kāwanatanga:** What about horticulture? They use more nitrogen than farmers. We could also include some requirements for slow-release products to be used.

**Mana Whenua:** What are we trying to achieve? The management of nutrients getting into our streams. We are trying to subvert it and determine what could be applied to get the outcome. I think it's enough to include a rec to say: prioritise nitrate reduction in this catchment by way of introducing a cap as to what's applied on a farm. That can be developed based on best advice.

**Kāwanatanga:** Nationally I think it's about 190, and only about 5% of farmers will be above that – I think 100 is a lot still. What if we built in reduction, a sinking lid approach – the cap goes down over time?

**DECISION:** sinking cap on nitrate.

**Mana Whenua:** What about HQI? 1.5?

**RD:** I think that's ambitious. Could you just say improve above 1?

**DECISION:** HQI at 1.

**Kāwanatanga:** Add date of Dec 2025 to action plan and prepare a table of when the various action plans are due.

### *Ōtaki*

**Mana Whenua:** It's an aggressive channel so the opportunities really lay in the tributaries coming into the river for improving habitat.

**RD:** Would be good to link with the flood management code of practice, which has HQI in it and bring in a minimum requirement.

**Mana Whenua:** Need to look for opportunities to give the river more space. The flood management plan is from 1998 and is due for review.

**Mana Whenua:** Prioritise the review of the Otaki flood plain management plan to include a channel design that will lift the HQI above 1 and give effect to Te Mana o te Wai.

**Mana Whenua:** There have been recommendations on groundwater etc., that already have been agreed by the taurite and they reflect that we don't have the info we need. This will be an example of further things to review as we can't tie a tidy regulatory framework around it

as we don't have the evidence. If we can do the ecological restoration of those tributaries, it will mean the problems that manifest from nitrogen is mitigated. If we can increase the tree coverage of the stream it will improve the habitat in those tributaries.

**Mana Whenua:** There have been recommendations on groundwater etc., that already have been agreed by the taurite and they reflect that we don't have the info we need especially around the connectivity. This will be an example of further things to review, and you can't tie a tidy regulatory framework around it as we don't have the evidence. If we can do the ecological restoration of those tributaries, it will mean the problems that manifest from nitrogen is mitigated. If we can get the trees up and cover the stream and will improve the habitat in those tributaries.

*Mangaone:*

**Mana Whenua:** Nitrates and E. coli are big issues here. Would we want to include a similar recommendation in here to the Waitohu?

How would the community in Mangaone respond to a cap and sinking lid? Would we want to include a similar recommendation in here to the Waitohu?

**Kāwanatanga:** Almost an individual approach there because there's only about five farms so a direct approach could work. If we have an overarching allocation, do we want every farmer to have less? The people I know there are mainly sustainable. Will it be effective if the current nitrate is 1.5 and we need to bring it down? By introducing a cap you would deal with one problem. This is why we need two monitoring points, one upstream and one downstream to show where the problem is.

**Mana Whenua:** How would a priority DIN objective and a nitrogen cap be enforced by council in the plan?

**Kaimahi:** Could we do monitoring at the site?

**Kāwanatanga:** It would have to be continuous monitoring.

**Mana Whenua:** how would that work and be enforced?

**RD:** You could make dairy farming a permissible activity.

**Mana Whenua:** Could we require farm plans? Can we have advice from staff on this?

**Kaimahi:** We could use permitted activity conditions; because there's not many farmers, we should be able to go around and enforce that permitted activity rule, and then go from there as to whether they need consent or not. How we look at nitrogen in the Plan is going to be the biggest challenge in developing the Plan Change. When the plan becomes operative, the RMA directs that people will have 6 months to either change their practice or get consent for it.

It's a national challenge, MfE have been running workshops to try and figure out how to do it and developing a risk assessment tool, but it's on hold under the current government.

**Mana Whenua:** This conversation is the heart of the issue. We need to commit to something that has some impact. We as a committee have heard the advice on nitrate toxicity and we are hearing that we could create conditions for permitted activity status. It

doesn't tell me that the issue has gone but it is something. This is about implementation, so I wonder if we make it clear that it's about granting permitted activity status.

Could it be worded in a way that impacts the two or three farms that display poor practice? E.g.,: "the committee has a sense that often with nutrient issues, there may be few land users who are large contributors to the issue, so the Committee has an intent to make recommendations that don't limit or punish all land users for the sake of the few."

We are aware that it might only be a few landowners who a disproportionately contributing to the issue and don't negatively impact others.

**Decision:** HQI – 1.5

*Waimeha:*

**Mana Whenua:** Our understanding is that the Waimeha is quite clean, groundwater fed, plenty of fish – the problem is where the tributary that flows from the North – the Paitawa and through the Kākāriki, the Kawakahea wetlands, Ngārara Stream, the contaminants that are in the sediment that come out of that tributary – we are not clear on the source of that. The priority is to investigate what the cause of that is, because we're not well-placed to regulate without better understanding. The Black Drain.

**Kāwanatanga:** The old landfill?

**Mana Whenua:** No, that goes into the Mazengarb.

**Kāwanatanga:** What are the contaminants in there?

**Mana Whenua:** We don't know enough about what they are. We know from the baseline data that there is phosphorous there. E. coli isn't reliable. Another way of putting it is that there is a lot of deposited sediment there.

**Mana Whenua:** The Waimeha is so highly modified, and we aren't suggesting that it be realigned so this is one that I'd suggest we keep it as 1 as I can't think of many improvements that are actually feasible as it's so built up, other than the golf course.

**Kaimahi:** Maybe another way of framing it is looking at adaption pathways?

**DECISION:** Frame it as to work with pathways for climate change.

**Kāwanatanga:** A question around 37, why Te Reo Māori is a priority here and not elsewhere?

**Mana Whenua:** We have names for water in this FMU that we don't know where they came from, and old names that should be applied that aren't.

**Kāwanatanga:** Is this a district-wide issue?

**Mana Whenua:** Most other names we know where they came from, and they have continuity. For example, the Kākāriki, we don't know where that came from, and we have a different name for it.

**Kaimahi:** This recommendation came from the hui with the Pou, and the conversation around drains vs. ancestral awa, and working through appropriate naming regarding different whakapapa.

**Mana Whenua:** The tributaries around where the expressway goes thru, which are now classed as drains but have significant identity. Same with a puna in this Waorongomai catchment, hugely significant.

**Kāwanatanga:** Is this a Whaitua-wide recommendation around naming streams?

**Mana Whenua:** Makes sense to go across the board, but prioritise the Waimeha first.

**Kāwanatanga:** Can you explain the recommendations 35/36?

**Mana Whenua:** Because of the issues with projected storm surges of the Waimeha – the golf course going under water etc – a need to work on adaptation measures, the current measure is just to dig it out.

**Kāwanatanga:** And then the second one – what kind of information is meant here?

**Mana Whenua:** GIS information.

**Mana Whenua:** Just thinking about HQI for the Waimeha – in one sense, a long historical period so highly modified, used to flow out here [gestures to Waikanae River estuary] and out to sea, and we're not suggesting it be put back to there, but – this is one I suggest to just keep at 1. I can't think of any particular ways to improve the habitat that are actually feasible, because the areas you'd want that are all built up.

**Kāwanatanga:** anything else on the Waimeha?

**Kaimahi:** Tying things to the Takutai Kāpiti, technically it's a coastal erosion project, so maybe another way of framing it that doesn't tie it with that? Flood management pathways?

**DECISION:** Remove "proposed", end at "climate change adaptation".

### *Waikanae*

**Mana Whenua:** The water treatment plant is a priority for this stream. Currently located to discharge treated effluent into the river. We think it needs to be relocated to a site that allows for land based effluent treatment. The status with this is that KCDC hold a consent to operate the treatment plant that was due to expire. They were looking to apply for an extension to the consent of five years to provide time to plan for what was needed to bring it up to a standard that would comply with current statutory requirements.

Ultimately, we worked closely, and we found out that it's non-complaint on more than one condition. Following Rob's advice and assessment, the council should not have received that and should have applied for a new consent. WE put immense pressure on the council not to accept the consent. Council should be applying for a new consent as there was non-compliance. There are impacts to ecological health, but the microbiological effects are significant. The non-compliance and the state of the receiving environment should have compelled council. Te Āti Awa have been consistently concerned. This is our priority recommendation.

**KCDC kaimahi:** I wasn't aware of there being any issues with this. I sensed that the current team are focused on doing the right thing.

**Mana Whenua:** They aren't necessarily the council staff who make decisions around LTPs and budgets and enable the right thing to happen.

**Mana Whenua:** This hasn't come up once in the LTP discussions I've been in.

**Mana Whenua:** need to have a long-term discussion with Raukawa about long term waste solutions.

**Kāwanatanga:** I don't know if money has been put aside for a new treatment site.

**Mana Whenua:** The optioneering isn't being informed by this process and the council needs to adopt a new approach based on this.

**Decisions:**

- Removal of "investigate" so it reads "prioritises/progresses relocation to a site that provides land-based treatment".
- HQI: 1

**Mana Whenua:** The alternative that we then take, is that we change the recommendation so that in the longer term the plant can't be there so the council needs to plan for its removal, limit the allocation to discharge to 0. But unsure if that's a position this committee would advocate for?

**Kaimahi:** Would possibly prefer a sinking lid.

**ACTION:** Get wastewater team involved and gain understanding of where the Kāpiti Coast District Council is up to on this. Need to understand what compliance issues are. Can the site be made compliant? Is land-based discharge an option without moving the WWTP? Etc.

**Mana Whenua:** HQI. 1? Russell? 1.5?

**Mana Whenua:** Where? Would love to just flood out Ōtarawa reserve. Currently has a sports field, a Whare, a jobs for nature crew – area between stop bank and original bank. Would that get us to 1.5? But seriously, given the current HQI of Waikanae, can we set it to 1.5?

**RD:** I think 1, it's relatively natural.

**Mana Whenua:** So, 1?

**RD:** This is about the whole FMU, not just your special little bit of the river.

**Mana Whenua:** and everywhere else is so built up...

**RD:** Keeping it at 1 is good protection for things that might happen in the future that won't be good.

**DECISION:** HQI of 1.

**Kāwanatanga:** Approve of recommendation 39 (c), especially the mention of community stewards. An opportunity for Pākehā to be involved too, feels like partnership. Won't be appropriate for everything, but.

**Mana Whenua:** A lot of those actions have come out of the Waikanae Ki Uta Ki Tai plan.

**Kāwanatanga:** It says creation of a network, but a lot of that's already in place, isn't it?

**Mana Whenua:** But it's not coordinated. Note that Mauri Tūhono also includes (c). Add in there, "coordinating".

**Kāwanatanga:** And "funding", that needs to be in there as well.

**DECISION:** Add in in “coordinating” and “funding”.

#### *Wharemauku*

**Mana Whenua:** So many critical issues, very hard to prioritise. Issues around contaminants from the urban and industrial environment.

Limited flood storage capacity as the awa continues to be channelised and consistently dug out, but it has a very low gradient and saltwater intrudes a lot up the channel in Paraparaumu. In a storm surge, the water moves rapidly up the catchment and it doesn't have many places to go, the channel, the dugout area around Kiwi Road – expressway, the wetland area in the proposed development where there's issues around fish life and sediment.

The wetland area being discussed is in this FMU. Te Ati Awa have identified that we need to apply a climate and adaptation lens to this. There should be better planning of where we have houses.

Few different actions in here the inclusion of flood storage capacity – managed retreat, retaining the exiting characteristics so no further loss of wetlands and stop digging out the stream. Linking it back to HCI it's not enough to keep it as it is, at 1, we need to improve it and recommend a HQI of 1.5.

There is a strong need for shading to improve the water quality and an example of improving the water quality would be through the riparian planting.

**Kāwanatanga:** Some large local businesses are keen to do riparian planting but have gotten push back.

**DECISION:** Copy 51 to 46 to include 'Tuna'.

**Mana Whenua:** The priority is the HCI. Do we have a flood management plan?

**KCDC kaimahi:** There is an old one that was updated but it's stalled. We have a global maintenance consent, and we are working on a code of practice.

**Mana Whenua:** Could this be through the stormwater management framework?

**KCDC kaimahi:** it could be, but it isn't currently. But NRP Schedule N means that we must do integrated catchment management.

**Kaimahi:** Consent is required for digging in the stream. KCDC have applied for a global maintenance consent - that's the stick.

**KCDC kaimahi:** We are working with Ngā Hapū on that. Even though our streams are highly modified, most are scheduled in the NRP. We are working on a code of practice.

**Mana Whenua:** Would working to code of practice achieve HQI 1.5?

**Kāwanatanga:** There is a big discussion about this stream and developers' intentions in the FMU. The developers have removed trees which will contribute to increased sedimentation.

**Mana Whenua:** The stuff that creates the flooding is the gravel in the lower reaches. The upper catchment is important but if all of that is received by a channel that has no shading and no carrying capacity it is so fast to rise and fall.



**Kāwanatanga:** Developer will be looking at how they manage storm and wastewater, so we need to be prepared if we can.

**Kaimahi:** Option to limit the frequency of gravel extraction. One output of the flood management models is that there will be a planting sensitivity plan to inform where the community groups can plant. Should the HCI be objectives?

**Mana Whenua:** yes, objectives but can we have an extra layer – we need to tie them to consenting, flood management, stormwater management?

**DECISION:** The HCI will take the form of both objectives and actions. Don't know how to tie it to consenting yet, it's death by a thousand cuts and need prevent any further wetland loss.

**Kāwanatanga:** Of all the areas that will be badly affected by rising sea levels this area will feel it most so adaptation is required. Add in more consideration of climate change, in general but especially over the Wharemauku as sea level rise will affect it a lot. Include an overriding comment about impact of climate change and adaptation – a note that every recommendation was written with consideration of climate change.

**DECISION:** Point 51 copied across from Whareroa to Wharemauku.

#### *Whareroa*

**Mana Whenua:** Focused on preserving and serving the cultural landscape. Multiple different iwi, very dynamic. If we have a cultural attachment to this area, the protection will follow. Many of the significant pa sites are, or were, on dunes and it's the dune system that is critical for providing for the wetland environment. Location of the oldest urupa and traditional burials.

**Kāwanatanga:** In north they are retreating, and, in the south, they are growing.

**Mana Whenua:** There are some pre-existing relationships that need to be considered. So, to say, that part of these considerations is part of that conversation in terms of moving forward, including part of a tribunal claim other than just the council's position. There is an important mana whenua piece here. Whareroa was a shared space. Evidence was found that confirmed the people who sold the land to the crown didn't have the rights to sell it. What is the Pākehā connection to the Whareroa?

**Kāwanatanga:** There is a Pākehā connection to the land, the community took on the proposed development in a Pākehā way and tried to contact Raukawa and Te Āti Awa. Our fundamental thing was to protect the land and have it for future generations and that relationships with mana whenua would develop. Then we began to unearth the vege plots which were abundant, and the head of the stream was still forested. Then it was land banked and took five years to get it protected under the Reserves Act and now it's managed by DoC.

**DECISION:** Suggest wording tweak for number 47/48 to make clear it is the number one priority: "GW, MW, and the community to partner on an appropriate management plan to protect and restore the cultural landscape of the Whareroa; this will include the coordination of volunteers, rangatahi, kaitiaki..." and our people want a base for us to have a physical presence on the land.

Recommend HQI of 1, is not hugely modified, it just doesn't have the wetland. If we were wanting to restore, we'd be talking about building dunes.

**Kāwanatanga:** Also, let's recommend re-naming Queen Elizabeth Park.

**DECISION:** To recommend the renaming of QEII Park.

**DECISION:** Recommendation 47/48 – take out everything after “Riparian planting” but mention the base we want.

**Kāwanatanga:** This links with the next recommendation too.

*Wainui & Paekākāriki*

**Mana Whenua:** This is an extraordinary stream. We are supportive of fish passage as a priority. When the waters come up it just floods.

**KCDC kaimahi:** The main issue for fish passage is State Highway 1 and that the main agency is often Waka Kotahi.

**DECISION:** A note for the WIP – ‘partnership’ is solely to be used in relation to Mana Whenua and not community, different language use is required.

**Mana Whenua:** Fish passage is the priority for this stream – one thing is to make sure that consenting restores fish passage, and the parallel recommendation is outside the scope of the plan change. Council will engage with Waka Kotahi/NZTA around this. Somewhere through the process the requirement to provide fish passage wasn't enough to make sure that this was happening. It was a huge impasse and Waka Kotahi/NZTA would not solve it as it conflicted with the design of the road.

**Kamahi:** Do you want an additional recommendation?

**DECISION:** Take fish passage out as the priority recommendation. Then A: in the vein of the plan change, effectively anything that gets consented would be if not preserving, restoring fish passage. Then B: something that directs council and community to address this with NZTA.

**Mana Whenua:** 200,000 years old and the gravel is extremely loose. HQI of 1?

**DECISION:** HCI – 1

**OVERALL DECISIONS:**

**DECISION:** Structure for the WIP, take them out of each FMU and then compile in separate section.

**DECISION:** That the committee proposes that we work to the existing timeframe of Dec 2024 – holding the line for Section 32.

**\*\*\*\*\* Closing Comments \*\*\*\*\***

**Kerry:** It's been some journey so far. It has been a revelation and a voyage of discovery for me. My thanks to Mana Whenua I am beginning to understand that water and particularly rivers are a living thing and without healthy rivers we will not have a healthy community. As part of improving my basic understanding, I have walked the whole coastline to see the

receiving environments of every stream meeting the sea and every headwaters too. The knowledge in the room is impressive, there is so much expertise in water quality and Mana Whenua with your extensive intergenerational knowledge. Also, the engine room of the process, staff. It has been a journey that quickened once we learnt that we could trust the support team. Also, Kathie who has kept us on course when we went to meander. Biggest thanks to my fellow elected members, fantastic, committed, and passionate people who I'm grateful to know. Mahina-a-rangi you have guided this approach, thank you.

**Caleb:** What an interesting process. Has had several challenges that I think will continue to represent themselves. But we are trusting each other. I think the hard part is still to come. I have some high expectations around what the outcomes for our rivers are. I thank you all for your contributions. Acknowledge the work of staff and the co-chairs. The taurite who have worked into the evenings, trying to get processes clean and that there is a process to follow and whaea Kathie - her leadership in this space has been pivotal, and has had a huge bearing on where we have gotten to.

**Jocelyn:** There is so much that we have all learnt since we started this process. The best thing about this process is that we can see where all our hard decision-making is going to go. As a councillor, I decided I wanted to stay involved unpaid as I'm passionate about the quality of freshwater and want to help in this process. I don't think I'd feel so positive about this if it wasn't for everyone's contribution here. Despite coming from different backgrounds, we have landed we all want a very similar thing. Thanks to staff. Providing us with all the in-depth knowledge has been fantastic. We couldn't have gotten to where we are without it. The intent and the detail are now appearing in a cohesive and it's a very well laid out document. Our leaders, Kathie, Jenny and Mahina-a-rangi have led us. KCDC kaimahi have provided great local advice to support the GW.

**Sharlene:** The mana of the wai is always going to central to everything that we do and feel in this space. The centrality of wai. It has its own course and own journey and so our job is to just honour the flow. We are going to get to our destination. We took off faster before we were ready and maybe some deeper conversations could have happened that would mean we could have gone faster. All the challenges become learning opportunities and we take them with us so that next time we are working in this way, we bring all that forward as the foundations by which we are now starting to have conservations and build relationships.

This is the school of learning and the experience of it. To all the whanau who have come together on this, you've taught us as much as we've taught you. It's reciprocal learning and when that happens lots of things are possible. I think about how quickly we shaped a structure at the start that was just a concept and then quickly arranged ways those discussions could be held. That demonstration only comes from people who are supported to the process and to each other. Rangatira assisted in directing us and keeping us here in the process when I am sure there were time when we all wanted hop out of the waka. Want to acknowledge your Rangatira and keeping us here.

I am thinking about Tama Iti and his Ted X talk on mana and the need to be eye to eye. The face to face stuff is important. The paperwork is fantastic but until you are in a room

together that's where the magic comes together. I hope the model of taurite is considered in the future so that there is equity in voice in the future discussions.

I also want to acknowledge Kathie as kaiwhakahaere, you need someone who understands what happens in the back end and what's happening at the front to guide the process. Her life work for doing this and couldn't think of anyone better to do that. Thanks to GW for listening to that recommendation as it allowed MW to be safely in the room. Thanks to the kaimahi for making sure that when the Committee comes together it's seamless. Thank for you for furnishing our table. And there is still work to be done. Mahina-a-rangi has set very high standards in terms of this process. So, the foot will be pedal to the metal for phase two so it's done with integrity. You set high standards Mahina-a-rangi and that will in no way will that be in vain.

**Jenny:** This has been a serious pleasure and privilege and one of the more challenging journeys that I've now had towards the end of my career. The day I got it that the tuna were part of Caleb's family just opened a whole door for me at another level. They are like family. Which took me to a whole other level about why we are here and why we need to take it seriously and why we need to have ownership. How as a community collective, we make sure that our intentions in here are carried out in the best fashion that our statutory limitations allow us to ensure that that water the tuna are living in is healthy, that they are healthy and then we are healthy.

The reality for me of the privilege of being inside a treaty model which I've known about it but not had experience of being in it before, I know it's the way our future needs to look like. That when my grandchildren sit down to make decisions that everyone is in the room that needs to be to make that decision. I know that when men were making the decisions without woman it didn't go so well and the same principle applies. Bringing Māori science into the room has been a privilege too. Here we are now, bringing it into the system. Your intellectual grunt Mahina-a-rangi is mind-blowing. I mean that, it's very precious and I wish you well in the future, whatever that looks like.

Thanks to Michele for your assistance and the team you formed. It's a lot more than a tick box these statutory requirements, we are left facing our own community and in Kāpiti that is a challenge. Usually in Kāpiti this happens over a BBQ, everyone's mana sits over the beer at the BBQ and we can either relay that you supported us or didn't. That should be a driver for you. More importantly, how you as staff came to us, through Michele with clarity and clearness. By December next year we will be very interested to come back together and brief the committee on what has happened before we take the next step. Also, Monique who has taught us about working in a way that supports people with hearing impairments or deafness. We are a young country, and we need to hold onto Te Mana O te Wai. Thank you again Mahina-a-rangi and to Whaea Kathie, for her deep knowledge when we needed it was incredibly reassuring.

**Mahina-a-rangi:** I'd like to share a few reflections at this time when I am ending my intensive involvement with this. If there are critical points that you need support with to talk to either of the councils, I will still be here and happy to take that call. I think something that was entrenched in me from particularly working on the NPS-FM redrafting, that things are

at such a crisis with our water that it follows that unless we are doing everything entirely differently there is no point in doing anything at all. I think that's the case. It's come up how special and unique our water in this district and I think it's so special that the wai can still put its karanga out to us. They are calling us and help us to create what we have crated so far. WE have rolled over things that are innovative. But we must have the Te Titiriti as we aren't going to have TMOTW without a Te Tiriti model and doing things rapidly is the only way this will happen, with the right people involved. That was evident when I saw who had been appointed onto the Kāwanatanga. If there was a sense that the wrong people were involved, we wouldn't be here. We have made choices to commit to this as we could see it was a drastically different to what it needed to be. Whaea Kathie's radical intellect that was needed to achieve what we needed to achieve.

I absolutely want to acknowledge you, Jenny. For me coming into this process, in this role, Jenny is someone I have observed since I was a child. My dad placed a lot of trust in you, and he trusted you implicitly and I don't think I'd be able to what I've been able to do here without anyone of less calibre. The intergenerational trust has allowed me to push as hard as I have. That's amazing to think about. That's the intergenerational relationships that are needed to restore TMOTW. The water is most important but if there is not some sort of relationship across the table, this is the type of relationship needed to steer these challenging processes. How do we grow these relationships between Māori and Pakeha that's needed to develop our country.

We must have things that are entirely different and new, the status quo just won't be good enough. My challenge to you all for the next phase. I was thinking about our framework for producing something, Te Ati Awa have a stage where each and every person has to stand in that fluid creative space and think what I personally need to do to make sure these things happen. I don't trust the system or the process or the information I've been given. I will lay that here, what is my calling, what is my process. Thank you all for the experience.

### CONFIRMED ACTION REGISTER

Note that all actions captured during the Committee meeting must be clearly stated as an action and providing instruction to minute taker to note down. If there is no clear instruction to capture an action, it will be included in the requests log/eddy.

| Opened     | Action  | Owner | Status |
|------------|---|-------|--------|
| 13/12/2023 | Item 5 – <i>Waikanae</i> - Get wastewater team involved and gain understanding of where the Kāpiti Coast District Council is up to on this. | KCDC  |        |

## DECISIONS LOG

Note that all decisions captured during the Committee meeting must be clearly stated as an action and providing instruction to minute taker to note down. If there is no clear instruction to capture a decision, it will be included in the requests log/eddy.

| Opened     | Decision   | Update |
|------------|--|--------|
| 13/12/2023 | ITEM 3 - For a record of all decisions relating to ITEM 3 - <i>Remaining Target Setting across FMUs</i> , please refer to Appendix 1.  |        |
| 13/12/2023 | ITEM 5 - <i>Waiorongomai</i> - Amend point a). to “stock exclusion <u>and</u> enforcement” and d). to add “and community” which can also be a district wide change and include these parties for joined up actions.  |        |
| 13/12/2023 | ITEM 5 – <i>Waiorongomai</i> - Action plan developed by December 2025.   |        |
| 13/12/2023 | ITEM 5 – <i>Waimeha</i> - Frame it as to work with pathways for climate change.  |        |
| 13/12/2023 | ITEM 5 – <i>Waimeha</i> - remove “proposed”, end at “climate change adaptation”.   |        |
| 13/12/2023 | ITEM 5 – <i>Waikanae</i> - Removal of “investigate” so it reads “prioritises/progresses relocation to a site that provides land-based treatment”.  |        |
| 13/12/2023 | ITEM 5 – <i>Waikanae</i> - Note that Mauri Tūhono also includes (c). Add in, “coordinating” and “funding”.   |        |
| 13/12/2023 | ITEM 5 – <i>Wharemauku</i> - Copy 51 to 46 to include ‘Tuna’.  |        |
| 13/12/2023 | ITEM 5 – <i>Wharemauku</i> - The HCI will take the form of both objectives and actions and don’t know how to tie it to consenting but don’t know how to do that as it’s death by a thousand cuts and prevent any further wetland loss.   |        |
| 13/12/2023 | ITEM 5 – <i>Whareroa</i> - Suggest wording tweak for number 47/48 to make clear it is the number one priority: “GW, MW, and the community to partner on an appropriate management plan to protect and restore the cultural landscape of the Whareroa; this will include the coordination of volunteers, rangatahi, kaitiaki...” and our people want a base for us to have a physical presence on the land. |        |

| Opened     | Decision  | Update |
|------------|---|--------|
| 13/12/2023 | ITEM 5 – <i>Whareroa</i> - To recommend the renaming of QEII Park.  |        |
| 13/12/2023 | ITEM 5 – <i>Whareroa</i> - Recommendation 47/48 – take out everything after “Riparian planting” but mention the base we want.   |        |
| 13/12/2023 | ITEM 5 – <i>Wainui &amp; Paekākāriki</i> - note for the WIP – ‘partnership’ is solely to be used in relation to Mana Whenua and not community, different language use is required.  |        |
| 13/12/2023 | ITEM 5 – <i>Wainui &amp; Paekākāriki</i> - Take fish passage out as the priority recommendation. Then A: in the vein of the plan change, effectively anything that gets consented would be if not preserving, restoring fish passage. Then B: something that directs council and community to address this with NZTA. |        |
| 13/12/2023 | ITEM 5 - Structure for the WIP, take them out of each FMU and then compile in separate section.   |        |
| 13/12/2023 | ITEM 5 - That the committee proposes that we work to the existing timeframe of Dec 2024 – holding the line for Section 32.  |        |



**Appendix 1: Freshwater Management Unit (FMU) Target Setting**

| Waitohu FMU                           |        |           | Waitohu @ Forest Park (RS03) Closed 2016 |      |         |      |              |   | Waitohu @ Norfolk Crescent (RS04) |      |         |      |              |  | Mangapouri Stream at Bennetts Road (RS02) |       |         |       |              |  |
|---------------------------------------|--------|-----------|--|------|---------|------|--------------|---|-----------------------------------|------|---------|------|--------------|--|---|-------|---------|-------|--------------|--|
|                                       |        |           | Baseline                                 |      | Current |      | Target state |   | Baseline                          |      | Current |      | Target state |  | Baseline                                  |       | Current |       | Target state |  |
| Parameter                             | Unit   | Statistic | Numeric                                  | Band | Numeric | Band | Band         | Comment   | Numeric                           | Band | Numeric | Band | Band         | Comment  | Numeric                                   | Band  | Numeric | Band  | Band         | Comment  |
| Populated by Committee during meeting |        |           |  |      |         |      |              |   |                                   |      |         |      |              |  |   |       |         |       |              |  |
| Macroinvertebrates<br>(1 of 2)        | MCI    | Median    | 143.2                                    | A    |         | [A]  | A            | Maintain  | 84.2                              | D    | 77.8    | D    | B            | B as its aspirational but pragmatically achievable and realistic over time.  | 78.4                                      | D     | 88.5    | D     | B            | Its aspirational but pragmatically achievable and realistic over time. Aspirational and achievable.  |
|                                       | QMCI   | Median    | 8.1                                      |      |         |      |              |   | 4.9                               |      | 5.1     |      |              |  | 4.8                                       |       | 4.5     |       |              |  |
| Deposited fine sediment               | %cover | Median    | 0  | A*   |         |      | A            | Key element in this FMU   | 0                                 | A*   | 100     | D*   | A            | Adopting A baseline state. Must maintain. If you go to this catchment upstream of this site, it should be gravel bottomed. |   |       |         |       | A            | Shouldn't be classified as a soft bottom ~1m sludge, has a gravel bottom. MFE classification needs correcting) obj for fine deposited sediment as if its an A. |
| Dissolved reactive phosphorus         | mg/L   | Median    | 0.009                                    | B    |         | [B]  | B            | DRP changes dont tend to have a big impact on macroinvertebrate communities. Bound to sediment. Can impact periphyton growth but not same direct impacts on macroinvertebrates. Not the same impacts on human health. Going higher than B band is unlikely to have any materially impact. | 0.016                             | C    | 0.019   | D    | B            | B across the FMU, will support healthy state.  | 0.036                                     | D     | 0.036   | D     | B            | Aspirational and supports healthy state.   |
|                                       |        | 95th%ile  | 0.011                                    |      |         |      |              |   | 0.027                             |      | 0.036   |      |              |  |   | 0.064 |         | 0.064 |              |  |
| Dissolved Inorganic Nitrogen          | mg/L   | Median    |  | 0.03 |         |      | 0.03         | Maintain  |                                   | 0.38 |         | 0.35 | 0.35         | Maintain current   |   | 1.93  |         | 1.35  | ?            | Not recorded in notes. Match to B state threshold?   |

| Recommended by project team following principles outlined  |  |                                     |                  |     |     |                |                |                |     |                |   |                |                |                  |     |                  |   |                |   |
|--|--|-------------------------------------|------------------|-----|-----|----------------|----------------|----------------|-----|----------------|---|----------------|----------------|------------------|-----|------------------|---|----------------|---|
| Macroinvertebrates (2 of 2)  | ASPM   | Median                              |                  |     | A   | Match MCI/QMCI | 0.2            | D              | 0.2 | D              | B | Match MCI/QMCI | 0.2            | D                | 0.2 | D                | B | Match MCI/QMCI |   |
| Ammonia (toxicity)   | mg/L   | Median<br>95 <sup>th</sup> %ile     | 0<br>0           | A   |     | A              | Maintain       | 0.01<br>0.03   | A   | 0.01<br>0.03   | A | A              | Maintain       | 0.02<br>0.06     | B   | 0.02<br>0.06     | B | B              | Maintain  |
| Nitrate (toxicity)   | mg/L   | Median<br>95 <sup>th</sup> %ile     | 0<br><br>0       | A   |     | A              | Maintain       | 0.4<br><br>0.9 | A   | 0.3<br><br>0.8 | A | A              | Maintain       | 1.9<br><br>3.1   | B   | 1.3<br><br>2.7   | B | A              | A toxicity state sought across whaitua<br>Once clarified, DIN target likely to drive further improvements |
| Suspended fine sediment  | Black disc (m)                                   | Median                              | 3.01             | A   | [A] | A              | Maintain       | 0.73           | D   | 0.78           | D | B              | Match MCI/QMCI | 0.68             | D   | 0.96             | D | B              | Match MCI/QMCI  |
| Dissolved copper   | µg/L   | Median<br>95 <sup>th</sup> %ile     | 0.0007<br>0.0016 | B*# |     | A              | Match MCI/QMCI |                |     |                |   | B              | Match MCI/QMCI | 0.0008<br>0.0025 | C   | 0.0008<br>0.0025 | C | B              | Match MCI/QMCI  |
| Dissolved zinc   | µg/L   | Median<br>95 <sup>th</sup> %ile     | 0.0023<br>0.004  | A*# |     | A              | Maintain       |                |     |                |   | B              | Match MCI/QMCI | 0.0025<br>0.0068 | B   | 0.0025<br>0.0068 | B | B              | Maintain  |
| <b>Ecosystem health attributes that need further work, data collection or Committee direction</b>                |  |                                     |                  |     |     |                |                |                |     |                |   |                |                |                  |     |                  |   |                |   |
| Fish   | Fish-IBI   | Latest                              |                  | A   |     |                |                |                | A   |                |   |                |                |                  | B   |                  |   |                |   |
| Periphyton biomass   | mg chl-a/m <sup>2</sup>                          | 92 <sup>nd</sup> %ile               |                  |     |     |                |                |                |     |                |   |                |                |                  |     |                  |   |                |   |
| Dissolved oxygen   | mg/L   | 1-day minimum<br>7-day mean minimum |                  |     |     |                |                |                |     |                |   |                |                |                  |     |                  |   |                |   |
| Habitat index  |  |                                     |                  |     | 1   |                |                |                |     |                | 1 |                |                |                  |     |                  |   |                | 1   |
| Ecosystem metabolism   | g O <sub>2</sub> m <sup>-2</sup> d <sup>-1</sup> | N/A <sup>5</sup>                    |                  |     |     |                |                |                |     |                |   |                |                |                  |     |                  |   |                |   |
| <b>Attributes for other values that need further work with modelling, data collection or Committee direction</b> |  |                                     |                  |     |     |                |                |                |     |                |   |                |                |                  |     |                  |   |                |   |
| Campylobacter  |  |                                     |                  |     |     |                |                |                |     |                |   |                |                |                  |     |                  |   |                |   |
| Heavy metals   |  |                                     |                  |     |     |                |                |                |     |                |   |                |                |                  |     |                  |   |                |   |
| Social measure   |  |                                     |                  |     |     |                |                |                |     |                |   |                |                |                  |     |                  |   |                |   |

| Tuna abundance and condition |                       |    |   |     |       |   |       |   |        |   |       |   |
|------------------------------|-----------------------|----|---|-----|-------|---|-------|---|--------|---|-------|---|
| <i>E. coli</i>               | Median                | 8  | A | [A] | 600   | E | 1,000 | E | 1,100  | E | 1,350 | E |
|                              | %>260/100mL           | 80 |   |     | 2,400 |   | 4,300 |   | 18,000 |   | 9,000 |   |
|                              | %>540/100mL           | 0  |   |     | 85    |   | 95    |   | 100    |   | 100   |   |
|                              | 95 <sup>th</sup> %ile | 0  |   |     | 57    |   | 73    |   | 92     |   | 88    |   |

| Waimeha FMU  |  |                       | Ngārara @ Fieldway (RS08) Closed 2016 |      |         |      |              |   |
|--|--|-----------------------|---------------------------------------|------|---------|------|--------------|---|
| Parameter  | Unit   | Statistic             | Baseline                              |      | Current |      | Target state |   |
|  |  |                       | Numeric                               | Band | Numeric | Band | Band         | Comment   |
| <b>Populated by Committee during meeting</b>   |  |                       |                                       |      |         |      |              |   |
| Macroinvertebrates (1 of 2)  | MCI  | Median                | 70.1                                  | D    |         | [D]  | B            | Good ecosystem health                                 |
|  | QMCI   | Median                | 4.3                                   |      |         |      |              |   |
| Deposited fine sediment  | %cover   | Median                |                                       |      |         | [D]  | C            | Based on current soft bottom and can achieve MCI/QMCI |
| Dissolved reactive phosphorus  | mg/L   | Median                | 0.043                                 | D    |         | [D]  | C            | Based on DFS being C                                  |
|  |  | 95th%ile              | 0.078                                 |      |         |      |              |   |
| Dissolved Inorganic Nitrogen   | mg/L   | Median                |                                       |      |         |      | 0.08         | Maintain  |
|  |  |                       | 0.08                                  |      |         |      |              |   |
| <b>Recommended by project team following principles outlined</b>   |  |                       |                                       |      |         |      |              |   |
| Macroinvertebrates (2 of 2)  | ASPM   | Median                |                                       |      |         |      | B            | Match MCI/QMCI  |
| Ammonia (toxicity)   | mg/L   | Median                | 0.01                                  | A    |         | [A]  | A            | Maintain  |
|  |  | 95th %ile             | 0.02                                  |      |         |      |              |   |
| Nitrate (toxicity)   | mg/L   | Median                | 0.0                                   | A    |         | [A]  | A            | Maintain  |
|  |  | 95th %ile             | 0.5                                   |      |         |      |              |   |
| Suspended fine sediment  | Black disc (m)                                   | Median                | 0.59                                  | D    |         | [D]  | B            | Match MCI/QMCI  |
| Dissolved copper   | µg/L   | Median                | 0.0003                                | B    |         |      | B            | Maintain  |
|  |  | 95th %ile             | 0.0015                                |      |         |      |              |   |
| Dissolved zinc   | µg/L   | Median                | 0.0014                                | A    |         |      | A            | Maintain  |
|  |  | 95th %ile             | 0.0048                                |      |         |      |              |   |
| <b>Ecosystem health attributes that need further work, data collection or Committee direction</b>                |  |                       |                                       |      |         |      |              |   |
| Fish   | Fish-IBI   | Latest                |                                       | A    |         |      |              |   |
| Periphyton biomass   | mg chl-a/m <sup>2</sup>                          | 92 <sup>nd</sup> %ile |                                       |      |         |      |              |   |
| Dissolved oxygen   | mg/L   | 1-day minimum         |                                       |      |         |      |              |   |
|  |  | 7-day mean minimum    |                                       |      |         |      |              |   |
| Habitat index  |  |                       |                                       |      |         |      | 1            | Due to limited opportunities for improvement          |
| Ecosystem metabolism   | g O <sub>2</sub> m <sup>-2</sup> d <sup>-1</sup> | N/A <sup>5</sup>      |                                       |      |         |      |              |   |
| <b>Attributes for other values that need further work with modelling, data collection or Committee direction</b> |  |                       |                                       |      |         |      |              |   |
| Campylobacter  |  |                       |                                       |      |         |      |              |   |
| Heavy metals   |  |                       |                                       |      |         |      |              |   |
| Social measure   |  |                       |                                       |      |         |      |              |   |
| Tuna abundance and condition   |  |                       |                                       |      |         |      |              |   |
| <i>E. coli</i>   | /100mL   | Median                | 190                                   | D    |         | [D]  |              |   |
|  |  | %>260/100mL           | 2,350                                 |      |         |      |              |   |
|  |  | %>540/100mL           | 35                                    |      |         |      |              |   |
|  |  | 95 <sup>th</sup> %ile | 23                                    |      |         |      |              |   |

| Waikanae FMU  |                         |                    | Waikanae @ Footbridge Mangone Walkway (RS61) |      |         |      |              |  | Waikanae @ Greenaway Road (RS10) |      |         |      |              |   |
|---|-------------------------|--------------------|--|------|---------|------|--------------|--|----------------------------------|------|---------|------|--------------|---|
| Parameter   | Unit                    | Statistic          | Baseline                                     |      | Current |      | Target state |  | Baseline                         |      | Current |      | Target state |   |
|   |                         |                    | Numeric                                      | Band | Numeric | Band | Band         | Comment  | Numeric                          | Band | Numeric | Band | Band         | Comment   |
| <b>Populated by Committee during meeting</b>  |                         |                    |  |      |         |      |              |  |                                  |      |         |      |              |   |
| Macroinvertebrates (1 of 2)   | MCI                     | Median             | 140.8  | A*   | 136     | A    | A            | Maintain   | 112.2                            | B    | 114.6   | B    | B            | Quite good for ecosystem health, achievable and would lift up problem areas |
|   | QMCI                    | Median             | 8.3  | A*   | 7.9     | A    | A            | Maintain   | 5.5                              | B    | 6       | B    | B            |   |
| Deposited fine sediment   | %cover                  | Median             | 2  | A*   | 1       | A    | A            | Maintain   | 10                               | A*   | 11      | A    | A            | Maintain  |
| Dissolved reactive phosphorus   | mg/L                    | Median             | 0.014  | C*   | 0.014   | C    | C?           | Maintain?<br>There is some forestry upstream of this site but the sediment is in A. unsure what management options are for improving DRP at this site would entail | 0.014                            | C*   | 0.008   | B    | B            | Maintain at a B, less of an influence on MCI/QMCI and at current state      |
|   |                         | 95th %ile          | 0.015  |      | 0.017   |      |              |  | 0.012                            |      |         |      |              |   |
| Dissolved Inorganic Nitrogen  | mg/L                    | Median             | 0.16   |      | 0.15    |      |              |  | 0.23                             |      | 0.2     |      |              |   |
| <b>Recommended by project team following principles outlined</b>                                  |                         |                    |  |      |         |      |              |  |                                  |      |         |      |              |   |
| Macroinvertebrates (2 of 2)   | ASPM                    | Median             | 0.6  | A*   | 0.7     | A    | A            | Maintain   | 0.5                              | B    | 0.6     | A    | A            | Maintain current state  |
| Ammonia (toxicity)  | mg/L                    | Median             | 0  | A*   | 0       | A    | A            | Maintain   | 0                                | A    | 0       | A    | A            | Maintain  |
|   |                         | 95th %ile          | 0.01   |      | 0       |      |              |  | 0                                |      |         |      |              |   |
| Nitrate (toxicity)  | mg/L                    | Median             | 0.2  | A*   | 0.1     | A    | A            | Maintain   | 0.2                              | A    | 0.2     | A    | A            | Maintain  |
|   |                         | 95th %ile          | 0.2  |      | 0.2     |      |              |  | 0.4                              |      |         |      |              |   |
| Suspended fine sediment   | Black disc (m)          | Median             | 3.15   | A*   | 3.24    | A    | A            | Maintain   | 4.22                             | A    | 5.18    | A    | A            | Maintain  |
| Dissolved copper  | µg/L                    | Median             |  |      |         |      | A            | Match MCI/QMCI   | 0.0003                           | A    | 0.0003  | A    | A            | Maintain  |
|   |                         | 95th %ile          |  |      |         |      |              | 0.0003   | 0.0003                           |      |         |      |              |   |
| Dissolved zinc  | µg/L                    | Median             |  |      |         |      | A            | Match MCI/QMCI   | 0.0005                           | A    | 0.0005  | A    | A            | Maintain  |
|   |                         | 95th %ile          |  |      |         |      |              | 0.0005   | 0.0005                           |      |         |      |              |   |
| <b>Ecosystem health attributes that need further work, data collection or Committee direction</b> |                         |                    |  |      |         |      |              |  |                                  |      |         |      |              |   |
| Fish  | Fish-IBI                | Latest             |  | A    |         |      |              |  |                                  | A    |         |      |              |   |
| Periphyton biomass  | mg chl-a/m <sup>2</sup> | 92nd %ile          | 84   | C*   | 57      | B    |              |  | 84                               | C*   | 57      | B    |              |   |
| Dissolved oxygen  | mg/L                    | 1-day minimum      |  |      |         |      |              |  |                                  |      |         |      |              |   |
|   |                         | 7-day mean minimum |  |      |         |      |              |  |                                  |      |         |      |              |   |

|   |  |                       |     |    |     |   |     |   |     |   |
|---|--|-----------------------|-----|----|-----|---|-----|---|-----|---|
| Habitat index   |  |                       |     | 1  |     |   |     | 1 |     |   |
| Ecosystem metabolism  | g O <sub>2</sub> m <sup>-2</sup> d <sup>-1</sup> | N/A <sup>5</sup>      |     |    |     |   |     |   |     |   |
| Attributes for other values that need further work with modelling, data collection or Committee direction |  |                       |     |    |     |   |     |   |     |   |
| Campylobacter   |  |                       |     |    |     |   |     |   |     |   |
| Heavy metals  |  |                       |     |    |     |   |     |   |     |   |
| Social measure  |  |                       |     |    |     |   |     |   |     |   |
| Tuna abundance and condition  |  |                       |     |    |     |   |     |   |     |   |
| <i>E. coli</i>  | /100mL   | Median                | 14  |    | 22  |   | 25  |   | 31  |   |
|   |  | %>260/100mL           | 411 | A* | 210 | A | 435 | A | 245 | A |
|   |  | %>540/100mL           | 7   |    | 3   |   | 7   |   | 3   |   |
|   |  | 95 <sup>th</sup> %ile | 0   |    | 0   |   | 5   |   | 2   |   |

| Wharemauku FMU   |  |                          | Lowland Urban Site |                   |         |      |              |   |
|--|--|--------------------------|--------------------|-------------------|---------|------|--------------|---|
| Parameter  | Unit   | Statistic                | Baseline           |                   | Current |      | Target state |   |
|  |  |                          | Numeric            | Band              | Numeric | Band | Band         | Comment   |
| <b>Populated by Committee during meeting</b>   |  |                          |                    |                   |         |      |              |   |
| Macroinvertebrates (1 of 2)  | MCI  | Median                   |                    |                   |         |      |              |   |
|  | QMCI   | Median                   |                    | [C]               |         |      | B            | Good ecological health  |
| Deposited fine sediment  | %cover   | Median                   |                    | [D]               |         |      | C            | Set to achieve QMCI of B  |
| Dissolved reactive phosphorus  | mg/L   | Median                   |                    |                   |         |      |              | DRP changes dont tend to have a big impact on macroinvertebrate communities. Bound to sediment. C band will achieve a QMCI of B |
|  |  | 95th%ile                 |                    | [D]               |         |      | C            |   |
| Dissolved Inorganic Nitrogen   | mg/L   | Median                   |                    |                   |         |      | 0.6          |   |
| <b>Recommended by project team following principles outlined</b>   |  |                          |                    |                   |         |      |              |   |
| Macroinvertebrates (2 of 2)  | ASPM   | Median                   |                    |                   |         |      | B            | Match MCI/QMCI  |
| Ammonia (toxicity)   | mg/L   | Median<br>95th %ile      |                    | [B]               |         |      | B            | Maintain  |
| Nitrate (toxicity)   | mg/L   | Median<br>95th %ile      |                    | [A]               |         |      | A            | Maintain  |
| Suspended fine sediment  | Black disc (m)                                   | Median                   |                    | [D]<br>[C]<br>[A] |         |      | B            | Match MCI/QMCI but note it is hard to establish target to maintain within given the different river classes present             |
| Dissolved copper   | µg/L   | Median<br>95th %ile      |                    |                   |         |      | B            | Match MCI/QMCI  |
| Dissolved zinc   | µg/L   | Median<br>95th %ile      |                    |                   |         |      | B            | Match MCI/QMCI  |
| <b>Ecosystem health attributes that need further work, data collection or Committee direction</b>                |  |                          |                    |                   |         |      |              |   |
| Fish   | Fish-IBI   | Latest                   |                    | B                 |         |      | A            | Noting observed high fish diversity in mana wheuna monitoring. Noting consistency of target across the whaitua.                 |
| Periphyton biomass   | mg chl-a/m <sup>2</sup>                          | 92 <sup>nd</sup> %ile    |                    |                   |         |      |              |   |
| Dissolved oxygen   | mg/L   | 1-day minimum            |                    |                   |         |      |              |   |
|  |  | 7-day mean minimum       |                    |                   |         |      |              |   |
| Habitat index  |  |                          |                    |                   |         |      | 1.5          |   |
| Ecosystem metabolism   | g O <sub>2</sub> m <sup>-2</sup> d <sup>-1</sup> | N/A <sup>5</sup>         |                    |                   |         |      |              |   |
| <b>Attributes for other values that need further work with modelling, data collection or Committee direction</b> |  |                          |                    |                   |         |      |              |   |
| Campylobacter  |  |                          |                    |                   |         |      |              |   |
| Heavy metals   |  |                          |                    |                   |         |      |              |   |
| Social measure   |  |                          |                    |                   |         |      |              |   |
| Tuna abundance and condition   |  |                          |                    |                   |         |      |              |   |
| <i>E. coli</i>   | /100mL   | Median                   |                    |                   |         |      |              |   |
|  |  | %>260/100mL              |                    |                   |         |      |              |   |
|  |  | %>540/100mL<br>95th %ile |                    | [E]               |         |      |              |   |

| Whareroa   |  |                       | Whareroa @ Waterfall Road (RS11) closed 2016 |      |         |      |              |   | Whareroa @ QE Park (RS12) Closed 2016 |      |         |      |              |   |
|--|--|-----------------------|--|------|---------|------|--------------|---|---------------------------------------|------|---------|------|--------------|---|
| Parameter  | Unit   | Statistic             | Baseline                                     |      | Current |      | Target state |   | Baseline                              |      | Current |      | Target state |   |
|  |  |                       | Numeric                                      | Band | Numeric | Band | Band         | Comment                                     | Numeric                               | Band | Numeric | Band | Band         | Comment                                     |
| <b>Populated by Committee during meeting</b>   |  |                       |  |      |         |      |              |   |                                       |      |         |      |              |   |
| Macroinvertebrates (1 of 2)  | MCI  | Median                | 115  | B    |         | [B]  | A            | Aiming high                                 | 68.9                                  | D    |         | [D]  | A            | Aiming high                                 |
|  | QMCI   | Median                | 6.2  |      |         |      |              |   | 4.1                                   |      |         |      |              |   |
| Deposited fine sediment  | %cover   | Median                | 30   | D*   |         |      | A            | Aiming high, restoration, lack of pressures | 100                                   | D*   |         |      | A            | Aiming high, restoration, lack of pressures |
| Dissolved reactive phosphorus  | mg/L   | Median                | 0.029  |      |         |      |              |   | 0.045                                 |      |         |      |              |   |
|  |  | 95th%ile              | 0.044  | D    |         | [D]  | A            |   | 0.072                                 | D    |         | [D]  | A            | Aiming high                                 |
| Dissolved Inorganic Nitrogen   | mg/L   | Median                | 0.38   |      |         |      | 0.3          | Aiming high set at A                        | 0.29                                  |      |         |      | 0.3          | Aiming high set at A                        |
| <b>Recommended by project team following principles outlined</b>   |  |                       |  |      |         |      |              |   |                                       |      |         |      |              |   |
| Macroinvertebrates (2 of 2)  | ASPM   | Median                |  |      |         |      | A            | Match MCI/QMCI                              |                                       |      |         |      | A            | Match MCI/QMCI                              |
| Ammonia (toxicity)   | mg/L   | Median                | 0.02   | B    |         | [A]  | A            | Match MCI/QMCI                              | 0                                     | A    |         | [B]  | A            | Match MCI/QMCI                              |
|  |  | 95th %ile             | 0.09   |      |         |      |              |   | 0.01                                  |      |         |      |              |   |
| Nitrate (toxicity)   | mg/L   | Median                | 0.4  | A    |         | [A]  | A            | Maintain                                    | 0.2                                   | A    |         | [A]  | A            | Maintain                                    |
|  |  | 95th %ile             | 0.9  |      |         |      |              |   | 1.1                                   |      |         |      |              |   |
| Suspended fine sediment  | Black disc (m)                                   | Median                | 0.6  | D    |         | [D]  | A            | Match MCI/QMCI                              | 0.63                                  | C    |         | [C]  | A            | Match MCI/QMCI                              |
| Dissolved copper   | µg/L   | Median                |  |      |         |      | A            | Match MCI/QMCI                              | 0.0006                                | A*   |         |      | A            | Match MCI/QMCI                              |
|  |  | 95th %ile             |  |      |         |      |              |   | 0.0012                                |      |         |      |              |   |
| Dissolved zinc   | µg/L   | Median                |  |      |         |      | A            | Match MCI/QMCI                              | 0.0029                                | B*   |         |      | A            | Match MCI/QMCI                              |
|  |  | 95th %ile             |  |      |         |      |              |   | 0.013                                 |      |         |      |              |   |
| <b>Ecosystem health attributes that need further work, data collection or Committee direction</b>                |  |                       |  |      |         |      |              |   |                                       |      |         |      |              |   |
| Fish   | Fish-IBI   | Latest                |  | A    |         |      |              |   |                                       | A    |         |      |              |   |
| Periphyton biomass   | mg chl-a/m <sup>2</sup>                          | 92 <sup>nd</sup> %ile |  |      |         |      |              |   |                                       |      |         |      |              |   |
| Dissolved oxygen   | mg/L   | 1-day minimum         |  |      |         |      |              |   |                                       |      |         |      |              |   |
|  |  | 7-day mean minimum    |  |      |         |      |              |   |                                       |      |         |      |              |   |
| Habitat index  |  |                       |  |      |         |      | 1            |   |                                       |      |         |      | 1            |   |
| Ecosystem metabolism   | g O <sub>2</sub> m <sup>-2</sup> d <sup>-1</sup> | N/A <sup>5</sup>      |  |      |         |      |              |   |                                       |      |         |      |              |   |
| <b>Attributes for other values that need further work with modelling, data collection or Committee direction</b> |  |                       |  |      |         |      |              |   |                                       |      |         |      |              |   |
| Campylobacter  |  |                       |  |      |         |      |              |   |                                       |      |         |      |              |   |
| Heavy metals   |  |                       |  |      |         |      |              |   |                                       |      |         |      |              |   |



| Social measure               |        |                       |        |   |     |       |   |     |
|------------------------------|--------|-----------------------|--------|---|-----|-------|---|-----|
| Tuna abundance and condition |        |                       |        |   |     |       |   |     |
| <i>E. coli</i>               | /100mL | Median                | 135    |   |     | 115   |   |     |
|                              |        | %>260/100mL           | 12,500 | D | [D] | 1,600 | D | [D] |
|                              |        | %>540/100mL           | 37     |   |     | 13    |   |     |
|                              |        | 95 <sup>th</sup> %ile | 28     |   |     | 12    |   |     |

| Wainui FMU   |  |                       | Wainui Hillcountry Rural Site |            |         |      |              | Wainui Lowland Rural Site |          |      |         |      |              |  |
|--|--|-----------------------|-------------------------------|------------|---------|------|--------------|---------------------------|----------|------|---------|------|--------------|--|
| Parameter  | Unit   | Statistic             | Baseline                      |            | Current |      | Target state |                           | Baseline |      | Current |      | Target state |  |
|  |  |                       | Numeric                       | Band       | Numeric | Band | Band         | Comment                   | Numeric  | Band | Numeric | Band | Band         | Comment  |
| <b>Populated by Committee during meeting</b>   |  |                       |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Macroinvertebrates (1 of 2)  | MCI  | Median                |                               | [B]        |         |      |              | B                         |          |      |         |      | B            | good ecological health   |
|  | QMCI   | Median                |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Deposited fine sediment  | %cover   | Median                |                               | [D]<br>[A] |         |      |              | 27%                       |          |      |         |      | 27%          | would raise it to a C band   |
| Dissolved reactive phosphorus  | mg/L   | Median                |                               | [B]        |         |      |              | A                         |          |      |         |      | A            | There is no explanation for wanting an A and the modelled band is in a C rather than a B |
|  |  | 95th%ile              |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Dissolved Inorganic Nitrogen   | mg/L   | Median                |                               |            |         |      |              | 0.3                       |          |      |         |      | 0.3          |  |
| <b>Recommended by project team following principles outlined</b>   |  |                       |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Macroinvertebrates (2 of 2)  | ASPM   | Median                |                               |            |         |      |              |                           |          |      |         |      | B            | Match MCI/QMCI   |
| Ammonia (toxicity)   | mg/L   | Median 95th %ile      |                               | [A]        |         |      |              |                           |          |      |         |      | A            | Maintain   |
| Nitrate (toxicity)   | mg/L   | Median 95th %ile      |                               | [A]        |         |      |              | A                         |          |      |         |      | A            | Maintain   |
| Suspended fine sediment  | Black disc (m)                                   | Median                |                               | [A-B]      |         |      |              |                           |          |      |         |      | B            | Match MCI/QMCI   |
| Dissolved copper   | µg/L   | Median 95th %ile      |                               |            |         |      |              |                           |          |      |         |      | B            | Match MCI/QMCI   |
| Dissolved zinc   | µg/L   | Median 95th %ile      |                               |            |         |      |              |                           |          |      |         |      | B            | Match MCI/QMCI   |
| <b>Ecosystem health attributes that need further work, data collection or Committee direction</b>                |  |                       |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Fish   | Fish-IBI   | Latest                |                               | A          |         |      |              |                           |          |      |         |      | A            |  |
| Periphyton biomass   | mg chl-a/m <sup>2</sup>                          | 92 <sup>nd</sup> %ile |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Dissolved oxygen   | mg/L   | 1-day minimum         |                               |            |         |      |              |                           |          |      |         |      |              |  |
|  |  | 7-day mean minimum    |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Habitat index  |  |                       |                               |            |         |      |              | 1                         |          |      |         |      | 1            |  |
| Ecosystem metabolism   | g O <sub>2</sub> m <sup>-2</sup> d <sup>-1</sup> | N/A <sup>5</sup>      |                               |            |         |      |              |                           |          |      |         |      |              |  |
| <b>Attributes for other values that need further work with modelling, data collection or Committee direction</b> |  |                       |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Campylobacter  |  |                       |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Heavy metals   |  |                       |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Social measure   |  |                       |                               |            |         |      |              |                           |          |      |         |      |              |  |
| Tuna abundance and condition   |  |                       |                               |            |         |      |              |                           |          |      |         |      |              |  |
| <i>E. coli</i>   | /100mL   | Median                |                               |            |         |      |              |                           |          |      |         |      |              |  |
|  |  | %>260/100mL           |                               |            |         |      |              |                           |          |      |         |      |              |  |
|  |  | %>540/100mL           |                               |            |         |      |              |                           |          |      |         |      |              |  |
|  |  | 95 <sup>th</sup> %ile |                               | [C]        |         |      |              |                           |          |      |         |      | [D]          |  |

| Ōtaki FMU  |  |                       | Ōtaki @ Pukehinau (RS05) |      |         |      |              |          | Ōtaki @ Mouth (RS06) |      |         |      |              |          |
|--|--|-----------------------|--------------------------|------|---------|------|--------------|----------|----------------------|------|---------|------|--------------|----------|
| Parameter  | Unit   | Statistic             | Baseline                 |      | Current |      | Target state |          | Baseline             |      | Current |      | Target state |          |
|  |  |                       | Numeric                  | Band | Numeric | Band | Band         | Comment  | Numeric              | Band | Numeric | Band | Band         | Comment  |
| <b>Populated by Committee during meeting</b>   |  |                       |                          |      |         |      |              |          |                      |      |         |      |              |          |
| Macroinvertebrates (1 of 2)  | MCI  | Median                | 131.0                    | A    | 126.7   | B    | B            | Maintain | 108.6                | C    | 123.6   | B    | B            | Maintain |
|  | QMCI   | Median                | 7.4                      | A    | 7.3     | B    | B            | Maintain | 6.4                  | C    | 6.5     | B    | B            | Maintain |
| Deposited fine sediment  | %cover   | Median                | 0                        | A*   | 1       | A#   | A            | Maintain | 0                    | A*   | 3       | A#   | A            |          |
| Dissolved reactive phosphorus  | mg/L   | Median                | 0.005                    | A    | 0.005   | A    | A            |          | 0.005                | A    | 0.005   | A    | A            |          |
|  |  | 95th%ile              | 0.007                    | A    | 0.007   | A    | A            |          | 0.007                | A    | 0.007   | A    | A            |          |
| Dissolved Inorganic Nitrogen   | mg/L   | Median                | 0.04                     |      | 0.04    |      | A            |          | 0.05                 |      | 0.06    |      | A            |          |
| <b>Recommended by project team following principles outlined</b>   |  |                       |                          |      |         |      |              |          |                      |      |         |      |              |          |
| Macroinvertebrates (2 of 2)  | ASPM   | Median                | 0.5                      | B    | 0.6     | A    | A            |          | 0.4                  | B    | 0.6     | A    | A            |          |
| Ammonia (toxicity)   | mg/L   | Median                | 0.00                     | A    | 0.00    | A    | A            |          | 0.00                 | A    | 0.00    | A    | A            |          |
|  |  | 95th %ile             | 0.00                     | A    | 0.00    | A    | A            |          | 0.00                 | A    | 0.00    | A    | A            |          |
| Nitrate (toxicity)   | mg/L   | Median                | 0.0                      | A    | 0.0     | A    | A            |          | 0.0                  | A    | 0.1     | A    | A            |          |
|  |  | 95th %ile             | 0.1                      | A    | 0.1     | A    | A            |          | 0.1                  | A    | 0.1     | A    | A            |          |
| Suspended fine sediment  | Black disc (m)                                   | Median                | 3.45                     | A    | 4.81    | A    | A            |          | 2.94                 | B    | 3.41    | A    | A            |          |
| Dissolved copper   | µg/L   | Median<br>95th %ile   |                          |      |         |      |              |          |                      |      |         |      |              |          |
| Dissolved zinc   | µg/L   | Median<br>95th %ile   |                          |      |         |      |              |          |                      |      |         |      |              |          |
| <b>Ecosystem health attributes that need further work, data collection or Committee direction</b>                |  |                       |                          |      |         |      |              |          |                      |      |         |      |              |          |
| Fish   | Fish-IBI   | Latest                |                          | A    |         |      | A            |          |                      | A    |         |      | A            |          |
| Periphyton biomass   | mg chl-a/m <sup>2</sup>                          | 92 <sup>nd</sup> %ile |                          |      |         |      |              |          | 30                   | A*   | 27      | A    | A            |          |
| Dissolved oxygen   | mg/L   | 1-day minimum         |                          |      |         |      |              |          |                      |      |         |      |              |          |
|  |  | 7-day mean minimum    |                          |      |         |      |              |          |                      |      |         |      |              |          |
| Habitat index  |  |                       |                          |      |         |      | >1           |          |                      |      |         |      | >1           |          |
| Ecosystem metabolism   | g O <sub>2</sub> m <sup>-2</sup> d <sup>-1</sup> | N/A <sup>5</sup>      |                          |      |         |      |              |          |                      |      |         |      |              |          |
| <b>Attributes for other values that need further work with modelling, data collection or Committee direction</b> |  |                       |                          |      |         |      |              |          |                      |      |         |      |              |          |
| Campylobacter  |  |                       |                          |      |         |      |              |          |                      |      |         |      |              |          |
| Heavy metals   |  |                       |                          |      |         |      |              |          |                      |      |         |      |              |          |
| Social measure   |  |                       |                          |      |         |      |              |          |                      |      |         |      |              |          |
| Tuna abundance and condition   |  |                       |                          |      |         |      |              |          |                      |      |         |      |              |          |
| <i>E. coli</i>   | /100mL   | Median                | 5                        |      | 12      |      |              |          | 26                   |      | 30      |      |              |          |
|  |  | %>260/100mL           | 62                       | A    | 130     | A    |              |          | 235                  | A    | 190     | A    |              |          |
|  |  | %>540/100mL           | 2                        |      | 0       |      |              |          | 5                    |      | 3       |      |              |          |
|  |  | 95 <sup>th</sup> %ile | 0                        |      | 0       |      |              |          | 2                    |      | 2       |      |              |          |

| Mangaone FMU   |  |                                 | Mangaone @ Sims Road Bridge (RS07) |      |         |      |  |
|--|--|---------------------------------|------------------------------------|------|---------|------|--|
| Parameter  | Unit   | Statistic                       | Baseline                           |      | Current |      | Target state   |
|  |  |                                 | Numeric                            | Band | Numeric | Band | Band   |
| <b>Populated by Committee during meeting</b>   |  |                                 |                                    |      |         |      |  |
| Macroinvertebrates (1 of 2)  | MCI  | Median                          | 61.4                               |      | 64.7    |      | Noted may take a lot of effort to bring this to a C. Note for management options to address diffuse discharges as a priority. Noting high social distress in community of state of this stream |
|  | QMCI   | Median                          | 2.6                                | D    | 4.1     | D    |  |
| Deposited fine sediment  | %cover   | Median                          |                                    |      |         |      | B  |
| Dissolved reactive phosphorus  | mg/L   | Median                          | 0.026                              | D    | 0.030   | D    | C  |
|  |  | 95 <sup>th</sup> %ile           | 0.050                              |      | 0.053   |      |  |
| Dissolved Inorganic Nitrogen   | mg/L   | Median                          | 1.69                               |      | 1.52    |      | B  |
| <b>Recommended by project team following principles outlined</b>   |  |                                 |                                    |      |         |      |  |
| Macroinvertebrates (2 of 2)  | ASPM   | Median                          | 0.1                                | D    | 0.1     | D    |  |
| Ammonia (toxicity)   | mg/L   | Median                          | 0.03                               | B    | 0.04    | B    |  |
|  |  | 95 <sup>th</sup> %ile           | 0.07                               |      | 0.09    |      |  |
| Nitrate (toxicity)   | mg/L   | Median                          | 1.6                                | B    | 1.4     | B    |  |
|  |  | 95 <sup>th</sup> %ile           | 2.7                                |      | 3.0     |      |  |
| Suspended fine sediment  | Black disc (m)                                   | Median                          | 0.65                               | C    | 0.67    | C    |  |
| Dissolved copper   | µg/L   | Median<br>95 <sup>th</sup> %ile |                                    |      |         |      |  |
| Dissolved zinc   | µg/L   | Median<br>95 <sup>th</sup> %ile |                                    |      |         |      |  |
| <b>Ecosystem health attributes that need further work, data collection or Committee direction</b>                |  |                                 |                                    |      |         |      |  |
| Fish   | Fish-IBI   | Latest                          |                                    | A    |         |      | A  |
| Periphyton biomass   | mg chl-a/m <sup>2</sup>                          | 92 <sup>nd</sup> %ile           |                                    |      |         |      |  |
| Dissolved oxygen   | mg/L   | 1-day minimum                   |                                    |      |         |      |  |
|  |  | 7-day mean minimum              |                                    |      |         |      |  |
| Habitat index  |  |                                 |                                    |      |         |      | 1.5  |
| Ecosystem metabolism   | g O <sub>2</sub> m <sup>-2</sup> d <sup>-1</sup> | N/A <sup>5</sup>                |                                    |      |         |      |  |
| <b>Attributes for other values that need further work with modelling, data collection or Committee direction</b> |  |                                 |                                    |      |         |      |  |
| Campylobacter  |  |                                 |                                    |      |         |      |  |
| Heavy metals   |  |                                 |                                    |      |         |      |  |
| Social measure   |  |                                 |                                    |      |         |      |  |
| Tuna abundance and condition   |  |                                 |                                    |      |         |      |  |
| <i>E. coli</i>   | /100mL   | Median                          | 1,000                              |      | 1,550   |      |  |
|  |  | %>260/100mL                     | 5,300                              | E    | 11,000  | E    |  |
|  |  | %>540/100mL                     | 97                                 |      | 100     |      |  |
|  |  | 95 <sup>th</sup> %ile           | 72                                 |      | 92      |      |  |

| Kōwhai FMU   |  |                          | Kōwhai Stream Lowland Rural Site |      |         |      |  |
|--|--|--------------------------|----------------------------------|------|---------|------|--|
| Parameter  | Unit   | Statistic                | Baseline                         |      | Current |      | Target state   |
|  |  |                          | Numeric                          | Band | Numeric | Band | Band   |
| <b>Populated by Committee during meeting</b>   |  |                          |                                  |      |         |      |  |
| Macroinvertebrates (1 of 2)  | MCI  | Median                   |                                  |      |         |      | Note observations suggest it may be poorer. Therefore if it is in a D a C would be improve rather than maintain.   |
|  | QMCI   | Median                   |                                  |      | [C]     | C    |  |
| Deposited fine sediment  | %cover   | Median                   |                                  |      | [D]     | B    |  |
| Dissolved reactive phosphorus  | mg/L   | Median<br>95th%ile       |                                  |      | [D]     | C    |  |
| Dissolved Inorganic Nitrogen   | mg/L   | Median                   |                                  |      |         | B    | Note recent single DIN measurement was .8. Noting similarities of characteristics to Mangaone  |
| <b>Recommended by project team following principles outlined</b>   |  |                          |                                  |      |         |      |  |
| Macroinvertebrates (2 of 2)  | ASPM   | Median                   |                                  |      |         |      |  |
| Ammonia (toxicity)   | mg/L   | Median<br>95th %ile      |                                  |      | [B]     |      |  |
| Nitrate (toxicity)   | mg/L   | Median<br>95th %ile      |                                  |      | [A]     |      |  |
| Suspended fine sediment  | Black disc (m)                                   | Median                   |                                  |      | [D] [A] |      |  |
| Dissolved copper   | µg/L   | Median<br>95th %ile      |                                  |      |         |      |  |
| Dissolved zinc   | µg/L   | Median<br>95th %ile      |                                  |      |         |      |  |
| <b>Ecosystem health attributes that need further work, data collection or Committee direction</b>                |  |                          |                                  |      |         |      |  |
| Fish   | Fish-IBI   | Latest                   |                                  |      |         | A    | Noting likely to be in good state for IBI given mana wheuna catch observations. Probably B state espec, by the Coast. Noting similarities of characteristics to Mangaone |
| Periphyton biomass   | mg chl-a/m <sup>2</sup>                          | 92 <sup>nd</sup> %ile    |                                  |      |         |      |  |
| Dissolved oxygen   | mg/L   | 1-day minimum            |                                  |      |         |      |  |
|  |  | 7-day mean minimum       |                                  |      |         |      |  |
| Habitat index  |  |                          |                                  |      |         | 1.5  | Taken for its similarities to Manaone  |
| Ecosystem metabolism   | g O <sub>2</sub> m <sup>-2</sup> d <sup>-1</sup> | N/A <sup>5</sup>         |                                  |      |         |      |  |
| <b>Attributes for other values that need further work with modelling, data collection or Committee direction</b> |  |                          |                                  |      |         |      |  |
| Campylobacter  |  |                          |                                  |      |         |      |  |
| Heavy metals   |  |                          |                                  |      |         |      |  |
| Social measure   |  |                          |                                  |      |         |      |  |
| Tuna abundance and condition   |  |                          |                                  |      |         |      |  |
| <i>E. coli</i>   | /100mL   | Median                   |                                  |      |         |      |  |
|  |  | %>260/100mL              |                                  |      |         |      |  |
|  |  | %>540/100mL<br>95th %ile |                                  |      |         | [E]  |  |

