Feedback: Book 2
(PART A)

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Areas of Interest	
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From:	Tom Kay
To:	Freshwater
Cc:	Dean Baigent-Mercer
Subject:	Feedback on draft Northland freshwater plan
Date:	Thursday, 28 March 2024 1:40:04 pm
Attachments:	Forest & Bird - Feedback on Northland Draft Plan 31_03_2024.docx Natural Character Index for Whitestone and Upukerora Rivers - Ian Fuller - April 2023.pdf

Kia ora

Please see attached our feedback on the draft Northland plan, and an appendix we refer to in our submission.

Nga mihi,

Tom Kay (he/him)

FRESHWATER ADVOCATE
Forest & Bird
M 022 183 2729
Note I work Monday - Friday

Feedback form

Draft Freshwater Plan Change

The closing date for feedback is **5pm, 31 March 2024**

We welcome your feedback on anything in our draft Freshwater Plan Change. To learn about the changes being considered, visit www.wai-it-matters.nz

We encourage electronic feedback, as it helps keep costs down and reduce our impact on the environment. Head to wai-it-matters.nz or email us at freshwater@nrc.govt.nz

Otherwise, complete this form and return it:

- **By mail** Freepost 139690, Northland Regional Council, Private Bag 9021, Te Mai, Whangārei 0143
- **In person** to our main office at 36 Water Street, Whangārei; or to any of our regional offices.

Your name and contact details

Please provide your name and at least one other piece of contact information

Full name: Thomas Kay

Organisation (if giving feedback on behalf): Forest & Bird

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What topics do you want to provide feedback on?

Select as many as you want

- ☒ The vision, objectives and/or targets for our freshwater future
- ☒ Managing highly-erodible land
- ☒ Eliminating discharges to water
- ☒ Managing exotic forests
- ☒ Managing impacts on tāngata whenua values
- ☒ Stock exclusion – distance from waterways
- ☒ Stock exclusion – highly-erodible land
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- ☒ Enabling tāngata whenua to practice as kaitiaki for wai
- ☒ Support and funding for efforts to improve freshwater
- ☒ Something else

Privacy Statement: *Privacy Statement: Please be aware that your feedback may be made public, including the name and contact details you provide. All feedback will be assessed and summarised for use in preparing the proposed plan change, which will be publicly notified in late 2024.*

Tell us what you think

Please provide your thoughts and comments on anything in the draft Freshwater Plan Change.

Introduction

1. Ngā mihi ki a koutou for the invitation to provide feedback on Northland's draft Freshwater Plan Change. Forest & Bird welcomes the introduction of a freshwater plan change to address the significant issues with freshwater degradation in Northland and to give effect to the NPS-FM.

2. The Royal Forest & Bird Protection Society of New Zealand Inc. (Forest & Bird) is Aotearoa's longest-running independent conservation organisation. Our constitutional purpose is to take all reasonable steps within our power for the preservation and protection of the indigenous flora and fauna and the natural features of New Zealand.

3. We would like to see you, Northland Regional Council, do as much as you can to protect and restore Te Mana o te Wai and ecosystem health in these areas, and across the region generally.

4. We strongly encourage the Council to continue progressing towards restoring freshwater in Northland. Regardless of the national policy settings and potential changes to them, there is undoubtedly going to be a continued policy obligation on Northland to improve water quality in Northland – not to mention a moral obligation (and strong public mandate) to provide for the ongoing wellbeing of the northland community through the protection of water, which is essential to life. While the details of national direction might change, Northland Regional Council must move ahead. We have seen change (and the protection of water) in places like Lake Taupō, where a comprehensive nitrogen management system was brought in before the NPS-FM was even introduced. It can be done, and we encourage council to step above arguments about national policy direction and make a move to improve water quality in the region.

5. We would like commend NRC on reaching this draft stage of plan development. The framework you have developed provides a solid start for amendment to effectively address water quality issues in Te Tai Tokerau, not just to give effect to the NPS-FM (2020) and Te Mana o te Wai. This plan change represents an aspiration to ensure our tamariki, mokopuna, and future generations can swim in our rives and access safe drinking water, while providing for themselves and any options for how they live with our rivers, lakes, wetlands, and land in the future.

6. In progressing with your plan change, you will also be complying with your legal obligations under section 55 of the Resource Management Act 1991 (RMA) and Clause 4.1 of the National Policy Statement for Freshwater Management 2020 (NPS-FM), which requires Councils to give effect to the NPS-FM as soon as reasonably practicable i.e., without delay.

Key freshwater priorities for Forest & Bird:

7. Key issues for Forest & Bird across Northland are water quality (particularly e. coli, sediment, algal growth/periphyton, potential toxic waste from mining activities, and ecosystem health); water quantity; amenity values/drinking water; threatened species; contact recreation; natural form and character; wetland protection and restoration; and the management of floodplains, river corridors, and natural hazards through the use of nature-based solutions (such as Making Room for Rivers, wetland restoration, and reforestation).

Feedback

8. Forest & Bird has developed a set of practice notes on implementation of the NPS-FM and best practice policy development for freshwater at www.WaiGoodPolicy.org.nz We encourage you to read these practice notes and incorporate recommendations into the plan. They provide comprehensive comments on plan development, which we have used to inform our more specific comments on sections of the Northland draft plan below.

9. Forest & Bird has not been able to provide comprehensive line-by-line comments on the draft plan due to time constraints, but we have outlined our key comments below. We would be happy to discuss these in more detail with council staff and assist with amendments to the draft plan to ensure these concerns are addressed.

10. At a high level, **Forest & Bird is generally supportive of**:

    a. The incorporation of objectives and policies relating to Te Mana o te Wai (such as Objective 3.16 Te Mana me te Mauri o te Wai). We strongly support the retention of Te Mana o te Wai in the plan.

    b. The inclusion of comprehensive Māori freshwater values as a mechanism for implementing Te Mana o Te Wai. These values recognise the environmental and cultural significance of protecting and enhancing wai, and the associated attributes and target attribute states (TAS) enable progress and ensure accountability. However, it is unclear why the target for these attributes is 'Band C', which appears to be below the 'bottom line' proposed in the tables (which is set at the Band B). We understand there are hapū kainga plans related to freshwater that may be appropriate to make reference to in the plan – we would support this if appropriate. We also understand Northland Regional Council has some catchment management plans (e.g., for the Waitangi catchment[1]) that could be appropriate to make reference to or include aspects of.

    c. Limitations on vegetation clearance, land preparation and earthworks in areas of high and severe erosion risk; and protecting erosion prone land through:

[1] https://www.nrc.govt.nz/media/xavlxa1m/waitangicatchmentplanaugust2017.pdf

i. new rules limiting vegetation clearance, land preparation and earthworks in areas of high erosion risk, with tighter controls applied to these activities in areas with severe erosion risk.
ii. new rules requiring stock to be excluded from areas of both high and severe erosion risk.

d. Stock exclusion from erodible land, and associated stabilisation of these areas with vegetation.

e. Stock exclusion areas and vegetated riparian buffers of at least 10 m from waterways, including wetlands, to achieve ecosystem health and climate change resilience. Riparian and erodible land planting should prioritise indigenous regrowth.

f. Prohibitions on various discharges to water and added control of dairy effluent discharges to land, including:
   i. Requiring consent for dairy effluent discharges to land
   ii. Prohibiting new farm dairy effluent discharge to water and introducing stricter requirements for renewal of existing consents.
   iii. Prohibiting new wastewater treatment plant discharges to water and introducing stricter requirements for renewal of existing consents.
   iv. Prohibiting domestic wastewater discharges to waterways
   v. Prohibiting any toxic waste from mining activities into waterways above and below ground

g. Added setback requirements for forestry (noting that provisions enabling forestry on erosion prone land should be reviewed). We support as an absolute minimum:
   i. Requiring larger setbacks >10 m for exotic carbon and plantation forestry from waterways.
   ii. Requiring resource consent for plantation forestry and exotic carbon forests in high-value dune lake catchments.
   iii. Prohibiting clear-felling of forestry in high-risk or steep areas

h. The targeted water allocation policy to set aside 20% of unallocated water available for allocation for environmental enhancement, marae and papakainga, or developing Māori land.

i. The implementation of appropriate minimum flows, levels, and allocation limits. However, we are concerned about the water allocation and lack of background information for this framework. We are concerned that NRC do in fact have catchments that are over allocated, and if so NRC need to implement rules that provide a sinking lid approach so that reduced flow allocation can be achieved over time.

j. Expanding requirements for assessing impacts on cultural values by adding requirements for resource consent applicants to assess cultural impacts that affect tāngata whenua values for freshwater.

11. Forest & Bird considers **the following aspects of the draft plan require your, Northland Regional Council's, attention:**

12. **Freshwater Management Units**

    a. The NSP-FM directs regional councils to identify FMUs which enable the council to effectively manage freshwater activities at an appropriate scale. FMUs are the default spatial unit at which long-term visions are set, values are identified, attributes are identified, action plans are prepared and progress towards goals is monitored, assessed and reported. Within each FMU regional councils must also identify monitoring sites, primary contact sites, habitats of threatened species, outstanding water bodies, and natural inland wetlands.

    b. The NPS-FM requires councils to maintain freshwater accounting and monitoring systems at a level of detail that reflects the significance of the water quality and / or quantity issues applicable to each FMU or part of an FMU, and how these are to be managed. As such FMU's are a management tool, not just a monitoring tool, of the NPS-FM.

    c. The Draft Plan has failed to identify individual visions for FMUs, instead its single long-term vision for freshwater applies to the entire region and all the FMUs together. Forest & Bird are of the strong opinion that to achieve improvements in water quality as required by the NPS-FM, FMUs need to be managed individually, and not only this but so too do outstanding water bodies - recognising their individual hydrogeomorphic features and the specific management requirements of their catchments.

    d. A single overarching vision for the entire regions catchments and water bodies will not ensure the individual protection required nor provide the necessary action for already degraded catchments. To meet the requirements for improvements, visions need to detail what improvements need to happen to improve degraded catchments.

13. **Target Attribute States**

    a. The way that Target Attribute States have been set out across three tables (H.12A.2, H.3.1 / Table 22, and the cultural TAS tables) is confusing. It is unclear in what circumstances each table applies.

    b. **Regarding the targets in H.12A.2:**

        i. It is insufficient to set Target Attribute States as goals to move a % of sites across the region into the different A-D bands. This is inconsistent with NPS-FM direction to set targets for FMUs, part FMUs, or sites. For example, if the community wants improvement in water quality at a certain site they should be able to see that target set out specifically in the TASs. Using the drafted approach provides council with he ability to just improve water quality in the 'easy' areas to avoid having to deal with certain problem locations or waterbodies. TASs should be set out by river/site, as appropriate. Setting TAS in percentages of monitoring sites across the region means

that there may be some 'unders and overs'. This is a concern for those waterbodies that are in a pristine and healthy state as it allows for water quality to degrade. No waterbody should ever degrade and to allow for it in a freshwater plan contravenes the requirements of the NPS-FM.

ii. Targets should be set out with actual values alongside 'A', 'B, etc. and 'Excellent', 'Poor', etc. This ensures that if national direction is ever changed, or thresholds changed, then the goalposts NRC is aiming for are not shifted.

iii. The list of compulsory attributes should match Appendix 2A and attributes requiring action plans in Appendix 2B of the NPSFM. The tables are not well labelled to indicate what is compulsory and where action plans will be required in FMUs.

iv. The drafted TASs make it very hard to understand whether targets are appropriate, as we can't see which sites council aspires to improve, and from what baseline states to what targets. Plan readers also can't tell how sites upstream are being set to achieve targets for sites downstream receiving environments.

v. **Targets for nitrate levels for ecosystem health are missing**. We appreciate council has included nitrate toxicity, which with an A-band of < 1.0 mg/L, and that this is lower than the NPS-FM bottom line (a bottom line in the NPS which is ecologically irrelevant). However, 1.0 mg/L is still too high to achieve **ecosystem health** outcomes. It's an okay **bottom line**, but shouldn't be the aspiration. This is proven somewhat by the fact that most of the sites in Northland already achieve the A-band target (despite being degraded). Targets should be inserted with values of 0.3 - 0.6 sought, as per the practice note developed by eNGOs and as consistent with best available information, as per the NPS-FM requirement: https://www.waigoodpolicy.org.nz/practice-notes/setting-instream-nutrient-outcomes

vi. **Groundwater quality targets are missing**. These should be included with a nitrate-nitrogen target of < 1.0 mg/L to protect human and ecosystem health.

vii. The Wetland Condition Index should be included for wetland, with target of 10. This would complement the cultural target for wetland health.

viii. **A target attribute state for wetland extent (e.g. area in hectares) should be included**. This should aim for a long-term (2050) goal of restoring wetland cover to 20% of its original/natural extent, with interim goals.

ix. **Targets for deposited sediment are missing.** This should be added with a max target of < 20% cover.

x. **The table should include targets for any heavy metals that might be part of toxic waste from mining proposals**, that protect ecosystem and human health. This is a

real threat to ecosystem and human health and the plan should address it proactively

xi. The DRP targets aren't ambitious enough. NRC should be aiming to get more sites up to higher A-C bands sooner. Mean and median DRP concentrations should be set at around 0.01 - 0.02 mg/L as max (about NPS-FM C band).

xii. The inclusion of Rapid Habitat Assessment is good but the sites these are measured at need to be listed. The likelihood is that there aren't many of these sites and the distribution may be skewed.

xiii. Additional measures for natural character and habitat should be added. We would like to see a wider-scale natural character measure included, such as the Natural Character Index (NCI), which could be initially used at larger rivers (or on outstanding rivers) and then monitoring extended more widely. A variation of this tool, the Habitat Quality Index (HQI), could be used for resource consent requirements with a target to 'maintain' the HQI through activities in rivers set in the TAS tables.

c. **Regarding targets in Policy H.3.1 Table 22**

i. We assume these targets apply to point source discharge consents, however the language used is not clear on this.
ii. It is overly simplistic to set rivers as 'outstanding' and 'other'.
iii. It's not clear why these values aren't set at ecosystem health levels. They should be.
iv. These should include a lower value for nitrate, not just the 1.0 mg/L 'toxicity' value.
v. Deposited sediment shouldn't just be % change. It should have absolute max of < 20%.
vi. Periphyton biomass for "other rivers" too high at 200 mg chl-a. It should be lower.
vii. QMCI should have attribute states not percent change.

14. **Protection of wetlands**

a. With regard to the protection and restoration of wetlands, we would like to see the NRC

i. Prohibiting wetland drainage and clearance
ii. Requiring stock exclusion from wetlands
iii. Adding policies to the plan that would encourage wetland restoration
iv. Mapping and monitoring wetland extent
v. Incentivising the restoration of peat wetland, particularly around the large drainage schemes which continue to cause problems for nationally and internationally significant wetlands in Northland
vi. Restore the connection between rivers, floodplains, floodplain forest, and wetlands

vii. Introducing a measure of wetland condition using a tool like the wetland condition index, with a target of 10 (as recommended by the Government's Science and Technical Advisory Group on the NPS-FM)

viii. Adding a Target Attribute State for wetland extent across northland, and that TAS be to restore wetland cover to 20% of its original extent, with an associated policy, e.g.:

(X) wetland extent is increased to at least 20 percent of its original extent in the region

15. **Phasing out and preventing over-allocation of water**

a. With regard to water allocation, we would like to see NRC

i. Using short-term consents of < 10 years for all water takes, unless for municipal/papakainga/marae supply
ii. Prohibiting water takes above environmental flows and levels
iii. Ensuring consent expiration dates are aligned across an FMU / catchment
iv. Setting aside a portion of unallocated water (provided it is within environmental limits) to be used for environmental enhancement.

16. **Addressing nutrient and sediment pollution from agriculture**

a. NRC must ensure the plan has a robust allocation system for nutrient leaching, which should include things like limits on fertiliser use, land cover, and stocking rates in degraded catchments. We note the success of the Lake Taupō system, for example, in preventing the deterioration of the lake and protecting a taonga for current and future generations, while still providing for production of food and fibre from the catchment.

b. We note the Plan's lack of measures to control intensive winter grazing. Council should prohibit intensive winter grazing near critical source areas, alongside other measures outlined on the www.WaiGoodPolicy.org.nz website.

17. **Managing natural hazard risk / Promoting nature-based solutions**

a. With regard to hazard risk and nature-based solutions, we would like to see NRC

i. Including policy that avoids development in risky areas and prioritises nature-based solutions over engineered solutions when making decisions on flood protection (e.g., as in section D6 Natural Hazards, and 'D.6.1 Appropriateness of hard protection structures', and such as that suggested below).
ii. Strengthening the direction in section D6 to ensure it applies in rivers (and not just in coastal areas (this is currently unclear)).
iii. Including policy protecting the ability of existing wetlands, native forests, and rivers/floodplains to naturally mitigate extreme weather,
iv. We note the below policy wording as an ideal in our view:

Natural hazard risk:

Planning decisions must ensure that:

a) in areas of *high natural hazard risk*, new development and intensification of existing development is avoided unless
   i. there is a functional or operational need for the new or intensified development to be located in the area of high natural hazard risk, and
   ii. there are no practicable alternative locations for the new development; and
   iii. risk is reduced to as low as reasonably practicable; and
b) in areas of *moderate natural hazard risk*, mitigation measures are taken to reduce natural hazard risk to new development as low as reasonably practicable; and
c) in areas of *low natural hazard risk*, new development is enabled.
d) in all areas,
   i. the protection, restoration or enhancement of natural defences that protect land uses, or sites of significant biodiversity, cultural or historic heritage or geological value, from natural hazards is provided for, and
   ii. it is recognised that such natural defences include, but are not limited to, native forests, river corridors, floodplains, wetlands, intertidal areas, coastal vegetation, dunes and tussockland, and
   iii. any more than minor adverse effects of development on the ability of those natural defences to continue to mitigate risk, including risk to areas downstream, is avoided, remedied or mitigated, and
e) use of water-sensitive design to help reduce risk, including through rainwater harvesting devices, green roofs, site landscaping, rain gardens, wetland treatment systems, and low impact stormwater attenuation systems is required, and
f) redevelopment, or change in land use, where that would reduce the risk of adverse effects from hazards, including managed retreat by relocation or removal of existing structures or their abandonment in extreme circumstances, and designing for relocatability or recoverability from hazard events is encouraged, and
g) a precautionary approach is taken where information is uncertain, unknown or little understood.

Nature-based solutions to managing natural hazard risk:

a) The most effective natural hazard mitigation measures are adopted to reduce natural hazard risk, provided the natural hazard mitigation measures do not exacerbate natural hazard risks in other areas, and where possible:
   i. nature-based solutions, including making room for rivers and Mātauranga Māori options, are preferred over hard-engineering solutions; and
   ii. comprehensive catchment-wide measures are considered and preferred over site-specific solutions.

18. **Managing activities in beds of rivers and improving the management of the natural character and habitat of rivers**

a. With regard to managing activities in beds of rivers and improving the management of the natural character and habitat of rivers, we would like to see NRC:

i. Increasing the regulation of activities in the beds of rivers, such as gravel extraction, and strengthening the requirements around these – including rule thresholds for consent and consent requirements. We have suggested some policies below that could be mirrored in the plan.
ii. Requiring regular monitoring and reporting of natural character and physical habitat in rivers, including where activities in rivers (such as gravel extraction) are undertaken. **We have included an example of how this could be done for State of the Environment monitoring as an appendix to this submission.**
iii. Including target attribute states for natural character and physical habitat in rivers, beyond the currently included Rapid Habitat Assessment (e.g., using the Natural Character Index).
iv. Prioritising the use of nature-based solutions and water-sensitive design in future and existing flood protection schemes, including Making Room for Rivers, wetland restoration, and reforestation. These are widely accepted by experts to be more cost effective and have more co-benefits than 'engineered' solutions.
v. Stop development in high risk locations, and stop the encroachment of development into riverbeds (and the loss of river extent associated with it).
vi. Including policies such as those drafted below to ensure activities are managed appropriately to protect habitat and natural character:

Gravel extraction:

When considering a resource consent application to extract gravel from the bed of a river:

a) consider the extent to which there has been engagement with NRC prior to the lodgement of any resource consent application; and
b) require that the volume, extent, and duration of the extraction is sustainable, taking into account (at a minimum) the rate of erosion and deposition (gravel recharge), river morphology, and hydrological and ecological processes throughout the catchment; and
c) require that the applicant demonstrates that the proposal will not:
    i. result in extraction in an area where there is a deficit of gravel, or the proposed extraction may cause a deficit in gravel volumes; or
    ii. result in extraction that exceeds the rate of gravel recharge, except where stored gravel is available for extraction; and
    iii. cause or exacerbate erosion or instability of the bed or banks, including elsewhere in the catchment, and maintains or improves the flood carrying capacity that existed prior to the extraction; and
    iv. result in adverse effects on ecosystem health, including the natural character, natural form and function, or habitat of the river, including riffle/run/pool sequences
d) require the applicant to contribute to a program of regular monitoring of the natural form and function (geomorphology), ecosystem health, and habitat of the catchment to inform future gravel extraction decisions

e) avoid processing of gravel in the bed if possible and require that the functional need for any processing of gravel in the bed is demonstrated; and

f) require that either:

   i. the extraction is for the purpose of protecting or maintaining nationally significant infrastructure or regionally significant infrastructure and local transport infrastructure that is in the bed, provided that there are no other reasonable alternatives to protect or maintain the nationally significant infrastructure, regionally significant infrastructure or local transport infrastructure, including nature-based solutions or not intervening to work with the river's natural processes; or

   ii. the extraction is for the purpose of flood hazard mitigation, after first considering nature-based solutions or not intervening to work with the river's natural processes, and it is undertaken by or on behalf of NRC exercising its powers, functions and duties under the Soil Conservation and Rivers Control Act 1941, the Land Drainage Act 1908, or the Local Government Act 1974, in relation to flood control; or

   iii. the resource consent application demonstrates the functional need and operational need for the extraction and that there are no other practical alternatives, including nature-based solutions or not intervening to work with the river's natural processes, to the proposed extraction.

Future Gravel Extraction

NRC will investigate options to improve the long-term management of the natural form and function of Northland's rivers and gravel regimes resources, including:

a) the preparation of catchment-specific summaries of geomorphological processes ('river stories') in Northland rivers, including longitudinal profiles, channel confinement, stream power, catchment connectivity, land use, climate change implications, historic river modification, flood extent, and rates of sediment movement (or sediment budgets), where possible

b) the development of a monitoring program of natural form and function, to inform (a) and track changes through time

c) the preparation of catchment specific guidance which describes a framework for managing the extraction of gravel from rivers across Northland, including where it is and is not appropriate, and the outcomes to be achieved through gravel extraction if provided for; and

d) the preparation of a Code of Practice which describes required best management practices for the extraction of gravel from the bed of a lake or river, and

e) the notification of a change to the Freshwater Regional Plan which amends the gravel extraction provisions, in order to implement the direction set through outcomes of clauses (a) - (d).

Duration of consents to extract gravel

Limit the duration of any resource consent to extract gravel to 12 months, unless the applicant can clearly demonstrate that a longer duration is required and is appropriate in relation to the location and volume of extraction sought.

19. **Protecting coastal water and water in 'receiving environments':**

    a. With regard to protecting coastal water and water in 'receiving environments', we would like to see NRC

        i. Protecting and restoring catchments upstream to improve water quality
        ii. Including target attributes for water quality in estuaries and coastal areas

20. **Preventing destruction of waterbodies through mine waste and other heavy metals / toxicants:**

    a. There is a very real threat of toxic waste from mining destroying freshwater habitat and permanently degrading freshwater quality. The draft plan should be amended to ensure it prevents this from occurring.

    b. We see the incorporation of 95-99% species protections levels from the ANZG freshwater guidelines as being one potential way to ensure a wide variety of water quality toxicants are included with appropriate robust standards. We note this is done in the GWRC operative plan. ("all other Toxicants to be assessed against the ANZG (2018) Default Guideline Values unless site/catchment specific thresholds are available for use (see Step 4 of the ANZG (2018) Water Quality Management Framework"). See Table 3.4 of https://www.gw.govt.nz/assets/Documents/2023/07/Natural-Resource-Plan-Operative-Version-2023-incl-maps-compressed.pdf

If you have more to say, feel free to attach more pages to this feedback form.

How did you find out about this feedback opportunity?

☐ Social media	☐ Letter from us
☐ Radio	☐ Sector group
☐ Newspaper	☐ Word of mouth
☐ Email from us	☒ Other: We regularly communicate directly with council policy staff.

☐ **Please keep me updated.**

Thank you for taking the time to provide feedback.

Natural Character Index (NCI) for Whitestone and Upukerora Rivers

Report for Environment Southland

Professor Ian Fuller

Innovative River Solutions
School of Agriculture & Environment

April 2023

Executive Summary

1. Mapping of river geomorphology using rectified aerial photography from the 1950s and 2014

The earliest available photography providing complete coverage extending along the managed lengths of the Whitestone and Upukerora Rivers was sourced from Retrolens, rectified and mapped to assess the composition of the active river channel corridor prior to river management. The same area was mapped using the most recently available rectified imagery from LINZ flown in the summer of 2013-14 (hereafter 2014). Shapefiles of the active channel, wetted channel, unvegetated bars, lightly and densely vegetated bars are available electronically. These features provide a broad overview of river geomorphology in the active channel of the Whitestone and Upukerora Rivers. Change in these features is assessed using NCI:

2. Assessment of Natural Character Index (NCI) to characterise change over time in river characteristics

Change in river characteristics between historic imagery (1953) and 2014 was assessed using an NCI approach, which provides a ratio of the parameter assessed in 2014 compared with the feature in 1953. A 'whole river' assessment is provided for key parameters identified in section 2.1. Further analysis of channel sinuosity and braiding index focused on discrete, morphologically coherent reaches in each river.

3. Summary of changes

The most significant changes in the Whitestone river corridor were a 50% reduction in active channel area and 78% reduction in the area of densely vegetated bars. The wetted channel area and length have also reduced by 34%. Midline channel length was shortened by 11%. Braiding intensity in partially braided reaches was reduced. Sinuosity in meandering reaches was also reduced. These changes indicate channel rationalisation and homogenisation within a narrowed active channel. The 2014 river no longer displayed the alternating meandering-wandering reaches of 1953, but is largely wandering throughout.

The most significant changes in the Upukerora river corridor were a 46% reduction in active channel area and 54-55% reduction in lightly vegetated and densely vegetated bars respectively. Wetted channel area has also reduced, although total and midline lengths were essentially unchanged. Upper reaches of the Upukerora remained largely unchanged, retaining a partially-braided wandering form. Braiding intensity was significantly reduced in the lower reaches, but a simplified wandering form has been retained.

4. Recommendations

Both the Whitestone and Upukerora Rivers have been modified in their form as a consequence of a narrowing of the river corridor since 1953. Narrowing has prevented significant bend development and migration in meandering reaches (Whitestone) and reduced the width available for channel expansion to accommodate medial bars (Upukerora and semi-braided reaches of the Whitestone). To recover a degree of natural character (i.e. characteristics that better reflect the geomorphology that would develop under the prevailing sediment and flow regime), it is recommended that where feasible the river be given more room to adjust and develop these characteristic forms.

If the intention of management approaches is targeted reach restoration, attention should be paid to the pre-management era characteristics of the river at the target reach location. It would not be appropriate to either engineer meandering in what were partially-braided reaches, or braiding in what were single thread reaches.

Acknowledgements

Summer scholarship student Camlo Carter sourced the earliest available aerial photography from Retrolens that provided the most complete coverage of the Whitestone and Upukerora Rivers respectively. He mapped the geomorphology of both rivers for these dates, as well as the geomorphology from the most recently available aerial photos downloaded from LINZ. Cam then completed the NCI analysis and generated the maps, graphs and data on which this report is based. His hard work and industry over the summer of 2022-23 is very much appreciated.

Table of Contents

1. Introduction

1.1 Aim

The primary aim of assessing the Natural Character Index (NCI) for the Whitestone and Upukerora Rivers between 1953 and 2014 is to understand the extent to which the geomorphology of these rivers may have changed in this 60-year period. This information can then be used to inform approaches to river rehabilitation or restoration. It is beyond the scope of this report to explore the drivers of changes in any detail, but it should be noted that the dates analysed in this assessment allow the possibility of identifying potential impacts on these rivers of land-use change and river management practices, which occurred in the second half of the twentieth century and into the twenty-first.

1.2 River types

In undertaking any assessment of river geomorphology, it is important to recognise the range and diversity of river types, which reflect the prevailing controls on channel form at any given reach or segment of any given river. Figure 1 outlines a broad spectrum of New Zealand's river types and summarises their controls and characteristics. It is important to note that any single river could display the range of these characteristics along its full length, from source to sea/lake. As such, it is also important to take into account catchment characteristics to understand what type of river might be expected at a given location within that catchment (section 1.3).

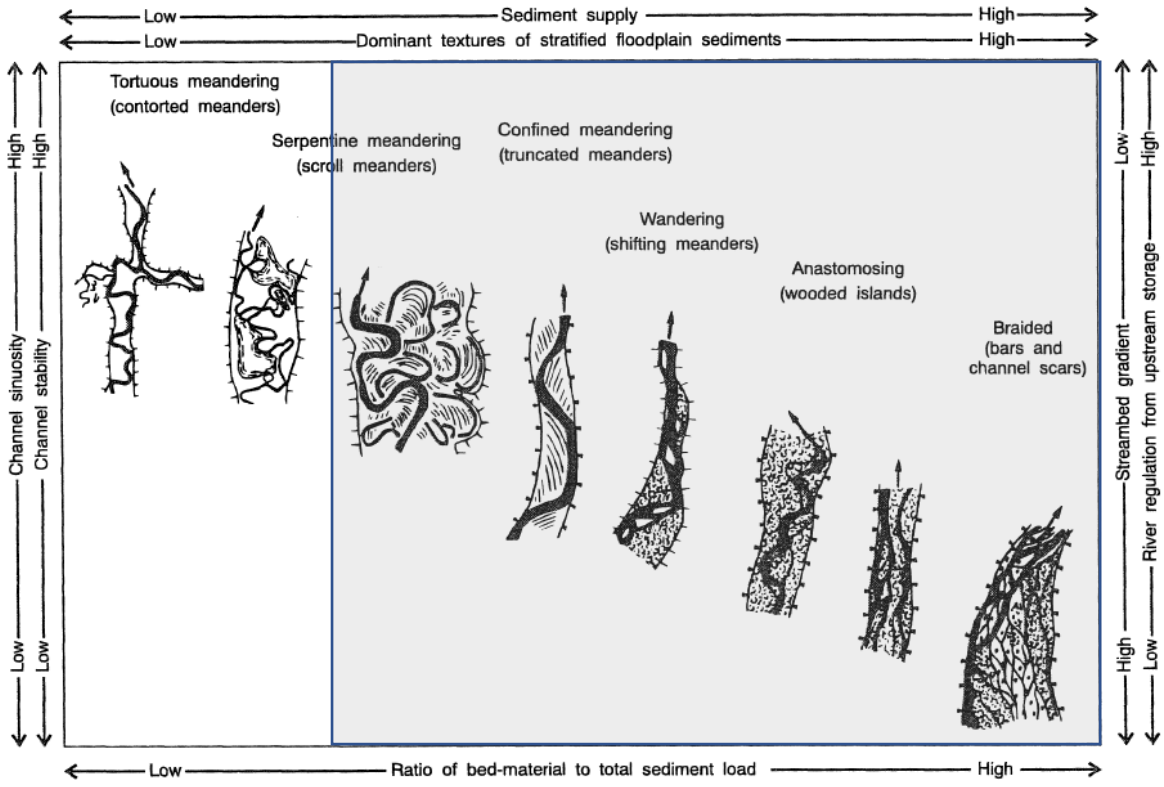

Figure 1. Continuum of river channel types and controlling variables, highlighting the spectrum of gravel-bed river types (shaded), after Mosley (1992).

1.3 Catchment Context

Catchment context must be taken into account when assessing river geomorphology. Figure 2 conceptualises the catchment 'sediment conveyor'. The availability of sediment, its supply and transportability in a river (particularly bedload) shapes the channel form (Figure 1). The geomorphology of gravel bed rivers, which describe both the Whitestone and Upukerora Rivers, reflects the supply, movement and storage of the river's bedload (sand, gravel, cobbles, boulders), which is sourced from two key areas in the catchment:

i. Original generation from the source, or production zone, i.e. the catchment headwaters.
ii. Reworked alluvial deposits that have been originally sourced from the production zone, but temporarily stored in river terrace and floodplain deposits in the transfer zone (Figure 2).

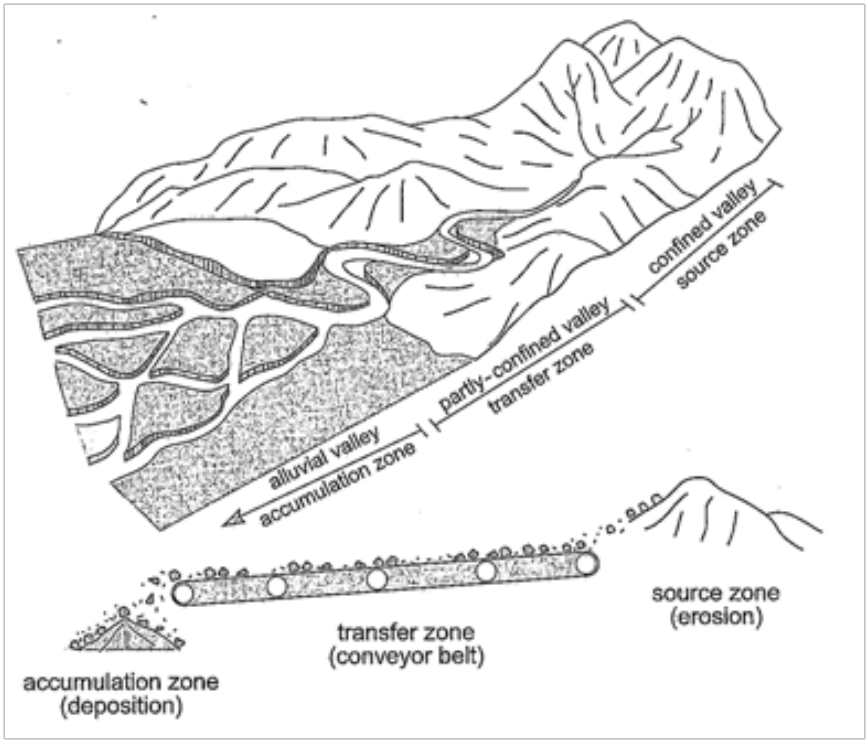

Figure 2. The catchment sediment conveyor (from Brierley & Fryirs, 2005).

The sediment conveyor in the transfer zone is not smooth, but jerky, which means gravel is conveyed often as a series of pulses, bedwaves, or slugs (Nicholas et al., 1995). The nature of this transfer zone is that the river has sufficient energy (slope and discharge) to convey sediment through these reaches and that on the whole, these transfer reaches will alternate between aggradation and degradation, depending upon the jerkiness of the conveyor, reflecting gravel flux and supply both from upstream and lateral reworking of alluvial deposits. In addition, besides vertical adjustments, river reaches in this transfer zone may also adjust their form and an 'hour-glass' alternation may be apparent between wider, more active reaches and narrower less laterally active reaches. In rivers where the channel has the capacity to adjust (i.e. it is not confined e.g. by valley sides, terraces, or artificial constraints), more laterally active reaches may become partially or fully braided, relative to more single-threaded wandering, or meandering reaches. A range of river types (Figure 1) may therefore be expected in the transfer zone of gravel-bed rivers.

In the depositional zone, stream energy drops below gravel transport thresholds and the river lacks the power to transport the coarsest fraction of its bedload (gravel) due largely to channel gradient change. Flattening of the channel slope reduces stream energy and gravel is deposited. This point in

the catchment sediment cascade is also described as the gravel-sand transition, because downstream from this point, the river is only competent to transport sand size material (Figure 3). This point is not attained in either the Whitestone or the Upukerora Rivers, which both transport gravel to their respective end points (Mararoa River and Lake Te Anau, respectively). As such, the form and behaviour of the Whitestone and Upukerora Rivers is best understood in the context of higher-energy transfer zones in their respective catchments.

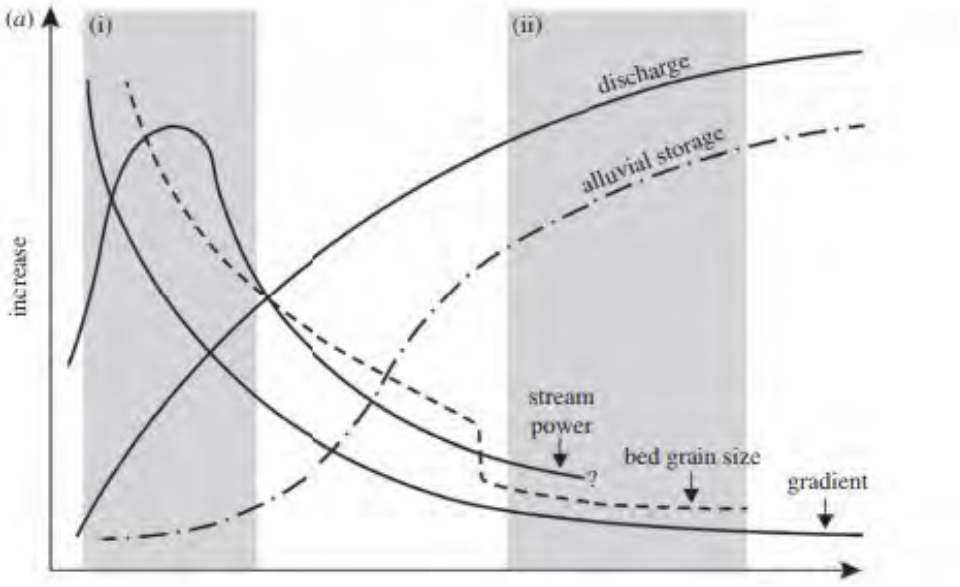

Figure 3. River system attributes in relation to drainage area, the gravel-sand transition is defined as the abrupt change in bed grain size, reflecting critical reduction in gradient and stream power at this point in the catchment (from Macklin et al., 2012).

2. Channel morphology

Channel morphology was mapped for the lengths of the Whitestone and Upukerora Rivers shown in Figure 4. The extent of mapping was intended to cover the length of each river managed under their respective River Control Schemes.

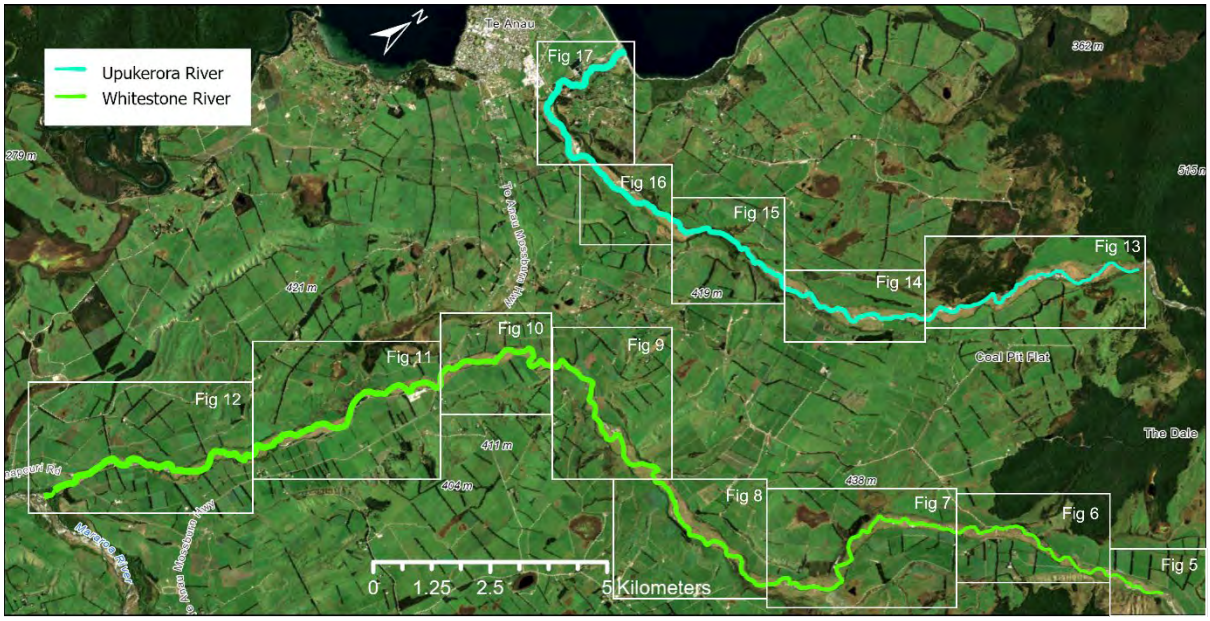

Figure 4. Extents of mapping in the Whitestone and Upukerora Rivers. Channel morphology maps (Figures 5-17) are keyed.

2.1 Mapped and measured parameters

Parameters mapped in both the Whitestone and Upukerora Rivers are listed below. These features are provided as shape files for use in ArcGIS. Interpretive mapping used the most recently acquired aerial imagery of 2014. For comparison and assessment of change in characteristics over time, rectified aerial imagery from 1953 was used, having been downloaded from Retrolens and rectified using standard 'rubber sheeting' in ArcGIS Pro. The resulting maps are provided in section 2.2.

- **Active channel area:** zone of river corridor interpreted as being actively or recently actively reworked by the river channel and comprising the wetted channel and bars (vegetated and unvegetated). The active channel excludes areas of mature vegetation and cultivated land that may otherwise be located in the river corridor and classified as floodplain.
- **Wetted channel area:** area of active channel mapped as wet at the time of aerial photography, includes side-channels and backwaters (former channels, now abandoned), and braids. The spatial extent of the wetted channel is dependent on flow discharge at the time of photography. Flows at time of aerial photo acquisition were not known, but assumed to be towards base flow. Large-scale aerial photography as used in this work is generally captured at the end of the summer season during low flows, providing some consistency and allowing a reasonable comparison of wetted channel to be made: flows were not obviously high in available imagery used.
- **Unvegetated bar area:** area within the active channel devoid of vegetation, constitutes most recently active portion of the river corridor swept clear of vegetation by repeated inundation during higher (flood) flows. Being depositional features, likely the focus of active bedload

accretion, although flood scour can also lower sections of bars where flow is concentrated in chute channels across the bar surface that subsequently dry-up. Sub-bar scale morphologies were not mapped in this assessment.

- **Lightly vegetated bar area:** area within the active channel with initial vegetation colonisation or sparse vegetation growth. Interpretation based on the presence of vegetation, but with bare sediment remaining visible. Vegetating bars are indicative of this part of the river corridor becoming less active (or may reflect an extended period since the last flood flow which swept the bar surface). These features likely become the focus of finer sediment accretion as sands and silts become trapped by vegetation stems. However, lightly vegetated bars are also readily remobilised and worked over during larger flood flows because stem density and vegetation cover is insufficient to prevent sediment entrainment and mobilisation.
- **Densely vegetated bar area:** area within the active channel that has become completely vegetated by grass or shrubby vegetation (not trees), but not cultivated and not forested. No bare sediment is visible on these surfaces. These fully vegetated bars are floodplain in the making and represent the least active part of the active channel. They have the potential to become reworked in a sufficiently large flood and likely are inundated from time to time.
- **Wetted channel length:** total length of wetted channels, including side-channels and braids. This parameter can be used in conjunction with the braid channel index (see below) and by itself can be used to assess the degree of channel complexity in a reach and how this might change: e.g. increased length indicates increased complexity (more channels), whilst reduction is indicative of channel rationalisation.
- **Midline channel length:** the length of the primary (widest) channel. This parameter is also used to calculated the braid channel ratio and can be used in lieu of sinuosity (increasing midline length indicates a longer pathway such as may occur with bend development. Similarly, reduced midline length indicates a straightening within a reach.
- **Braid channel ratio:** the braid channel ratio is defined by Friend & Sinha (1993) as, 'the total of the mid-channel lengths of all the channels in a reach divided by the length of the midline of the widest channel'. Although developed for application in classic braided rivers, this metric can also be used to effectively assess wetted channel complexity, where total length of wetted channels includes side channels and backwaters that remain connected to the main channel.
- **Reach-scale assessments:** in light of morphological variability in both the Whitestone and Upukerora Rivers, the parameters of sinuosity and Brice's (1960) braided index were assessed at a more coherent, reach-scale, rather than whole-of-river:
    - **Sinuosity:** the ratio between channel midline length and straight-line valley length between two points was assessed for discrete reaches of the Whitestone and Upukerora Rivers. Some reaches of the Whitestone do conform to the classic meander river type (cf. Figure 1), but many reaches are locally divided, which makes sinuosity less meaningful to be applied at a whole-of-river scale than channel length metrics described above.
    - **Braided Index** (Brice, 1960): given by multiplying x2 the total bar length in a reach and dividing by reach length, this metric assesses the complexity of medial (mid-channel) bars in a reach and is a classic descriptor of braiding intensity (Fuller et al., 2013).

2.2 Channel morphology maps

2.2.1 Whitestone

Figures 5-12 show the interpretive channel geomorphology mapped for the Whitestone River in 1953 and 2014, progressing from upstream to downstream.

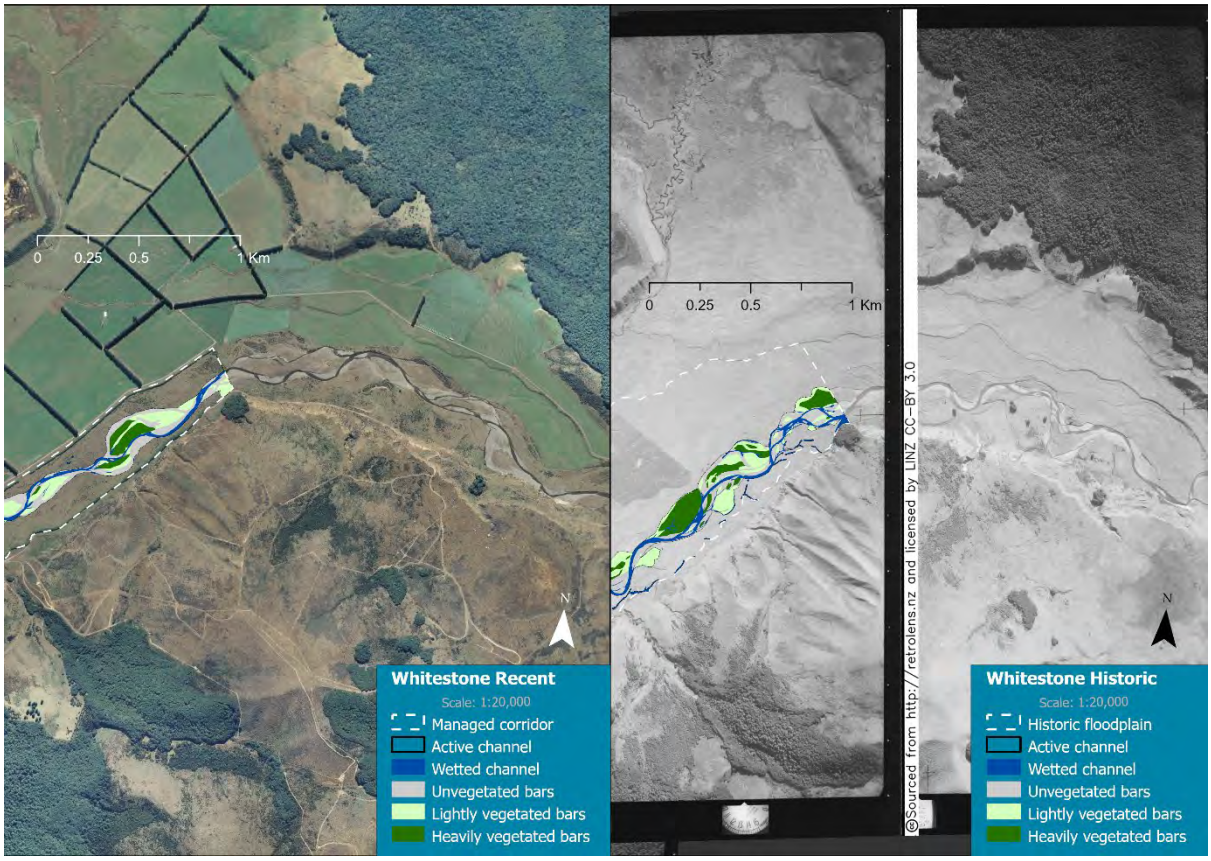

Figure 5. Upper Whitestone geomorphology (Reach 1)

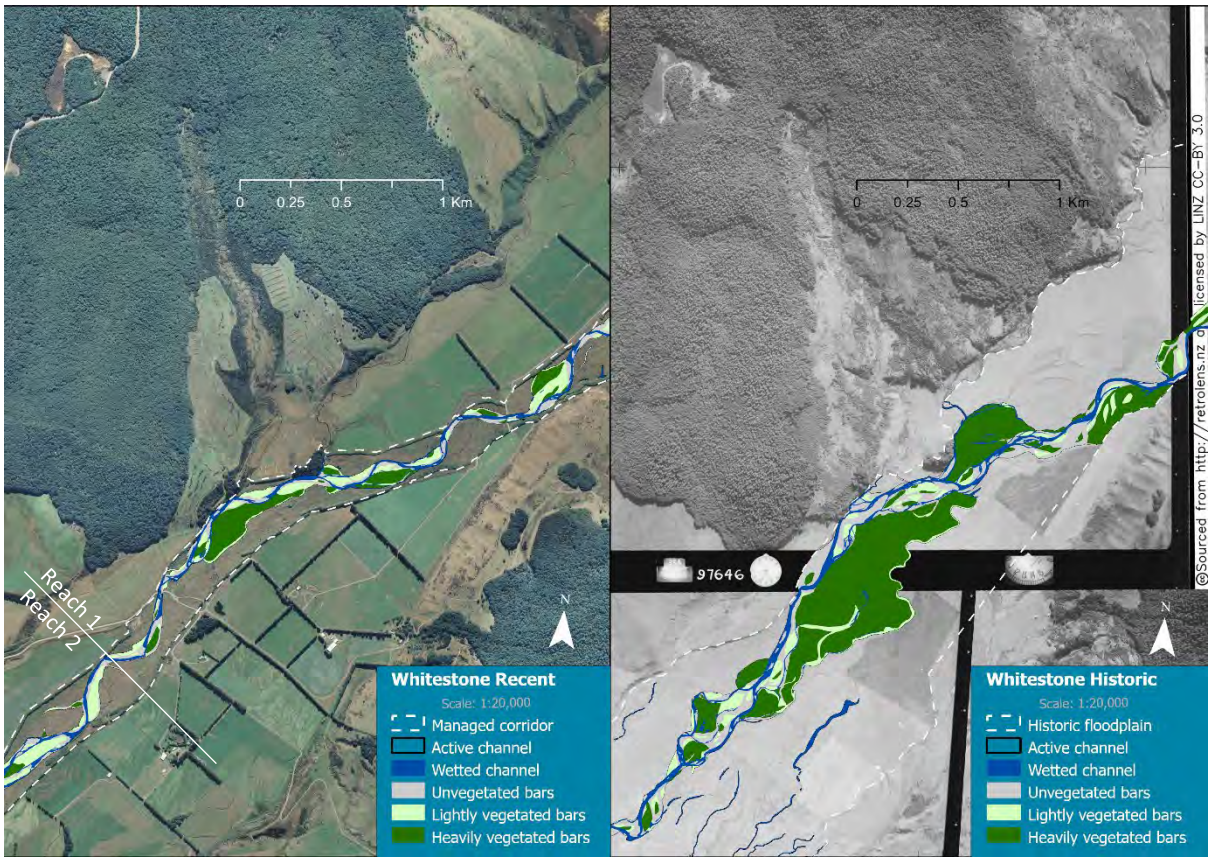

Figure 6. Upper Whitestone geomorphology (Reach 1) continued.

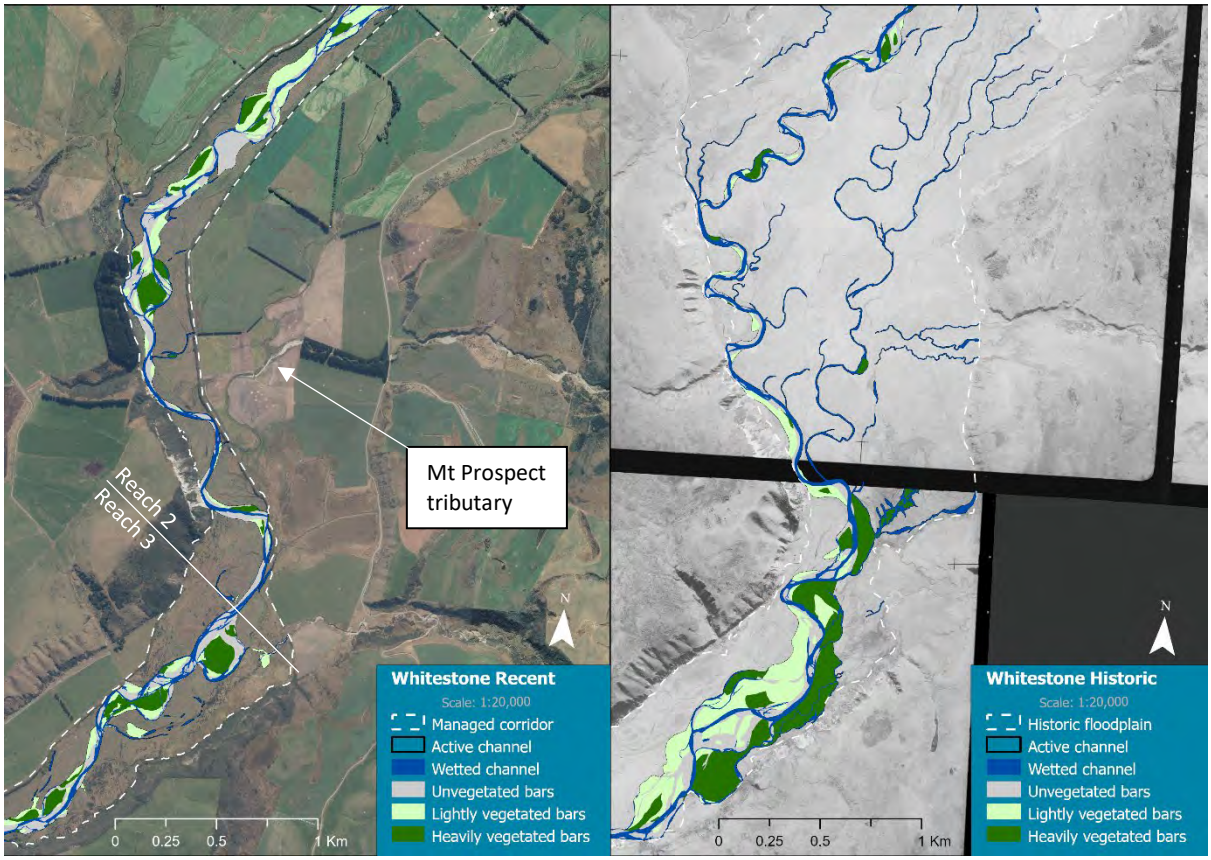

Figure 7. Upper Whitestone geomorphology (Reach 2 and upper Reach 3)

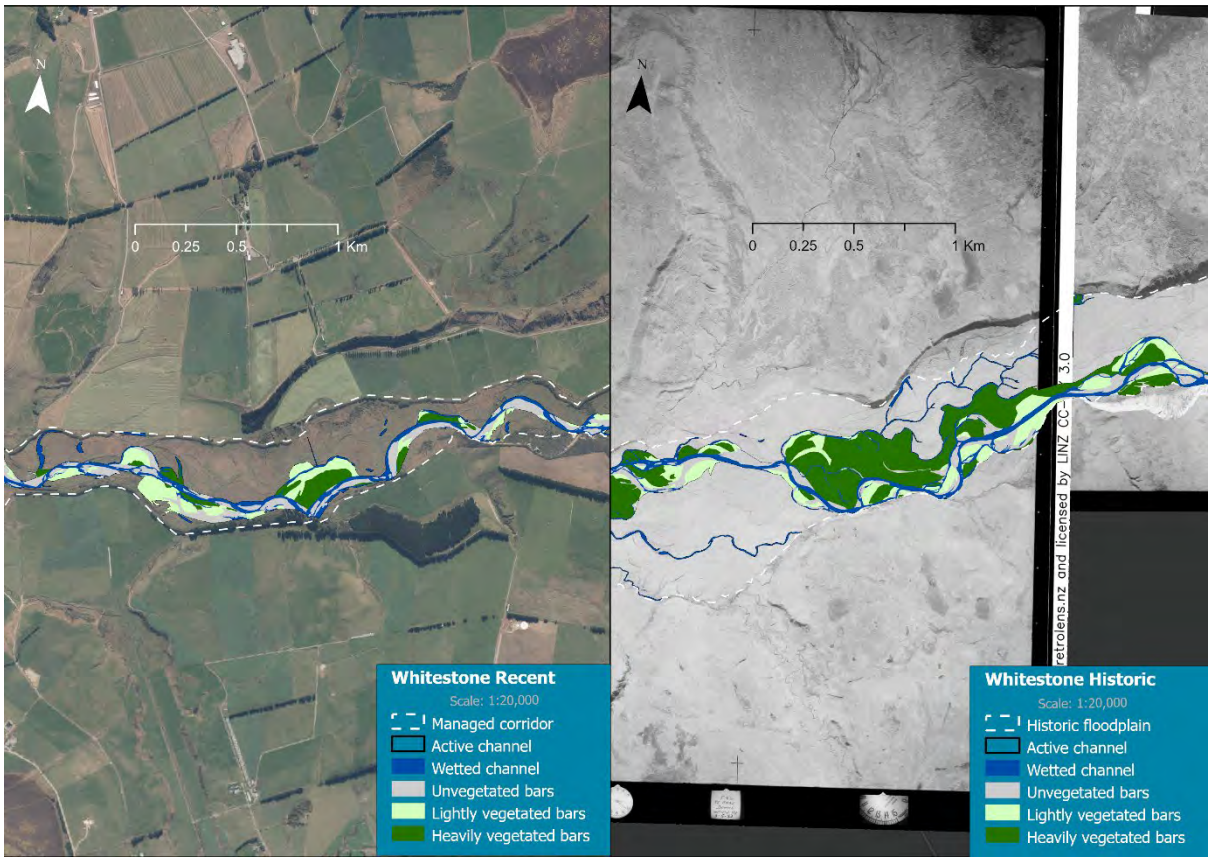

Figure 8. Middle Whitestone geomorphology (Reach 3)

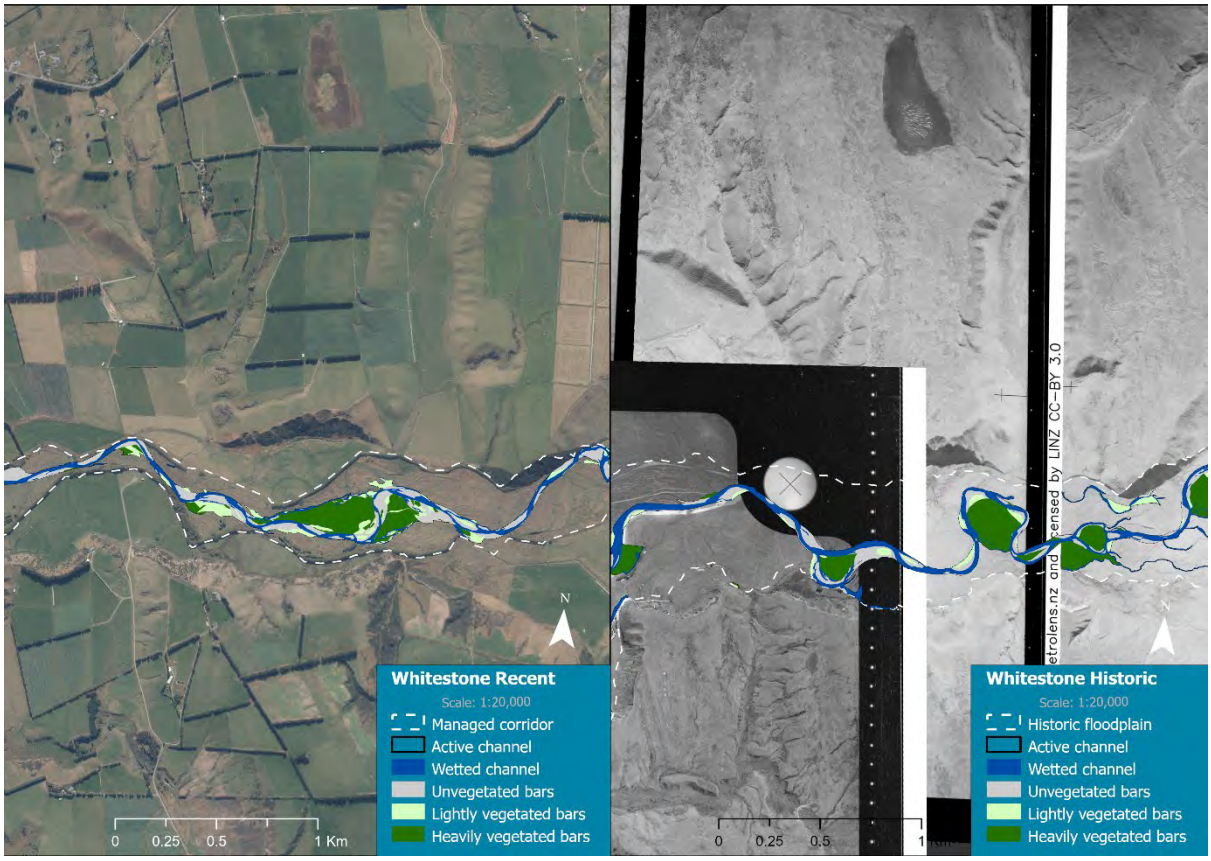

Figure 9. Middle Whitestone geomorphology (Reach 4)

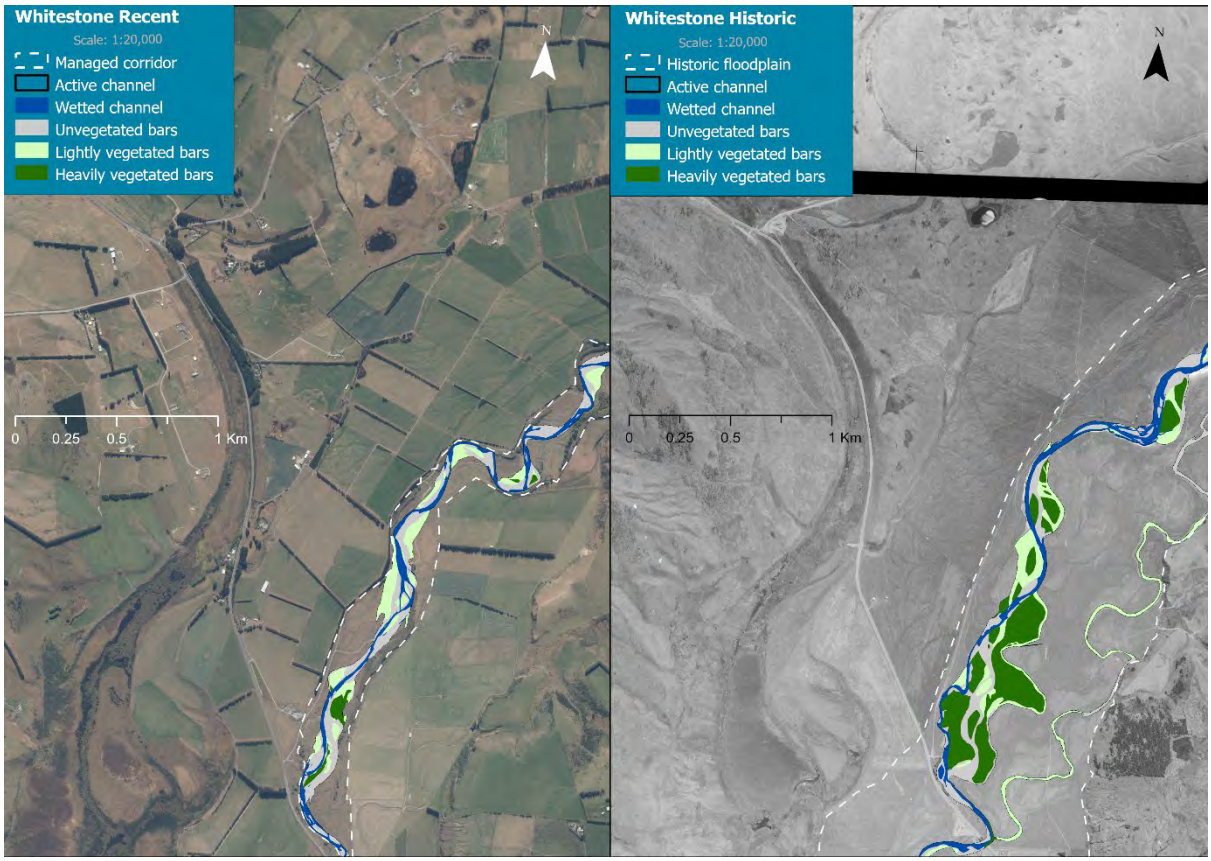

Figure 10. Middle Whitestone geomorphology (Reach 4) continued

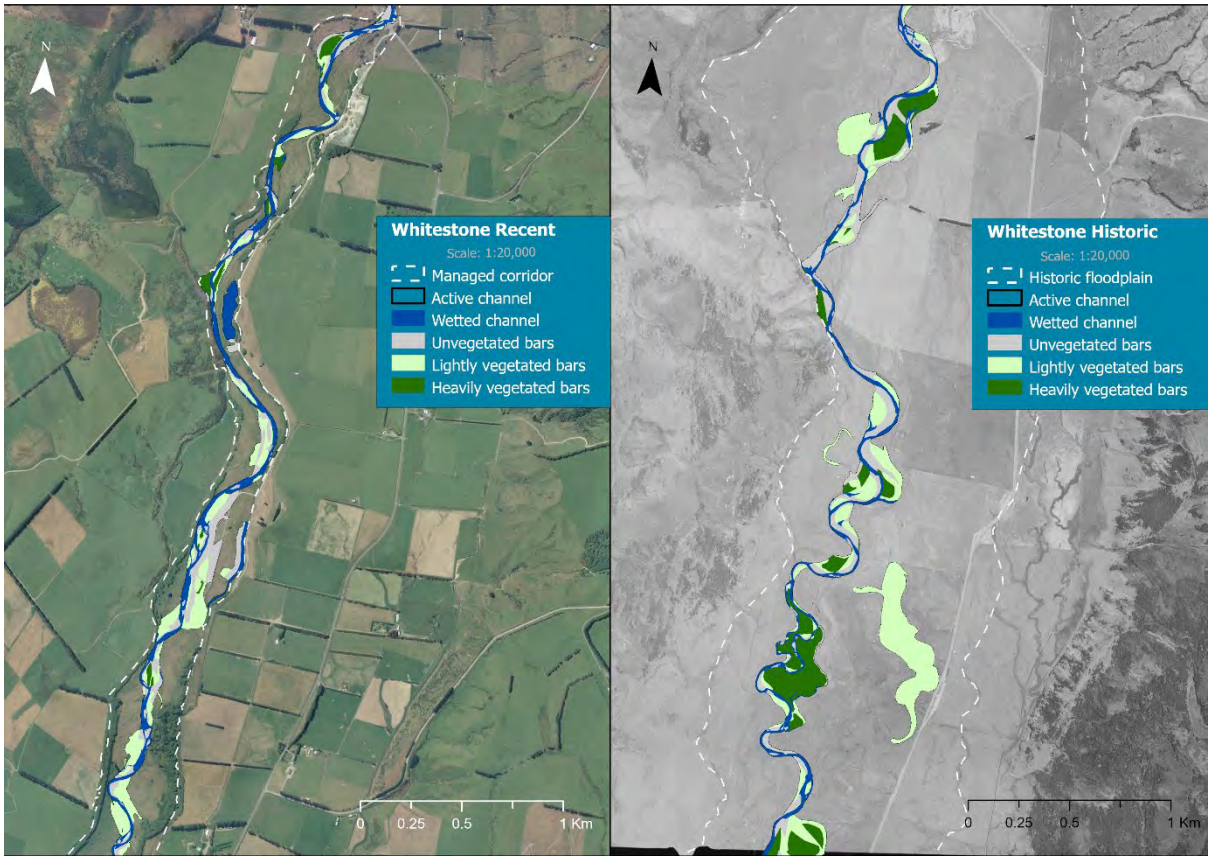

Figure 11. Lower Whitestone geomorphology (Reach 5)

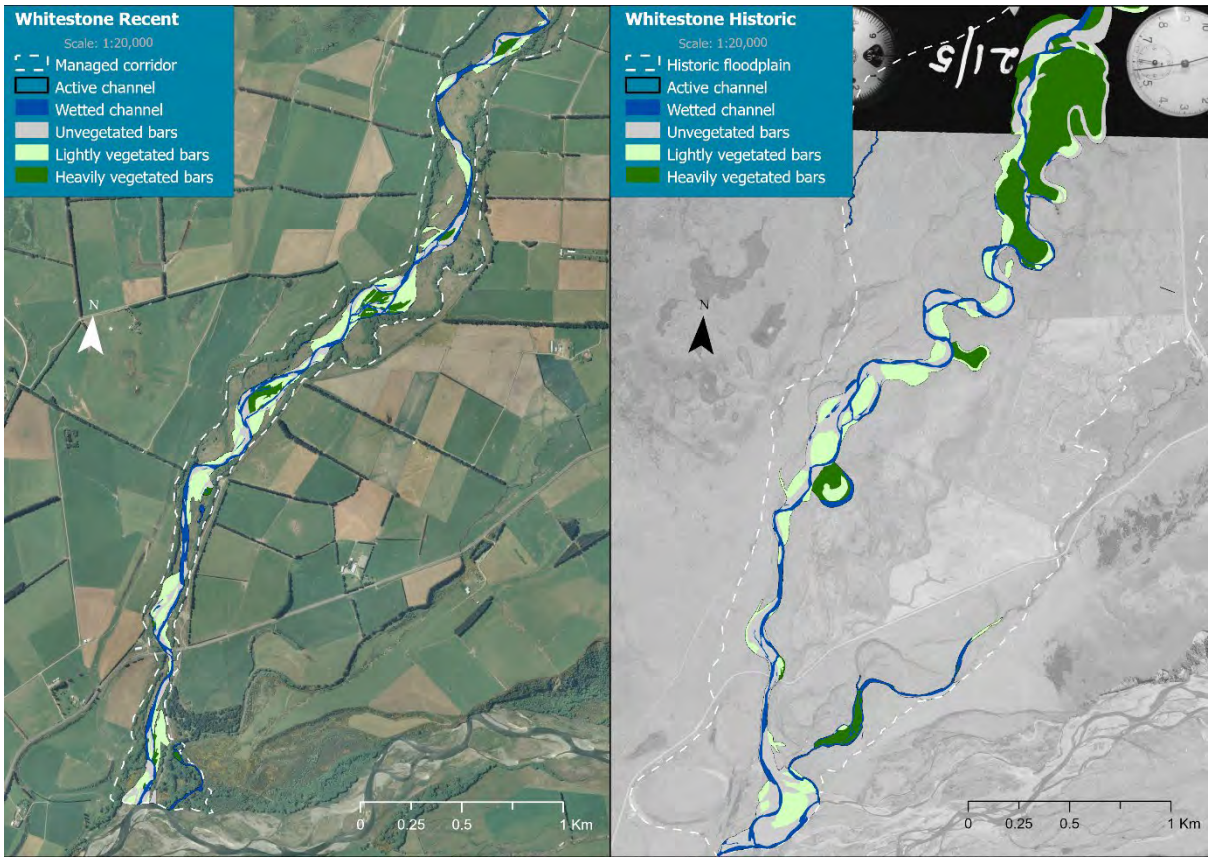

Figure 12. Lower Whitestone geomorphology (Reach 5) continued and Mararoa confluence.

2.2.2 Upukerora

Figures 13-17 show the interpretive channel geomorphology mapped for the Whitestone River in 1953 and 2014 , progressing from upstream to downstream.

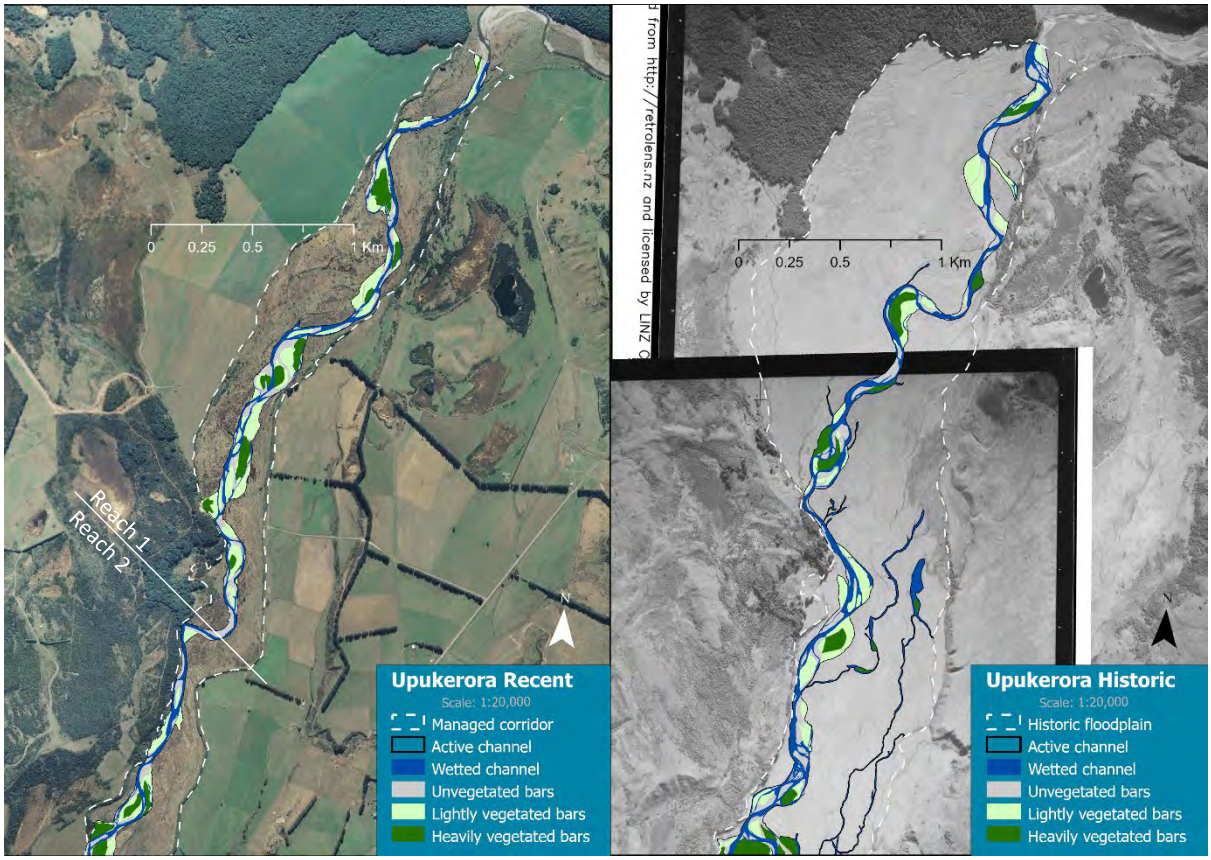

Figure 13. Upper Upukerora geomorphology (Reach 1 & 2)

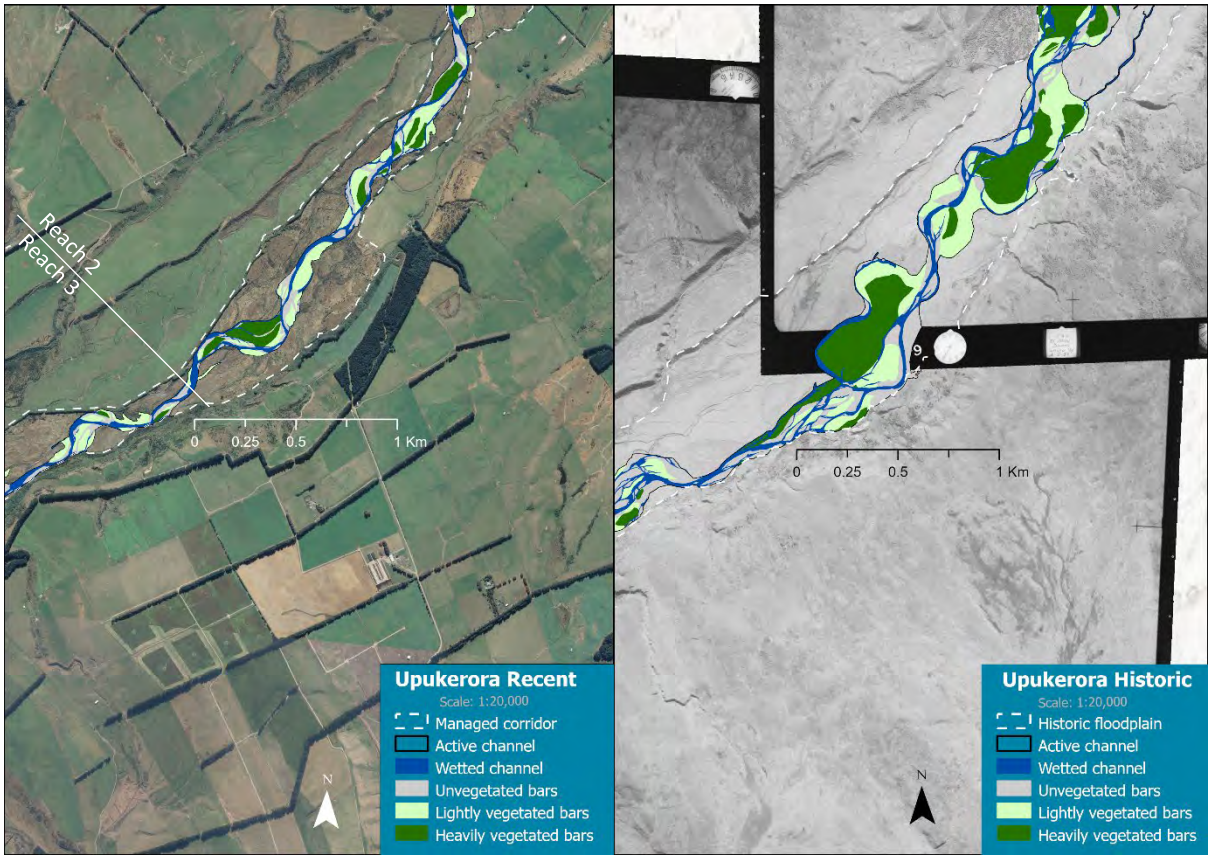

Figure 14. Middle Upukerora geomorphology (Reach 2 & 3)

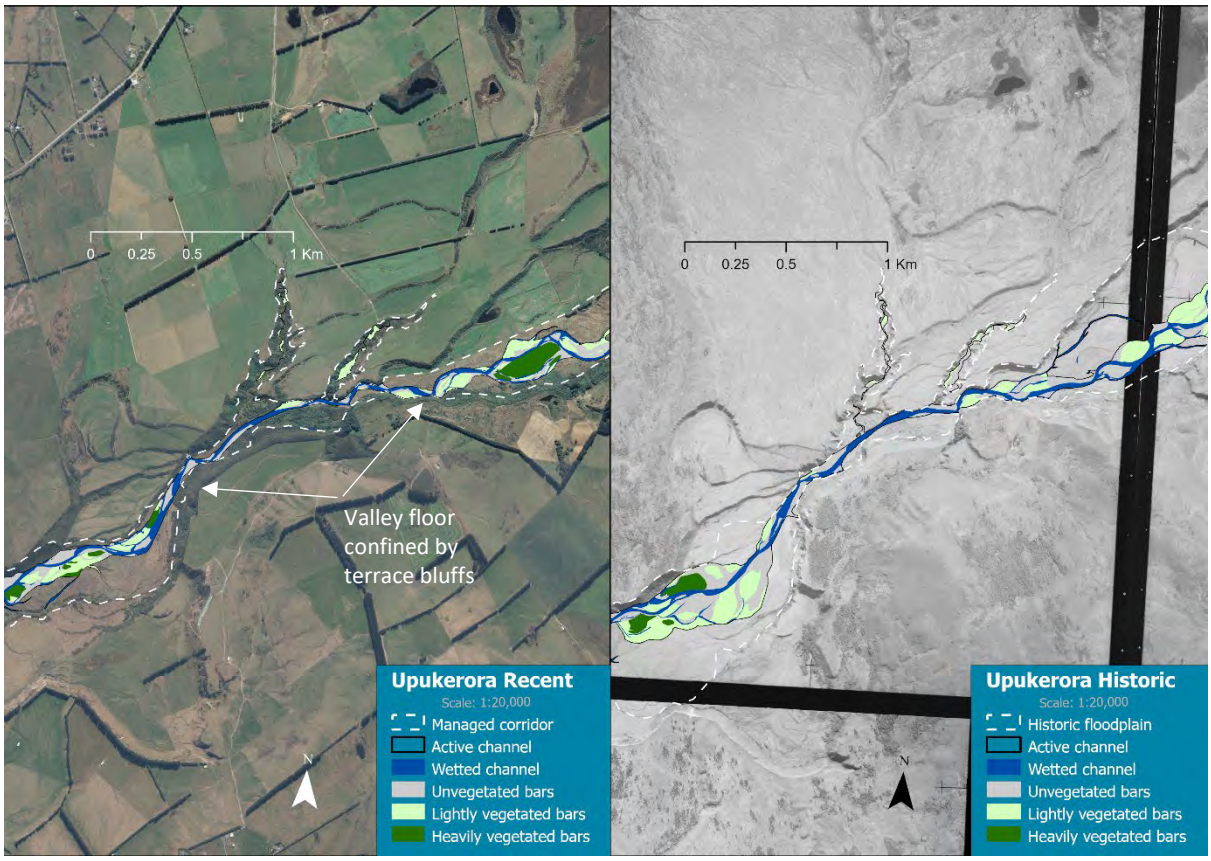

Figure 15. Middle Upukerora geomorphology (Reach 3) continued

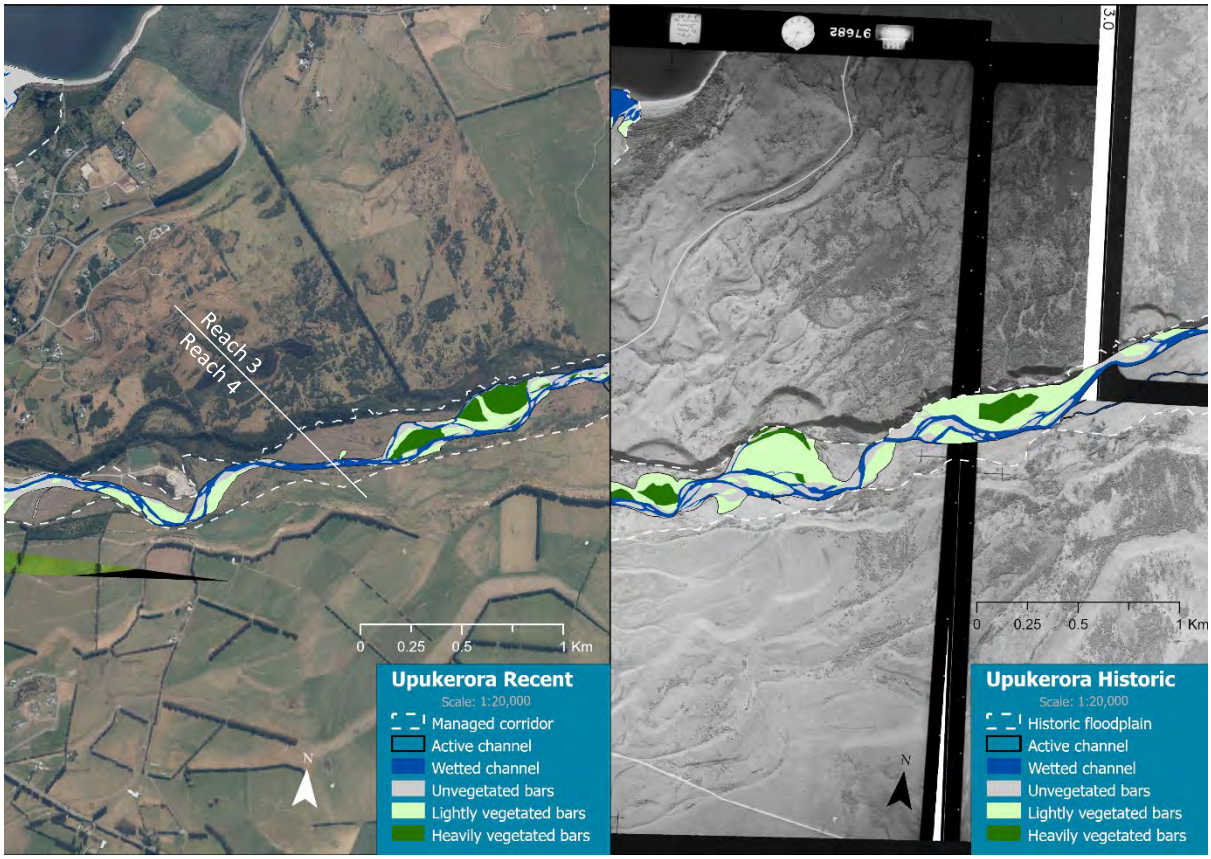

Figure 16. Lower Upukerora geomorphology (Reach 3 & 4)

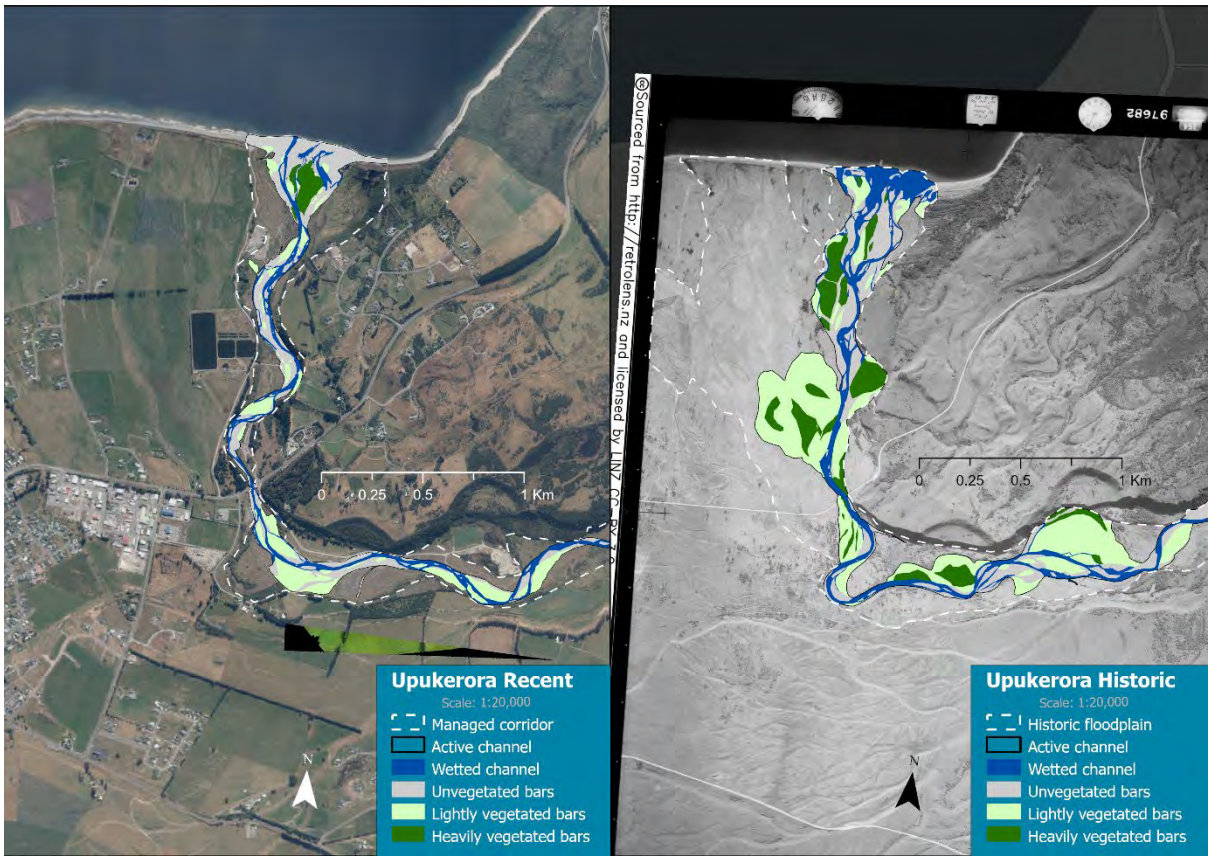

Figure 17. Lower Upukerora geomorphology (Reach 4) continued

3. Natural Character Index (NCI)

3.1 NCI defined

The NCI compares a river's contemporary morphological characteristics with those at some point in the past (Fuller et al., 2020). Differences between contemporary and past characteristics can be the product of natural or anthropogenic drivers of change. Since large-scale anthropogenic activities have either directly or indirectly modified catchments, the "natural" form of rivers cannot be construed to represent entirely pristine conditions (Fuller et al. 2020).

Quantifying changes in the Whitestone and Upukerora reaches (Figures 5-17) involves generating an NCI ratio of 'observed' i.e., contemporary geomorphic units, over 'expected' i.e., the nature of corresponding geomorphic units in 1953 (cf. Fuller et al., 2020). Considering the resolution of aerial photography, the NCI approach is best suited to assessing changes in larger subaerial geomorphic features e.g., gravel bars, as opposed to more nuanced changes in subaqueous features such as pools and riffles, or details of sub-barscale geomorphology (Fuller et al., 2020).

The details of river characteristics listed in 2.1 and mapped in 2.2 have been assessed using the NCI ratio. If no change has occurred, the ratio will be 1.00. If a reduction in the parameter has occurred, then the ratio will be less than 1.00. Conversely, if there has been an increase in the parameter, i.e., area, length, or index has increased, the ratio will exceed 1.00. Generating an NCI ratio is demonstrated for the Whitestone active channel:

$$\text{NCI active channel area} = \frac{\text{Area in 2014}}{\text{Area in 1953}} = \frac{251\ \text{ha}}{497\ \text{ha}} = 0.50$$

This result indicates a 50% reduction in active channel area along the entire Whitestone reach (cf. Figures 4-12) between 1953 and 2014.

It should be noted that the extent of wetted channels in a reach is flow dependent, so parameters measured that are affected by flow conditions (e.g., area or length of wetted channels, and area of bare gravel surfaces (bars) will be dependent on river flow at the time of aerial photo acquisition. Some fluctuation in NCI for these parameters can therefore be expected and the NCI results are inevitably an approximation and provide a first-cut overview of any change in channel characteristics (Fuller et al., 2020).

3.2 NCI Results

Tables 1 and 2 tabulate areas and provide the NCI ratios for the Whitestone (Table 1) and Upukerora (Table 2). These values are summarised graphically in Figure 18 (Whitestone) and Figure 19 (Upukerora).

3.2.1 Whitestone NCI

Table 1 Whitestone NCI data

Parameter	1953	2014	NCI
Active channel area	496.9 ha	250.8 ha	0.50
Unvegetated bar area	100.4 ha	74.3 ha	0.74
Lightly vegetated bar area	108.1 ha	67.6 ha	0.63
Densely vegetated bar area	486.6 ha	41.9 ha	0.22
Wetted channel area	101.8 ha	67.0 ha	0.66
Wetted channel length	217.2 km	143.5 km	0.66
Midline length	38.3 km	34.2 km	0.89
Braid channel ratio*	5.7	4.2	0.74
Braiding Index (Brice, 1960)	Reach 1: 1.66 (B) Reach 2: 0.35 Reach 3: 1.60 (B) Reach 4: 0.22 Reach 5: 0.32	Reach 1: 0.51 Reach 2: 0.74 Reach 3: 0.70 Reach 4: 0.44 Reach 5: 1.03 (B?)	0.31 N/A** 0.44 N/A** N/A**
Sinuosity	Reach 1: 1.17 Reach 2: 1.88 (M) Reach 3: 1.32 Reach 4: 1.69 (M) Reach 5: 1.60 (M)	Reach 1: 1.16 Reach 2: 1.48 Reach 3: 1.23 Reach 4: 1.19 Reach 5: 1.19	N/A** 0.78 N/A** 0.71 0.75

*NB the braid channel ratio for the Whitestone is not a straightforward classification of braiding because several extensive side channels and backwaters remain connected to the main channel (see Figure 7) and are included in this metric. An alternative assessment of braiding is provided at coherent reach scales using Brice's braiding index.

**NCI is not applicable for this parameter in this reach: it is not appropriate to apply a metric quantifying braiding in a reach characterised largely as single threaded and meandering, or a metric quantifying sinuosity in a reach characterised largely as multi-threaded and braided. A river is classified as meandering (M) where sinuosity exceeds 1.5 and as (at least partially) braided where Brice's braiding index exceeds 1.

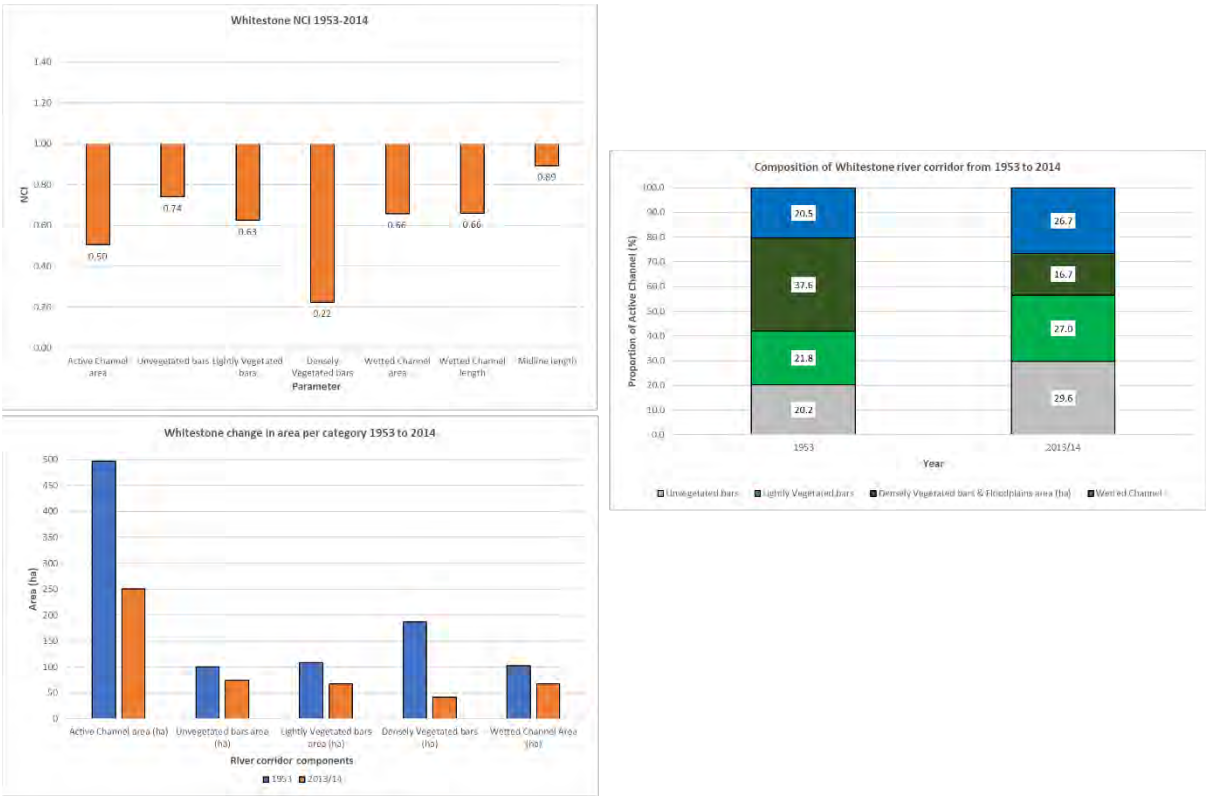

Figure 18. Summary of changes in channel characteristics (NCI, areas and composition) in the Whitestone River, 1953-2014

The most significant changes in the Whitestone river corridor are the 50% reduction in active channel area and 78% reduction in the area of densely vegetated bars (Table 1, Figure 18). The wetted channel area and length have also reduced by 34%. Midline channel length is 11% shorter.

3.2.2 Upukerora NCI

Table 2 Upukerora NCI data

Parameter	1953	2014	NCI
Active channel area	287.8 ha	154.9 ha	0.54
Unvegetated bar area	66.3 ha	44.0 ha	0.66
Lightly vegetated bar area	95.6 ha	43.5 ha	0.46
Densely vegetated bar area	52.8 ha	23.8 ha	0.45
Wetted channel area	74.1 ha	44.1 ha	0.60
Wetted channel length	121.3 km	113.9 km	0.94
Midline length	20.0 km	19.2 km	0.96
Braid channel ratio	6.06	5.93	0.98
Braiding Index (Brice, 1960)	Reach 1: 1.59 (B) Reach 2: 3.10 (B) Reach 3: 2.26 (B) Reach 4: 1.56 (B)	Reach 1: 1.71 (B) Reach 2: 2.67 (B) Reach 3: 0.72 Reach 4: 0.76	1.07 0.86 0.31 0.49
Sinuosity	Reach 1: 1.38 Reach 2: 1.30 Reach 3: 1.17 Reach 4: 1.20	Reach 1: 1.17 Reach 2: 1.24 Reach 3: 1.11 Reach 4: 1.0	N/A* N/A* N/A* N/A*

*NCI is not applicable for sinuosity in this reach, since the Upukerora is better classified as a braided or semi-braided channel based on the intensities of braiding measured using the Brice (1960) braiding index. All reaches in 1953 can be classified as at least partially braided. Applying a metric better suited to quantify intensity of meandering is not considered appropriate. Sinuosity ratios do not approach 1.5 in any of the reaches.

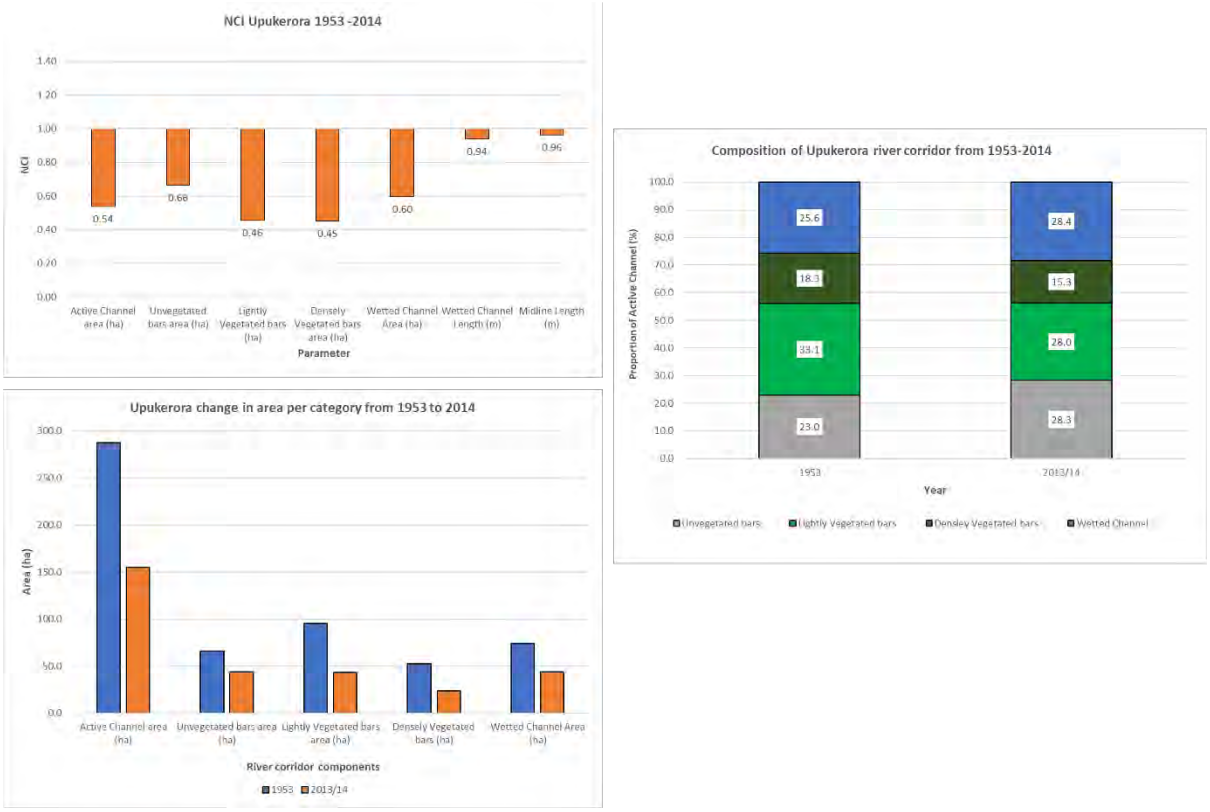

Figure 19. Summary of changes in channel characteristics (NCI, areas and composition) in the Upukerora, 1953-2014.

The most significant changes in the Upukerora river corridor are the 46% reduction in active channel area and 54-55% reduction in lightly vegetated and densely vegetated bars respectively (Table 2, Figure 19. Wetted channel area has also reduced, although total and midline lengths are essentially unchanged, as is the braid channel ratio.

4. Discussion

4.1 Overview

In both the Whitestone and Upukerora Rivers NCI analysis has quantified a reduction in nearly all parameters measured (Tables 1 & 2), with significant reductions in the extents of active channel and vegetated bars within the active channel in both rivers. The overall composition of the river corridor (relative proportions of the geomorphic features assessed) indicates that the reduction in vegetated bar areas is accommodated in both rivers by a proportional shift to more active, bare surfaces within the active channel. This does not mean the area of these bare surfaces has increased, in fact there are reductions in the area of unvegetated bars in both rivers (36% and 44% for Whitestone and Upukerora respectively, cf. Tables 1 & 2 and Figures 18 & 19). The midline lengths of both rivers is least changed of the geomorphic parameters assessed (Figure 18 & 19). Specific adjustments pertaining to each river are discussed in section 4.2

4.2 Whitestone geomorphology and NCI

The upper Whitestone River (Reach 1, Figures 5-6) has the characteristics of a laterally active, low sinuosity, locally divided gravel-bed river, with a sufficient number of medial bars in 1953 to be classified as partially braided. The overall morphology is consistent with a wandering channel planform: some bends are evident, but not developed, and the tendency towards channel bifurcation dominates (Figures 5-6). The overall channel morphology is retained in 2014, but the active channel corridor is much narrower and the braiding index (Brice, 1960) is dramatically reduced (NCI 0.31, Table 1).

Reach 2 in the upper-middle Whitestone is of completely different character in 1953 (Figure 7) with a far more sinuous planform, sufficient to be classified as meandering (Table 1). In this reach there are multiple sinuous backwaters connected to the main channel. The reach has been entirely transformed by 2014, with these backwaters no longer connected and the meandering river replaced by a low-sinuosity wandering form with more extensive unvegetated bars and some local flow division, although the narrow sinuous form is retained in the lower part of this reach in the immediate vicinity and for ~1 km downstream of the confluence with an unnamed tributary draining Mt Prospect (Figure 7).

In reach 3 the middle Whitestone returned to a more wandering planform in 1953 with sufficient medial bars to be classified as partially braided (Table 1, Figures 7-8). The active channel was notably broader in 1953 with a mosaic of vegetated and unvegetated bars, as well as backwaters in this reach. The 2014 channel retains some of these characteristics, but braiding intensity has again been dramatically reduced (NCI 0.44).

In the middle-lower Whitestone, reaches 4 and 5 are again more sinuous and can be classified as meandering (Table 1), with some well-developed bends in 1953 (Figures 9-12). By 2014, this sinuosity has been reduced (Table 1, NCI 0.71-0.75) and the channel has developed a wandering planform. In reach 5 (Figure 12) there are sufficient medial bars to identify the river as partially braided (Table 1).

Alongside the overall reduction in parameters measured for NCI assessment, a focus on coherent reaches in the Whitestone River indicates that significant changes in river planform have occurred between 1953 and 2014. These can be summarised as a reduction in both braiding intensity and sinuosity. Those reaches that were partially braided in 1953 have by and large become single-threaded with occasional, localised flow division (reaches 1 and 3). In contrast, those reaches that were more

classically meandering have become more wandering (reaches 2, 4 & 5). In effect the diverse, alternating partially-braided – meandering reaches of the Whitestone River have been homogenised into a narrower, simplified and fairly consistent wandering planform. This adjustment likely reflects narrowing of the river corridor, restricting both bend development in meandering reaches, and accommodation space for widened channels required for braiding.

4.3 Upukerora geomorphology and NCI

The Upukerora River had a predominantly partially-braided form in 1953, consistent with a low sinuosity wandering river planform. The one exception is where the river is naturally confined between terrace bluffs in its middle section (Figure 15). In contrast with the Whitestone, the Upukerora lacks any well-defined meandering reaches (Table 2, Figures 13-17). The intensity of braiding between reaches varied in 1953 (Table 2) and was reduced between 1953 and 2014 in reaches 2-4, while reach 1 was essentially unchanged (NCI 1.07). Reach 2 also retained much of its original form (NCI 0.86), albeit with a narrowed corridor. Reduction of braiding intensity was more significant in reaches 3 and 4 (NCI 0.31 and 0.49 respectively). These changes in geomorphology along with the overall reduction in NCI parameters (Table 2, Figure 19) indicate a degree of homogenisation of the wandering planform, although that overall planform is retained in the Upukerora.

4.4 Restoration trials

In light of recent visionary efforts to 'unlock' the river corridor of the Whitestone River and encourage freedom of movement of the channel and improve conveyance of bedload, a note of caution is needed. The pre-management form and character of the river channel is likely to best reflect the natural assemblage of geomorphic features and 'equilibrium' planform of the river that has adjusted to the sediment and flow regimes generated by the catchment, combined with the local valley-floor slope at a specific reach. Steeper reaches, with greater energy are more likely to be conducive to develop braids, while gentler reaches, which lack the energy required for braiding are likely to retain a single thread form and develop meander forms. This means that if the intention of management approaches is targeted reach restoration, attention should be paid to the pre-management era characteristics of the river at the specific reach location as evident in historic imagery (e.g. 1950s). It would not be appropriate to either engineer meandering in what were partially-braided reaches, or braiding in what were single thread reaches. The pre-management era channel provides a template to work from to target future interventions and ensure adoption of the most suitable approaches to restoration and recovery.

The use of the historic imagery template is illustrated in connection with the Whitestone skimming trial in the vicinity of McGregor's concrete plant (Figure 20). The 2021 river corridor has been narrowed and the wetted channel is pinned to the true right with limited capacity to adjust due to a thick vegetation covering the bars within the river corridor. Bar-top skimming in 2022 removed this vegetation and fine sediment that had accumulated on the bar surfaces and took the surface down to the gravel. The skimmed corridor (2022) provides a much more significant area of unvegetated bar surface, which is also lower in elevation and restores the capacity of the river to adjust more readily within its active corridor. Comparison with the historic imagery indicates that the 2022 characteristics are a move towards those of the river prior to management, which indicates a more dynamically adjusting channel, with recently abandoned channels / backwaters evident, some bend development and flow division, as well as a mosaic of vegetated and unvegetated surfaces within the river corridor. There remains a need to improve width of the corridor longer-term to match that of 2022, but a skimming approach is broadly in keeping with a move to restore the pre-management era characteristics of this reach of the Whitestone: the lowered, bare surfaces are more likely to be

reworked to allow the channel to migrate or switch to the true left and create a more diverse habitat mosaic than is evident or would likely be feasible in 2021.

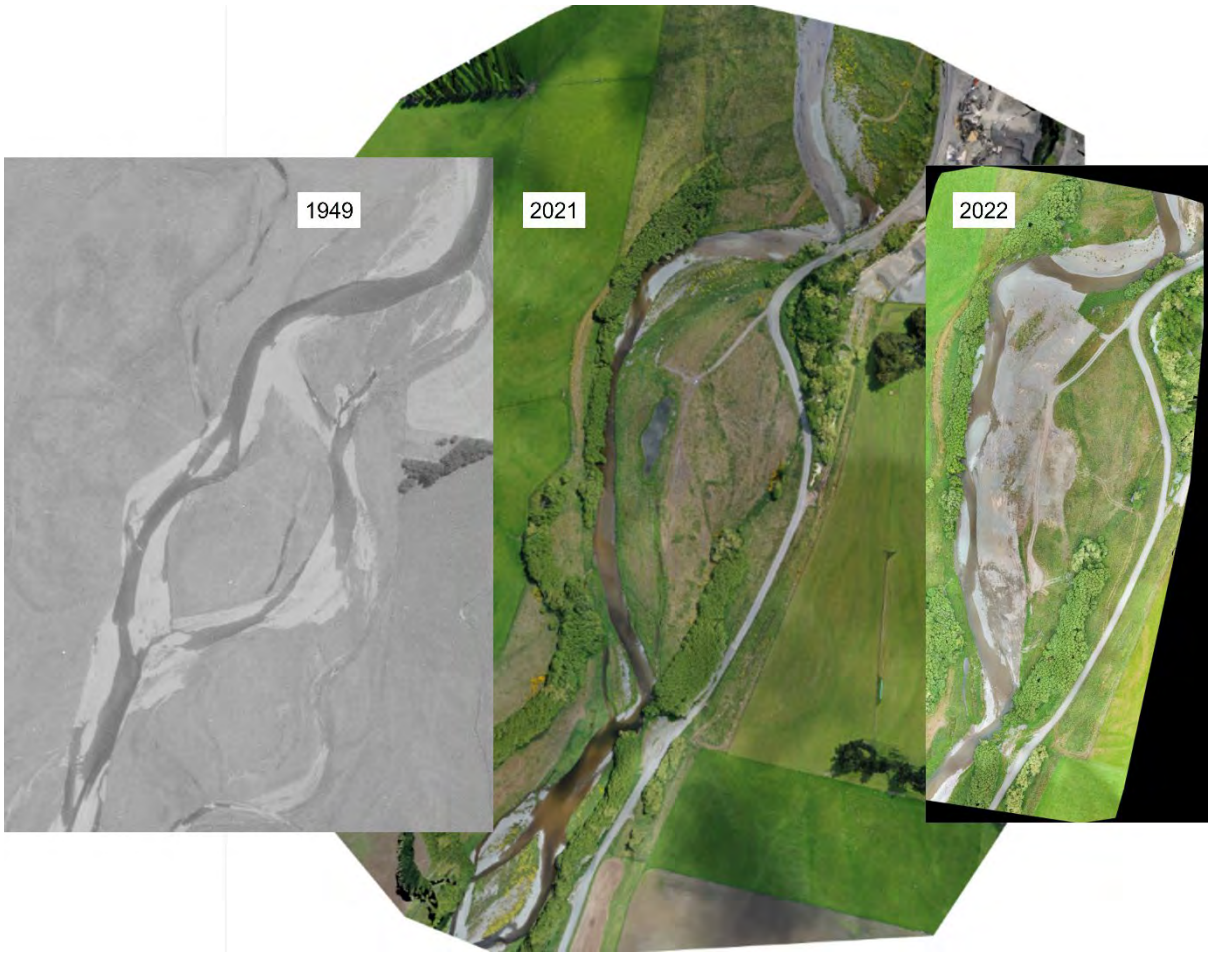

Figure 20. Whitestone River in the vicinity of McGregor's concrete plant, 1949, 2021 (pre-skimming), 2022 (skimmed).

5. Conclusions and recommendations

Reduction in the active river corridor of both the Whitestone and Upukerora Rivers has resulted in homogenisation of channel forms, with a reduction in diversity and complexity of river geomorphology. Both rivers are best categorised as wandering channels, which are typically low sinuosity, with some bend development and localised, partial braiding. To recover a degree of diversity and complexity in the form of these rivers will require an accommodation of natural processes and trajectories in both rivers. A widened river corridor would allow meander bends to develop, migrate and cutoff without the need for intervention in those reaches that would naturally display a meandering form (selected Whitestone reaches). In those reaches that would tend towards a partially braided form (whole Upukerora and selected Whitestone reaches) widening of the permitted corridor would provide accommodation space for braids and multiple medial bars to form.

A bar-top skimming approach may be appropriate to restore a degree of dynamism in reaches that have become locked-up by thick vegetation cover in the river corridor. Future treatments of this nature should be informed by the template of the reach provided by historic (pre-management) aerial imagery. Monitoring of treatment sites is strongly recommended to track the trajectory of treated

reaches and an NCI analysis would provide an objective approach to assess changes in key parameters as adjustment of the channel corridor takes place. Repeated surveys (e.g. using drone photogrammetry, or a LiDAR-equipped drone) should ideally include collection of topographic data to generate a three-dimensional understanding of changes and trajectories and quantify volumes of sediment eroded and deposited as adjustment to treatment takes place. Assessing 3D form adjustment, as well as planform changes provides a means to holistically assess river behaviour in these reaches.

More broadly, I recommend:

- the use of 'whole river' NCI approaches using the earliest available and most recent archive aerial imagery (as used here in the Whitestone and Upukerora Rivers) to understand modification of river corridor characteristics in light of river management approaches deployed over the past ~50 years across the region;
- the use of targeted NCI assessments to inform treatments intended to restore mobility and diversity to river corridors in the region;
- an assessment of coherent reach geomorphology in Southland's rivers to provide a more detailed geomorphic description of each coherent reach, including key morphological characteristics and channel type in order to aid understanding of river types, trajectories and capacities for adjustment, and potential (or need) for restoration.

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Professor Ian Fuller
Massey University

21 April 2023

From: Fiona Kemp
To: Freshwater
Cc: Alison Newell; RMA
Subject: Te Uri o Hau Submission Draft Freshwater Plan Change
Date: Thursday, 4 April 2024 2:44:41 pm
Attachments: image001.png
image003.png
Te Uri o Hau Submission on NRCs draft Freshwater Plan Change 2024.pdf

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Kia ora,

Please find attached Te Uri o Hau Submission to the Draft Freshwater Plan Change. We look forward to further engagement with NRC.

Nga mihi mahana

'He aroha whakato, he aroha ka puta mai'

Fiona Kemp (she/her*) DipAdultEd, BA.
Taiao Manager
Environs Te Uri o Hau
M: 022 182 6544
E: fkemp@uriohau.co.nz

*To learn more about why pronouns matter read more here

TE URI O HAU
ENVIRONS

Freephone: 0800 368 476 | environs@uriohau.co.nz |
Environs Holdings Ltd environmental subsidiary to Te Uri o Hau Settlement Trust
PO BOX 657 WHANGAREI 0110 | Iwi Entity | www.uriohau.com

Mon	Tues	Wed	Thurs	Fri
✓	✓	✓		

✓ Working in Whangarei; Working in Maungaturoto; X Not working

Submission to the Northland Regional Councils Draft Freshwater Plan Change

Submitter Information

Name:	Environs Te Uri o Hau, on behalf of Te Uri o Hau Settlement Trust
Iwi / Māori Organisation:	Te Uri o Hau
Address:	Te Tai Tokerau Māori Trust Building 2nd Floor, 5 Hunt Street, Whangarei PO Box 657, Whangārei 0110
Email:	rma@uriohau.co.nz
Phone:	0800 ENVIRONS
Contact:	Fiona Kemp, Environs Manager

Introduction

1. This submission is made by **Environs** Te Uri o Hau, on behalf of Te Uri o Hau Settlement **Trust** on Northland Regional Councils (**NRC**) **Draft Freshwater Plan** Change.

2. Te Uri o Hau is a hapū of Ngāti Whātua, with an Iwi Authority provision pursuant to Te Uri o Hau Settlement Claims Act 2002.

3. The Trust represents the interest of uri from Haumoewaarangi and Waihekeao who are the founding ancestors whose uri affiliate to ngā marae tūturu: Ōtamatea, Waikāretu,

Ōruawharo, Arapāoa. In total there are 14 marae within our rohe boundaries. Within our catchment we have over 8,000 beneficiaries that we serve. Te Uri o Hau makes up approximately 10% of the Māori population that whakapapa to our rohe[1].

4. Environs is mandated by the Trust to advocate, protect, maintain and preserve the kaitiakitanga status and rights of Te Uri o Hau people.

5. Te Uri o Hau rohe encompasses Te Hana in the south inclusive of Manukapua to the west, to the East Coast Te Arai Point taking in the Mangawhai Heads up to the south side of the Brynderwyns and then to Pikawahine in the north, across to Mahuta Gap on the West Coast and down, including Poutō peninsula stopping just south of Dargaville. The Mangawhai and Kaipara Harbours are inclusive of Te Uri o Hau estates and territory: statutory area of interest extending to the outer limit of the Exclusive Economic Zone (as defined in the Territorial Sea, Contiguous Zone, and Exclusive Economic Zone Act 1977).

6. This submission relates to the entirety of the Draft Freshwater Plan, and we wish to be included in future processes and refinements.

Te Tiriti Partnership

7. The Council must uphold and recognise our role as a Treaty partner through this process and give significant weighting to Te Uri o Hau views pursuant to section 63 of the Te Uri o Hau Claims Settlement Act 2002.

8. The Council must give effect to Te Mana o Te Wai to form an opinion pursuant to section 60 of the Te Uri o Hau Claims Settlement Act 2002 when regarding adverse effects on Te Uri o Hau statutory acknowledgements.

9. The Council must take into consideration the principles of the Memorandum of Understanding Agreement signed between NRC and the Trust on the 22 September 2016 when considering the Draft Freshwater Plan.

10. The Council must uphold the policies and objectives of Te Uri o Hau Kaitiakitanga o Te Taiao Environmental Plan, in particular section 29 on freshwater policies, objectives and methods in tandem with Te Mana me te Mauri o Te Wai.

11. We acknowledge the process NRC has taken to co-design the tangata whenua provisions through the Tangata Whenua Water Advisory Group (**TWWAG**).

12. We support the work that the TWWAG has undertaken to see these provisions developed to give effect to Te Mana o Te Wai in Te Tai Tokerau.

State of freshwater in Te Tai Tokerau

13. Te Uri o Hau is committed to the holistic management of freshwater natural resources. Under section 14(3)(c) of the Resource Management Act 1991 (**RMA**), that Māori may use geothermal water, water, heat, or energy in accordance with tikanga Māori for the

[1] Census 2013, total population of Māori living in Te Tokerau was 79,791

communal benefit of the tangata whenua of the area and must have no adverse effect on the environment.

14. There are numerous issues facing the management of freshwater in Te Tai Tokerau including sedimentation and discharges to freshwater and harbours, land use, water takes, overallocation and the diversion of streams. All of these activities severely impact on the biodiversity and ecosystems that make our water healthy and thriving.

15. We support the work of TWWAG as it advocates and enables the outcomes sort in the Kaipara Moana Remediation Memorandum of Understanding, in particular clause 5.1 (a) and (d). Te Uri o Hau and NRC are parties to this agreement.

16. Te Uri o Hau Kaitiakitanga o Te **Taiao Plan** 2011[2] clearly states our freshwater management issues within our rohe which requires a dramatic alignment to Council freshwater management tools.

17. Te Mana o Te Wai aligns with our policies and provides clear direction on methodologies to improve the mauri of our rohe taiao holistically.

18. The Council must strengthen our partnership[3] to ensure our mana and rangatiratanga is upheld and that the connectivity between wai, whenua and receiving environments is protected and cared for.

Te Mana o Te Wai and Hierarchy of Obligations

19. We acknowledge that Te Mana o Te Wai is the korowai of the National Policy Statement on Freshwater Management 2020 (NPSFM). Te Mana me Te Mauri o Te Wai needs to be upheld in this respect and should be implemented as tangata whenua see fit in their rohe and takiwā.

20. The fundamental concept and six overarching principles of Te Mana o Te Wai as described in the NPSFM 2020 must be upheld through future stages of the Draft Freshwater Plan.

21. Achieving Te Mana o te Wai requires active and meaningful participation and partnership with all iwi and hapū within Te Taitokerau.

22. Te Mana o te Wai supports our methodology of tikanga to work alongside other iwi and hapū within Te Tai Tokerau to achieve the hierarchy of obligations. A seamless connectivity of kaitiakitanga ki uta ki tai.

23. The Council must give effect to section 33 proposals for iwi and hapū for the transfer of either functions, powers or duties in accordance with the Regional Policy Statement for Northland and section 33 of the RMA.

[2] Te Uri o Hau Kaitiakitanga o Te Taiao was formally received by NRC on 1 August 2012.
[3] MoU and draft Whakahono a rohe agreement, KMR MoU

Te Hurihanga Wai and Tangata Whenua Values

24. Multiple activities are currently impacting and severing tangata whenua values to freshwater, diminishing the mana and mauri o te wai. Status quo is no longer an option, and the Council must take action to reduce the level of pollution in our waterways, and further avoid the overallocation of our water sources.

25. We support the Councils approach to including Te Hurihanga Wai in the Draft Freshwater Plan. Te Hurihanga Wai and te whakapapa o te wai must be enhanced and upheld in all parts of Te Tai Tokerau.

26. The NPSFM algins with our hapū decision-making processes for freshwater management. Our tikanga and mātauranga Māori must be given more weighting in Council decision-making processes where our cultural values are upheld.

Implementing objectives, policies, rules and new actions

27. We support and want to strengthen the provisions in the Draft Freshwater Plan that enable our hapū to uphold our mana and rangatiratanga over our wai and taonga species.

28. Pursuant to section Te Uri o Hau Claims Settlement (Resource Consent Notification) Regulations 2003 we have effectively assessed adverse impacts on our wai and taonga species for over 20 years. Council have received our recommended cultural consent conditions that reflect best practice to mitigate and/or protect our wai, however at times these recommendations have been ignored or not made conditional.

29. Council have recognised we are only ones who can determine the effects of resource consents on our cultural values within our rohe. Having cultural impact assessments as a matter of control for all controlled activities is supported by us. We also support Māori attributes in the Draft Freshwater Plan, but there should be a bespoke process for our hapū to determine accumulative attributes over our bodies of wai.

30. The Draft Freshwater Action Plan sets out some of the funding required to implement existing freshwater programmes[4] and new provisions in the Draft Freshwater Plan. It is disappointing to see funding has not been fully allocated yet but is subject to consultation through the next Long Term Plan 2024-2034. We agree with and support tangata whenua involvement in freshwater management and decision-making in the draft Action Plan[5] and request the Council allocates the estimated costings to achieve and deliver these actions.

31. Adhering to new provisions will be difficult for many Māori land owners. We support rates remission, or funding to be provided to Māori land owners and whānau who will struggle to pay for and comply with new regulations. Additional support should be requested from the Government or other Crown agencies to support the Council with financing.

[4] See Actions 1 – 5 for example.
[5] See Actions 10 (a) – (g), pp12.

Water allocation and Treaty settlements

32. We support the 20% water allocation policy that sets aside a proportion of water for Māori. The relationship that iwi, hapū and whānau have with freshwater must be viewed from a Māori worldview. As kaitiaki of our taonga and taiao, any initiatives that Te Uri o Hau consider with respect to freshwater management is considered in light of our role and responsibilities we have to tiaki te taiao and meeting the needs of all people that live within our rohe.

33. Current water allocation policy does not account for the complexity of the relationship that our iwi, hapū and whānau have with water. The 'first in first serve' basis of decision-making under the Resource Management Act 1991 is not fit for purpose and contradicts what was guaranteed under Te Tiriti o Waitangi and section 14(3)(c) of the Resource Management Act 1991.

34. Future and current Treaty settlement arrangements over freshwater, including other arrangements,[6] must be upheld in the Draft Freshwater Plan. This includes recognising our statutory acknowledgements over wai, and land returned by the Crown.

35. Current regulations do not provide enough weighting to iwi and hapū in response to concerns over water allocation and use. More support must be provided by the Council to iwi and hapū where our concerns are being raised around resource consent applications, in particular the availability of water for future development opportunities for Post Settlement Entities.

Wai is a living being

36. Wai Māori must not be considered a commodity and a resource that can be sold, abused, and neglected. Wai Māori is a living being, and we support the inclusion of Mana Atua[7] as it upholds Te Mana o Te Wai by acknowledging the living nature and sanctity of freshwater.

37. The management of freshwater resources to maintain ecosystem health and supporting iwi and hapū to thrive is one of the most pressing issues that will face generations to come. New mechanisms and frameworks are required to change the behaviour that individuals and organisations have towards freshwater. One option is affording legal personhood to environmental domains, including wai Māori.

Climate Change

38. There are numerous methods based on mātauranga Māori that can be used to plan better for freshwater management and climate change. For instance, using the maramataka, or Māori lunar calendar, to understand tidal and seasonal changes that can influence the level and flow of freshwater sources across the region.

[6] This includes Transfer of Powers, Joint Management Agreements, Mana Whakahono a Rohe, or other arrangements developed under Treaty settlement legislation.
[7] See Policy D.4.33. Draft Freshwater Plan Change – Northland Regional Plan: pp192.

39. We strongly support the proposed tangata whenua climate change mitigation and adaptation policy[8], and we recommend that the Climate change and development policy[9] in the Regional Plan to align more specifically with Integrated Management identified within the NPSFM[10] which recognises *Ki uta kia tai* and the interconnection between water, land and sea.

Capacity constraints

40. There are considerable capacity constraints that exist for iwi and hapū to be involved in all parts of resource management. The requirement of applicants to continue engagement and consult with us is necessary and should be resourced by the Council and applicants where relevant. Te Uri o Hau processes are exemplar of how this process has been working for over 20 years.

41. The time and resources required for tangata whenua to respond to resource consents without financial support is a major issue, in particular for pre-Treaty Settlement entities. We support pre-Treaty Settlement entities to be resourced to achieve clause 22 of our submission.

42. With the inclusion of new provisions encouraging more engagement with iwi and hapū through the Freshwater Plan, NRC must also be able to support us and applicants through this process. To enable this, NRC should be resourcing tangata whenua through capacity contracts and/or engagement agreements to support a streamlined process for engagement. We see our Memorandum of Understanding or the drafted Whakahononga a rohe agreement as the mechanism to achieve equitable resourcing.

43. Further guidance for implementation of policy provisions should also be developed by the Council with tangata whenua, to ensure applicants are appropriately informed about engagement and resourcing requirements. This training could also extend to drafting cultural impact assessments, and how applicants and Council processing planners interpret the assessments and recommendations.

44. Further training to uplift the capacity and capability of iwi and hapū could be considered by the Council. This could include developing iwi and hapū environmental plans that provide direction to the Council and developers with how to consider issues and opportunities for our iwi.

Collaboration with other entities

45. With more changes being proposed under 'Local Water Done Well' strong collaboration between parties will be needed. Relationships with councils, iwi, Taumata Arowai and other Crown agencies are imperative to ensure there is a consistent and well planned water services system implemented. There are inconsistencies with regulations and compliance with rules creating inefficient services. Different decisions around applications can be made based on a different persons interpretation, resulting in

[8] See Policy D.4.39: pp193.
[9] See Policy D.23: pp166.
[10] See Part 3.5. NPSFM: pp14.

unpredictable outcomes for communities and service providers.

46. Iwi must be involved in all decision-making processes undertaken by councils and water service providers. Different approaches and siloed work on the same project can be burdensome for iwi to be engaged in. This must result in more aligned work programmes where efficient and effective service is provided for iwi to reduce over-engagement and consultation fatigue.

Conclusion

47. We welcome the opportunity to submit on the Draft Freshwater Plan Change. We also congratulate the Council for being proactive and preparing a Draft Freshwater Plan to meet existing timeframes under the NPSFM 2020.

48. Any future changes and engagement to the draft Freshwater Plan must involve our hapū so we can discuss the above matters further.

49. Ultimately the health and wellbeing of our freshwater *te mana me te mauri o te wai* will be critical for our future generations to live healthy and prosperous lives.

50. If you have queries about in this submission please contact Fiona Kemp, fkemp@uriohau.co.nz

Ngā mihi maioha,

From:	Jos Kemp-Baker
To:	Freshwater
Cc:	jos kempbaker
Subject:	I am sharing "draft-freshwater-plan-change-feedback-form-20231029" with you
Date:	Sunday, 10 December 2023 9:51:01 pm
Attachments:	draft-freshwater-plan-change-feedback-form-20231029.pdf

Tena koutou,

Please find the Ngati Kooaki Hapu feedback to the NRC draft freshwater plan change.

Thank you for your time.

Kind regards,

Josephine Kemp-Baker
Secretary & Hapu Community Liaison
Ngati Kopaki Hapu Korowai
Incorporated Society

Feedback form

Draft Freshwater Plan Change

The closing date for feedback is **5pm, 4 March 2024**

We welcome your feedback on anything in our draft Freshwater Plan Change. To learn about the changes being considered, visit www.wai-it-matters.nz

We encourage electronic feedback, as it helps keep costs down and reduce our impact on the environment. Head to wai-it-matters.nz or email us at freshwater@nrc.govt.nz

Otherwise, complete this form and return it:

- **By mail** Freepost 139690, Northland Regional Council, Private Bag 9021, Te Mai, Whangārei 0143
- **In person** to our main office at 36 Water Street, Whangārei; or to any of our regional offices.

Your name and contact details

Please provide your name and at least one other piece of contact information

Full name: Josephine Kemp-Baker

Organisation (if giving feedback on behalf): NGATI KOPAKI HAPU KOROWAI INC

Mailing address: 16 Plunket Street, Moerewa 0211 NORTHLAND

Email:ngatikopakihapu@gmail.com

Phone: 027 4639706

What topics do you want to provide feedback on?

Select as many as you want

- ☒ The vision, objectives and/or targets for our freshwater future
- ☒ Managing highly-erodible land
- ☒ Eliminating discharges to water
- ☒ Managing exotic forests
- ☒ Managing impacts on tāngata whenua values
- ☐ Stock exclusion – distance from waterways
- ☐ Stock exclusion – highly-erodible land
- ☐ Timeframes for stock exclusion rules
- ☐ Managing water allocation
- ☒ Enabling tāngata whenua to practice as kaitiaki for wai
- ☒Support and funding for efforts to improve freshwater
- ☐ Something else

Privacy Statement: *Privacy Statement: Please be aware that your feedback may be made public, including the name and contact details you provide. All feedback will be assessed and summarised for use in preparing the proposed plan change, which will be publicly notified in late 2024.*

Tell us what you think

Please provide your thoughts and comments on anything in the draft Freshwater Plan Change.

I oku Tupuna, nau ra I whakato te putiputi o te tumanako, ko matou miria ki tona kakara"

Our Tupuna, it was you who planted the flower of hope, and it is us who are touched by its fragrance.

Tena Koutou,

Thank you for giving us this opportunity to contribute to this very important kaupapa. My name is Josephine Kemp-Baker and I am the Secretary and Hapu – Community Liaison for the Ngati Kopaki Hapu Korowai Incorporated Society. Our Purpose is to Protect the Interests and Well-being of our membership. We number in excess of 7000. Our Rohe Korowai lies where our whanau reside, but our Ukaipo is from Ngapipito, to Pokapu, Orauta, to Otiria, to Moerewa, and Kawakawa.

Ngati Kopaki Hapu, in conjunction with our whanaunga hapu; Ngati Te Ara are Kaitiaki Manawhenua holders of a Gazette Notice for Customary Kaimoana Fishing under the 1998 Fisheries Regulations. The Notice relates to a food gathering area/rohe Moana of the tangatawhenua Ngati Te Ara and Ngati Kopaki, in an area of Northland, inland from Kawakawa, defined from points near Waiparera, Ngapipito, Orauta, Tarakihi to Kawakawa/ Tirohanga.

Ngati Kopaki and Ngati Te Ara Manawhenua landowners are also Kaitiaki of Lakes Kaiwae (Orauta) and Owhareiti (Pakaraka).

Our Manawhenua membership have actively contributed and worked alongside the Taumarere Flood Mitigation Committee and Northland Regional Council with the new Pokapu Bridge and Spillway Projects.

We have also advised Hoskin Civil; Project Management Consultancy with Cultural Impact Information regarding the Flood Drainage plans for the Moerewa township.

Ngati Kopaki Hapu, as part of our Tai Ao Kete, (Environmental Portfolio), plan to implement Tikanga based strategies along our rohe waterways, created by and agreed upon by manawhenua landowner membership. We hope to be a template for all our neighbouring landowners. These include directed practices and mahi around monitoring flood water, documenting species, erosion, as well as clearing and replanting along the Taikirau awa (in partnership with Ngati Te Ara), the Waiwherowhero awa (Pokapu), the Waihurikuaro awa, (Otiria), the Waiharakeke river (Otiria, Moerewa and Kawakawa) through to the Taumarere River, (Kawakawa to Opua) in partnership with whanaunga hapu; Ngati Manu.

As the Ngati Kopaki Hapu representative, I sat in on the NRC Rural/ General focused online hui – Draft Fresh Water Plan Change, and found the discussions and presenters informative, and gracious in the sharing of their expertise of area and advice. It is encouraging for our hapu membership to see that our values of healing and maintaining an active relationship with the taonga that are our rivers and waterways is being reflected in NRC policy making and driven by NRC staff. Thank you.

Consultation through Korero is a major tool in forging great and enduring relationships, may this continue for the benefit of all our mokopuna.

Ka hinga a Ngati Kopaki, ka whakaarangia a Ngati Te Ara. Ka hinga a Ngati Te Ara, ka whakaarangia a Ngati Kopaki. Ka whakatuingia! Tuingia! Taiki e!

(Paraphrased translation)

When Ngati Kopaki fall down, Ngati Te Ara will raise them up. When Ngati Te Ara fall down, Ngati Kopaki will raise them up, Together, United, We can achieve the insurmountable!

Ngati Kopaki Hapu invite you NRC, to traverse the insurmountable with us.

Naku no,

Josephine Kemp-Baker

Secretary & Hapu – Community Liaison

Ngati Kopaki Hapu Korowai Incorporated

If you have more to say, feel free to attach more pages to this feedback form.

How did you find out about this feedback opportunity?	
☒ Social media	☐ Letter from us
☐ Radio	☐ Sector group
☐ Newspaper	☐ Word of mouth
☐ Email from us	☐ Other: _____

☒ **Please keep me updated.**

Thank you for taking the time to provide feedback.

FAX MESSAGE

To: Northland Regional Council
Draft Freshwater Plan Change Consultation
(09) 470-1202

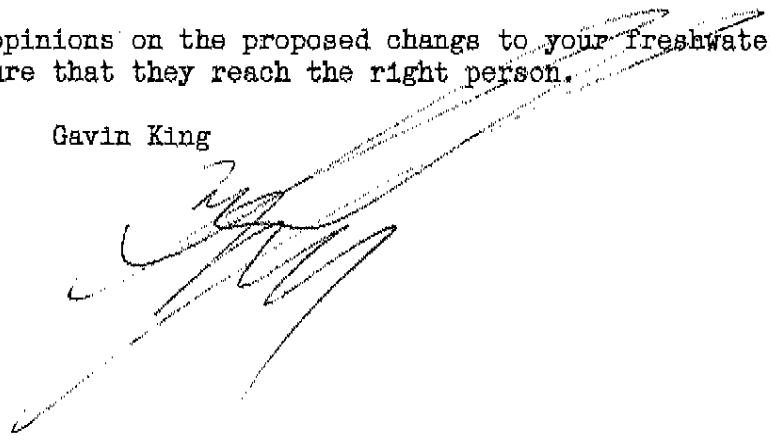
12 sheets, including this one.

From: Gavin King
[redacted]

==========//==========

Enclosed is some opinions on the proposed changs to your freshwater plans. Please ensure that they reach the right person.

Gavin King



[redacted]

31st of March, 2024

Northland Regional Council
Private Bag 9021
Whangarei 0143

Feedback on Draft Freshwater Plan Change

Dear Sir or Madam

Enclosed are several sheets of feedback on the proposed freshwater plan change. Despite the Dunedin address above, my family are farmers in Northland owning and running several farms, and so I do have some interest in the start of the region: I am not just some interfering busybody from out of town.

For the sake of clarity, since I am not using your feed-back form, I permit the entirety of these pages to be released for public consideration. I also will say that I heard about this consultation by word of mouth.

There are a couple of points related to the form of the consultation that I will note. The closing date is not clear: on one page it says the 5th of March, on another the 31st. And as the 31st is Easter Sunday, surely thebetter day would be the 2nd, to allow those hand-delivering their submissions the maximum time. Additionally, the entirety of the collection of consultation documents are hard to follow: it is difficult to be sure what relates to what. And there are just an extraordinary number of pages to consider.

This submission is a little later than it could otherwise be, and so does not have the grammatical or linguistic polish that it could have. Part of the reason is that the whole process seems to be a trifle soul-destroying: the propsed plans have no place for small farms like those of my family, and it seems very likely that the draft will not change in any relevant way. I make the enclosed comments so that I can say to myself that I at least tried.

For the sake of clarity, I oppose the entire proposal in whole and in almost all of its constituent parts.

Should there be anything that is unclear please do contact me so that it can be explained.

yours faithfully

Gavin King

The vision, objectives, and/or targets for our freshwater future

An overarching theme of the plan is that the water, and hence the country, is being destroyed by people. If this assumption is true, then what are the plans for removing people form these islands? Surely, as is being done for other predators, the source of the wrong should be eliminated.

The plans, as they stand, will result in the poverty and depopulation of the region, but it is not explicitly stated that this is an aim of the plans, or how to go about removing the last of the humanity from the region.

Management of Highly Erodible Land

The proposal seems to be effectively confiscation of some parts of the land, forbidding the owners from using it as they see fit. Quite apart from the questionable morality of this, why should the owners be compelled to pay rates on land that they cannot use? Both to the regional and to the district councils?

There is also a question about the definition of highly erodible land in practice. There is a reasonably straightforward definition in the documents, but then the rules instead refer to the maps generated by some other party. Which takes precedence? Is the defintion in the rules? What id the maps are wrong? There is also a question about the scale of the slope: what is the minimum area to be considered? If one were to make a mound over one's potatoes, would that count as steep land? An extreme case, and on though obvious, but not covered in the proposed rules.

Furthermore, the maps seem to be made by a private company, and as far as can be determined are hosted on the computers of a private company (that is, "in the cloud.") Is it defensible that the law of the land should be determined and held by a private company?

Eliminating Discharges to Water

Certainly new discharges to water should be forbidden. But there are subtlties to existing discharges that do not seem to be considered. I will demostrate this by way of an example. Consider a hypothetical bach, perhaps on the coast, perhaps inland. It was brought onto the current site in the 1950s, and never had a complete septic system installed, so that the washing machine and later installed shower discharge directly to a watercourse of some sort. Being a bach it is not used very often, and when used is not used by a great number of people.

It is not good that the washwater should be discharged to the creek. However, as far as can be determined, there is no provision to simply make the discharge better: it has to be brought up to modern standards entirely, or not changed at all. This requires a comlete water treatment system, which is not cheap to install, and which is complicated an unreliable: especially for places with intermittent use, such as this bach.

To improve the proposal, it would be better to allow improvements to the existing waste systems, even if it doesn't meet modern standards. It is not entirely clear wha tthe best wording for this would be, or where it would fit in the new rules, but continuing the example above, a sump and tile drain would be an improvement over pouring the wastewater directly into the stream, as well as being more reliable and much cheaper than a full-blown water treatment plant.. As it stands, this improvement would be forbidden, and so there is likely no improvement made to the existing system, on the hope that no-one ever notices.

In short, there should be some ability in the rules to permit improvements to existing systems even if they don't meet modern standards, so that the water can be made cleaner.

Managing Exotic Forests

There is a great deal of hype about the effect of exotic forests, especially in the aftermath of Cyclone Gabrielle last year.

There is a great deal of emotion coming from real and perceived damage that the planting and harvest of forests cause. While we are humans, and so emotion should have some part in our decisions, it is also important that emotions and fact are separated, so that reasoned decisions can be made.

There is also a vein of xenophobic nationalism tunning through much of the discussions, against such awful things as foreign "exotic" plants. This xenophobia should be inspected and considered, and then discarded as quite wrong.

Stock Exclusion from waterways

The proposed setbacks are too large, in distance and extent. They will result in an extraordinary amount of land being taken from production, and will be an enormous cost in both construction and maintenance.

There seems to be no provision for emergencies and for breakdowns: for example, should the electric fence unit fail, or the electronic collars fail. Or for that matter, should deliberate malcontents destroy part of teh fences to make a point.

This is also one point where there is a risk of driving out smaller farmers who cannot cope with the strain of not only having to make all these fences and maintain them, but also have to report on them. These smaller farmers have a dep interest in the environment at a local level, and may very well be replaced by consortia of some sort, who do not. The latter may very well follow the letter of the law, but not the spirit.

And furthermore, the amalgamation results in fewer people in the region and those who reman are not their own bosses, as sole proprietors and owner-operators, but are merely employees of others. Is this a desirable culture change?

Stock Exclusion from Highly-Erodible Land

Some points to consider:

§ What is the minimum area to be considered: and what is the definition; is it the maps, held by a private company, or the defintions in the rules?

§ Are the restictions necessary to implement as law? Anecdotally, much of the land that would be considered steep and that must be excluded from grazing is already either left, or grazed much less heavily. Is it desirable to add the administrative and compliance burden when it is already done?

§ Are there any unintended consequences that haven't been considered? Fore example, could fencing off the steep areas result in more erosion,as the stock push against teh fence and walk un and down along it? It is a fairly common occurance to have increased stock along the edge of something different, and it is not at all unlikely that the stock will thus cause the ground to be further eroded. One of the examples given is a hillside in Kaipara where the cyclone cause slips. The caption says that planting could have reduced the slips; I contend that it is just as likely to have increased the damage as the whole hillside fell down, rather than just a portion of it. Of course, it is impossible to say what might have been, but this is an assumption in the proposal that should be countered. [illegible].

Enabling Taangata Whenua to practice as kaitiaki for wai

As has been written elsewhere in this submission, it is quite morally and ethically wrong that a racially determined minority should be allowed to force their beliefs onto the rest of the population, quite regardless of the nature of those beliefs.

This heading is also an example of unnecessary jargon that hinders understanding of the proposal. Of course, writing the heading as "Letting the rightful people of the land act as regulators over the water" has a less pleasant feel to it, but is just as accurate, at least as far as I can tell.

Farm Plans: Freshwater and Environment

The nature of these plans is an administrative difficulty, especially for smaller farms where the time spent on preparing and administering them is a sizeably portion of the time of the owner-operator. Even more frustratingly, they are a grat deal of work for no change: the current methods of operation are entirely in accordance with the proposed plans, and so no change is made despite a great deal of time and money being expended.

It is also quite wrong and sad that the opinion of a paid outside expert is considered necessary to show that the proprietors know what they are doing. At the risk of a rant, this requirement of out-side validation is a sizable portionof what is wrong with much of the world as it stands: we are taught that we are nothign unless others think we are right, and most especially it is important that those others are seen to profit from us. Including such requirements in the laws does nothing to improve the country as a whole.

It is also hard to determine if the "Farm Environment Plan" is the same as or differnt from the "Freshwater Farm Environment Plan" or not, and what else is involved in these. In turn, this confusion makes it difficult to have intelligent dicourse on the matter.

Other Matters

The proposals are difficult to read. Especially, the excessive use of jargon is frustrating. For jargon, I include bith terms of art that are perhaps useful to those involved in the details of the rules but don't really help the general public —for example, "setback", "allocatable water", and the like — as well as excessive use of the Maori language in what is notionally an English language document. There are certain terms that are best left untranslated, of course, because they are not easy to translate, but it is quite wrong that one should have to sit with a dictionary in order to understand proposed laws and the reasoning behind them. It excludes those of limited literacy, and those without the suitable translation dictionary, and discourages those who do have access to the requried resources.

There is a great deal of spiritual, indeed religious, justification included. Of itself this is wrong, that the motivations for the laws in an at least notionally secular country should be based on religion, but in the justifications given only the religion of a very small portion of the population of the region, let alone the country or the world, are given consideration. There is mention of the spirits of the land and of the water, but none of the God of Abraham and Moses, and the teachings of the Torah, the Bible, or of the Koran. There is no mention either of the Lord Khrisna, for example, nor of the Buddah, nor of Ahura Mazda, to name a few. Where are there any references to the Tao, to Shinto, to Mithras, or to any of the smaller religions? If it is desirable to nclude religion in these plans, and I assert that it is not, how is it justifiable to exclude the vast majority of the country, even ignoring the rest of the world?

There is also the recially divisive assumption that there are two classes of people in the region: the rightful people of the land, and all the others. While this view seems to be ever more popular, it is quite repugnant to say that there is a group of people who have a better claim to understand and rule the land because of to whom they were born, regardless of wheter they are a majority, a plurality, or a minority.

Altogether, these points have made it hard to want to make a submission on the proposed plans: as I am not of the people who rightly have a say in the running of this place, why should my views have any importance?

To this end, I assert that the entirety of the plan, from the basic premise to the smallest details, is not suitable. It should be done awaywith in it's current form and, if necessary, be replaced with something better.

Submission on the Draft Freshwater Plan Change.

From: Andrew and Jane Macdonald

[redacted]

Ph. [redacted]

email: [redacted]

Submission regarding the proposed Freshwater Plan change

This submission is to address the aim of the proposed freshwater plan: reduction of contamination in the outflow from the farm, and the effects of the proposed grazing setbacks from the farm drains, most of which fall into the classification of waterways, on this farm.

We have a small 49Ha dairy farm, milking around 90 cows, on reclaimed land near the Rangaunu Harbour, with the Awanui River as our Eastern boundary. The land is flat, as expected on reclaimed land, and most of it is at or below high tide level. The farm drains into the river through floodgates, which open at low tide for varying lengths of time, depending on how much flow is in the river. There is a District Council drain following the course of the river, and this farm drains into that at two points. The parts of the farm adjacent to the river, slope gently away from the river, as is usual on flood plains, and drain into internal farm drains. The soil type is yellow Awanui clay, with grey clay beneath.

In order to convert this area of marine mud into farmland, the tidal river was contained with stopbanks by the government of the day, and a network of drains was built throughout the farm, which release water into the river whenever possible. The viability of farming on such low-lying land is directly related to the length of time this release of water at low tide occurs, and how much water can exit the council floodgates during this time. Any hindrance to this drainage increases the retention of water in the clay soil, which increases soil damage (pugging) during winter and spring.

Contamination of water leaving the farm

After rainfall which may have caused sediment to enter the farm drains, the low tide level in the adjacent river increases, which prevents the floodgates from opening. This may go on for many days, even a couple of weeks, after a significant rainfall event. This results in the farm being covered by standing water, i.e. flooded, sometimes for long periods of time, which of course can have devastating effects on animal welfare and farm production.

In recent years, the Regional Council has been doing work on the banks of the Awanui River between Awanui and Kaitaia to streamline the flow from Kaitaia township to the harbour. While this reduces flood risk to the town, it has had the possibly unintended consequence of raising the low tide level in the tidal stretches of the river after heavy rain. This makes it more and more difficult, for this farm at least, to drain during the winter and spring.

This state of affairs, of course, means that practically no sediment leaves the farm after significant rain, because any sediment the water may be carrying is deposited on the pasture or the beds of the drain network before the river level subsides enough to allow drainage.

As for runoff possibly carrying nutrients and e-coli across the surface of the ground and then into the drain system, on this dairy farm the water leaving the farm is tested by an inspector every year, at significant and increasing cost to us, and he has never recorded any meaningful levels of contamination.

These clay soils have massive cation exchange capacity, which means it is difficult for nutrients to drain through the soil, whether or not it is covered by vegetation. This is basic soil science.
The devastating effects of intensive farming on freshwater in the South Island, with their free-draining soils, should not influence what we do here in the North, with our clay soil that traps nutrients.

Effects of the proposed plan change

As can be seen in the accompanying farm plan, we have a large number of drains, affecting almost all paddocks. Some paddocks have drains on three sides. Those drains which will be captured as waterways are highlighted.
Some of the farm raceways have a drain on both sides, and many gateways are beside a drain, which would nullify any benefit of increasing the riparian strip.

As stated previously, the viability of farming on such low-lying flat land is dependant on the efficiency of the drainage system, i.e. the speed at which surface water can leave the farm during the short periods the floodgates may be open, if they open at all, during low tide.
This means that drains must be mechanically cleaned annually, and kept free of vegetation at all times.

The banks of the Awanui river are infested with alligator weed, not to mention gorse, pampas, tobacco weed, and giant reed. This alligator weed was introduced into our internal farm drains about 30 years ago by the District Councils drain cleaning contractor, in the one and only year they brought in a "drain spinner" machine. Every year the alligator weed tries to climb out of the drains into the pasture. There is no legally approved spray that kills alligator in aquatic environments. Any vegetation which is not kept grazed or mown, even kikuyu or other grass, provides shelter and protection for the alligator weed rhizomes, making it impossible to control.

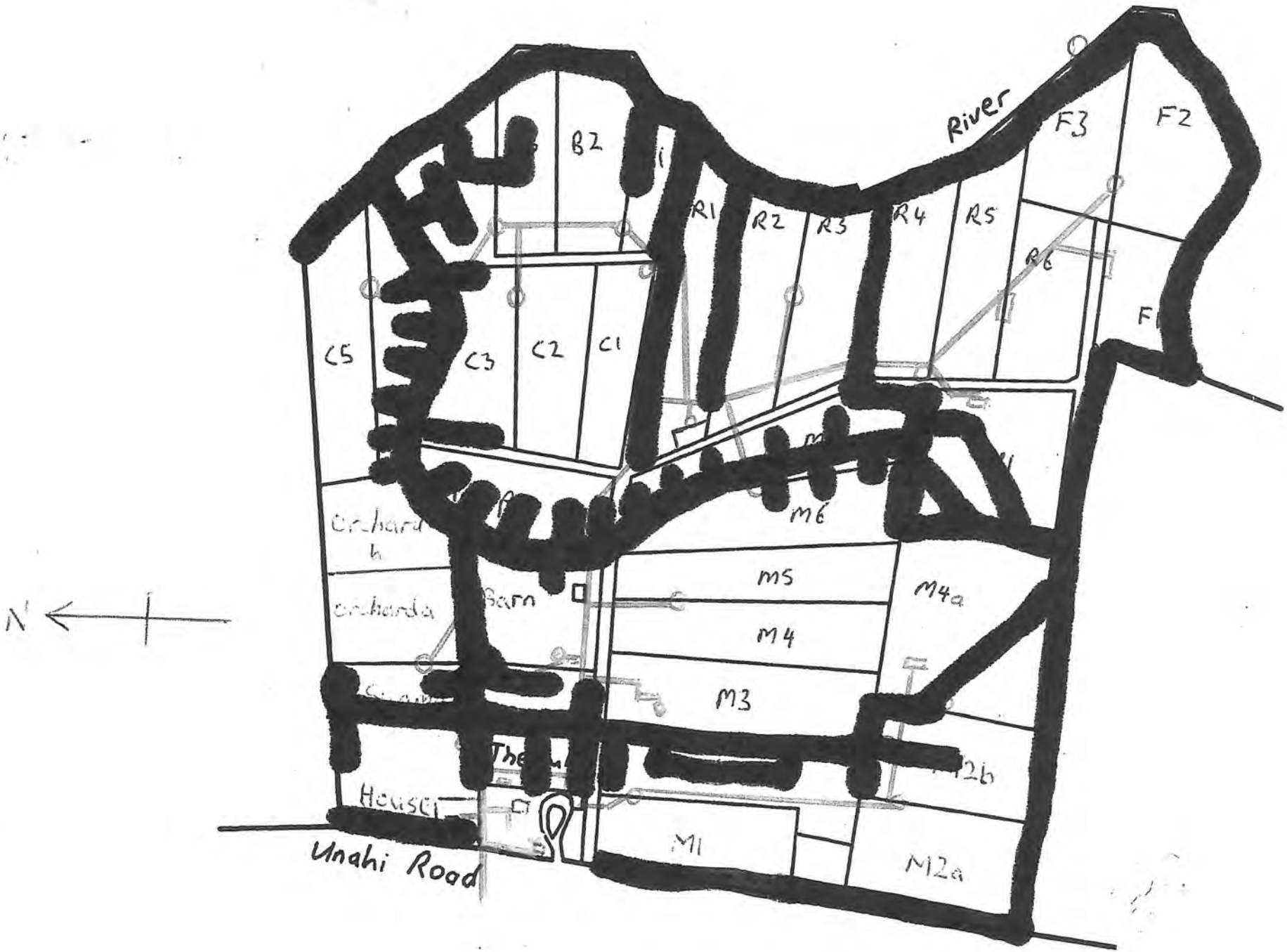
As a result of these two factors, the proposed riparian strips will have to accommodate the passage of excavators and tractors with spray or mowing equipment.
Expanding the riparian strips also entails making laneways through the strips connecting paddocks to each other and to the raceways, which of course means vastly increased quantities of mud being generated by stock movements during wet weather, not to mention the quantity of gates and strainer posts required to construct such an impressive labyrinth.

The cost of fencing all this could not be borne by a 49Ha farm milking 90 cows, and the expense of maintaining this network of riparian strips will be huge and ongoing.
Beyond these direct expenses, enclosing these areas will inflict a disproportionate loss of grazing land for a farm this small, reducing gross income.

Our proposal

We are supportive of any effort that improves the freshwater quality and reduces pollution generally in our area, but as stated, the proposed plan changes will not improve the quality of water leaving this farm, which does not actually need improving, but will destroy any economic viability that remains at this time.

The Regional Council already monitors the water in our drain systems, so if the water quality needs improving by reducing sediment or nutrients or animal sourced e-coli, it is a simple matter to trace the source of this contamination and then require the farm in question to rectify the problem.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M2b
M1
M2a
Barn
House
Unahi Road
N

From:	[redacted]
To:	Freshwater
Subject:	Freshwater Submission - Kaipara Farming Group
Date:	Saturday, 30 March 2024 10:15:29 pm
Attachments:	Appendix A - Kaipara Farming Group.pdf

Dear Northland Regional Council,

Please find attached our submission in response to the Freshwater Plan, submitted today 30th March 2024 at 10pm.

This link will give you access to a drop box from which you may download the document in pdf format - it was too large to send by email direct.

[redacted]

Please note the attachment as Appendix A

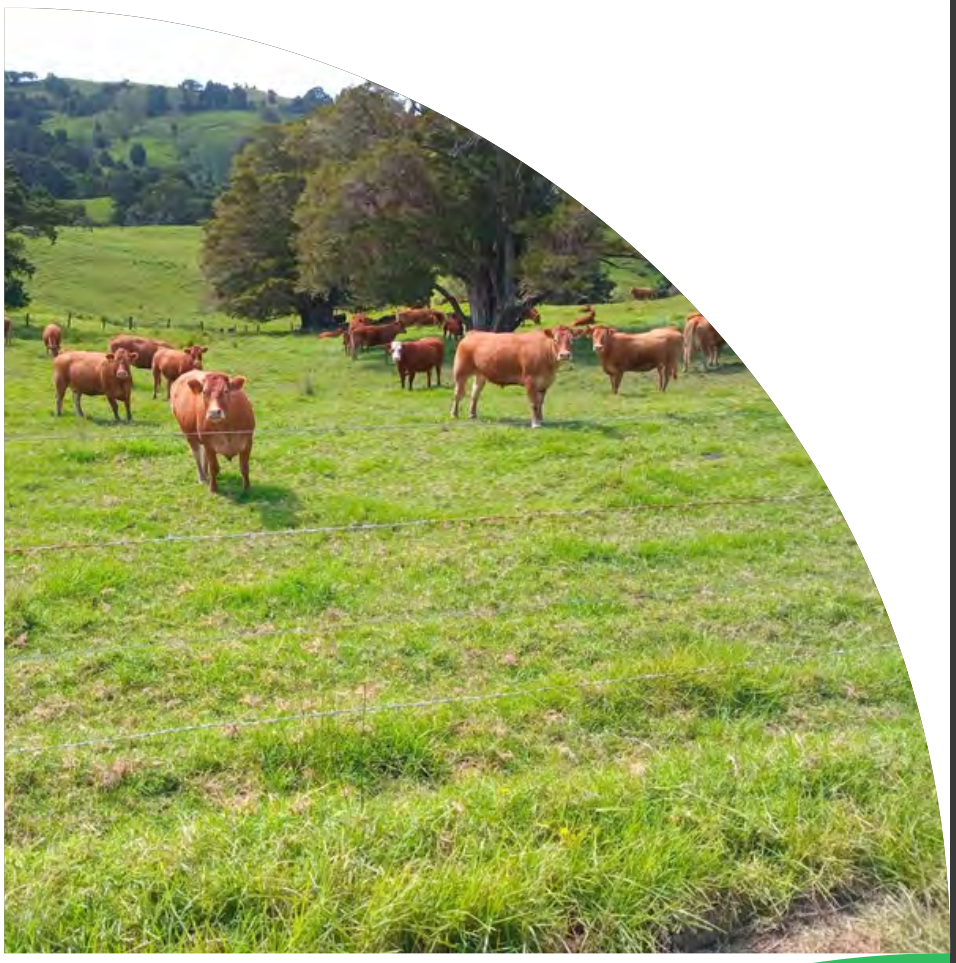
Your Sincerely

Andrew Major

KAIPARA DISTRICT

SUBMISSION
FRESHWATER PLAN

SUPPORTING FARMING - SUPPORTING NORTHLAND



2024

ON BEHALF OF KAIPARA FARMING GROUP
CONTACT ANDREW MAJOR
[redacted]
OR OWEN CLEMENTS
[redacted]

MARCH 2024

Kaipara Farming Group Submission in response to Northland Regional Council's Freshwater Plan.

On Behalf of Kaipara Farming Group
Andrew Major
Owen Clements

30th March 2024

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MARCH 2024

SUBMISSION REGARDING FRESHWATER PLAN

ON THE COUNCIL'S PROPOSAL TO CONFISCATE LAND RIGHTS BASED ON THEIR FRESHWATER PLAN

A: INTRODUCTION

This submission has been formulated and written by members of the farming community in the Northland region. Our submission deals with three distinct aspects of opposition to the Freshwater Plan[1]. These being:

- Law
- Representations of the Northland Regional Council
- Ecology.

B: IMPORTANT NOTE

It should be noted, given council constraints placed upon the community response, that this submission is both constrained by an unreasonable timeframe and the unreasonable circumstance of the proposal.

Therefore, the signatories formally advise the Northland Regional Council, that for this submission to be considered complete, full access to the necessary subject matter experts in law and ecology, along with the required time to consult and prepare a complete submission, is required.

02 THE LAW

With reference to the Freshwater Plan, the Council advise as follows:

> *"The Freshwater Plan change is being developed under the Resource Management Act 1991 (RMA) to implement national direction in the National Policy Statement for Freshwater Management 2020. There are no explicit requirements under the Local Government Act 2002 (LGA) or RMA for the council to develop and release a draft plan change for public consultation. However, consultation on a draft freshwater plan change and options for managing freshwater is consistent with the purpose of local government in section 10 and the principles in Section 14 of the LG"* – Reference REQ 619166 [2]

In response, our submission is:

1. That the Resource Management Act must be interpreted in accordance with well-established principles of statutory interpretation and public law.

2. That the Northland Regional Council must interpret the Resource Management Act to respect and protect fundamental rights, protected by the New Zealand Bill of Rights Act and the International Convention on Civil and Political Rights.

3. That the Northland Regional Council are treating the Resource Management Act as if it is at the top of the constitution hierarchy – when it is not.

NOTE:

If these points 1 – 3 are disputed by the Northland Regional Council, then the signatories need time and the provision of resource, in order to be able to provide the necessary expert evidence available through legal counsel.

03 THE LAW

In furtherance of points 1 -3

4. The Legislation Act 2019 [3] section 10(1) says in relation to all legislation:

> ***"The meaning of legislation must be ascertained from its text and in the light of its purpose and its context".***

5. The Local Government Act 2002 is the formative authority for the Northland Regional Council.

5.1 Part 1, Preliminary Provisions, Section 3 sets out the purpose of the Act. The purpose is in the context of local government acting in the interests of their local communities. This is underpinned by sub-section (c) which makes the local authority accountable to the local community.

5.2 Part 2, Purpose of Local Government, and role and powers of local authorities state in Section10(1)(a) The purpose of local government is—
(a) to enable democratic local decision-making and action by, and on behalf of, communities; and

Here, the law requires that the Council act on behalf of communities. This in essence can only mean that the Council decisions and actions are on behalf of the local community and not the implementation of a "National Policy Statement for Freshwater".

5.3 Part 2, Purpose of Local Government, and role and powers of local authorities states in Section 10(1)(b) to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future.

Here, the law requires that Council business is only in furtherance of Northland Regional Council communities and not the implementation of a "National Policy Statement for Freshwater".

04 THE LAW

5.4 Part 2, Purpose of Local Government, and role and powers of local authorities state in Section 11 -

The role of a local authority is to -

(a) give effect, in relation to its district or region, to the purpose of local government stated in section **10**; and

(b) perform the duties, and exercise the rights, conferred on it by or under this Act and any other enactment.

5.5 In summary then, both the **purpose of the Act**, the **purpose of the local authority,** and the **role of a local authority**, are in the interests of the local community.

5.6 Section 11(b) includes reference to any other enactment.

6. Section 30 of the Resource Management Act [5] creates functions for the Northland Regional Council which is in accordance with section 11(b) of the Local Government Act - “any other enactment”

6.1 Northland Regional Council advise that the Freshwater Plan is being developed “Under the
Resource Management Act 1991.” Reference REQ 619166. [2] Appendix A

7. In the context of the detail of the Freshwater Plan, Council have only demonstrated the proposed use of wide ranging, authoritarian power, pursuant to section 30 of the Resource Management Act for the purpose of future seizure and control of 200,000 hectares of privately owned farmland across the Northland region.

05 THE LAW

8. In the context of the details of the Freshwater Plan, the Council have only demonstrated their role as a facilitator and provider of the necessary legal framework to implement the seizure.

9. NORTHLAND REGIONAL COUNCIL AS A FIDUCIARY TO RATEPAYERS.

9.1 It is established public law in New Zealand, that Local Authorities can owe fiduciary duties to ratepayers. Lindsay Breach wrote in his work entitled 'Fiducia in Public Law' [6] that *"The growth of juridical recognition of a fiduciary element to public law appears as a response to social pressure for the judiciary to hold political actors to account"*.

9.2 Breach referenced the leading authority as Keech v Sandford. He said *"The foremost feature of a fiduciary relationship, identified in this case, is that the stronger party owes a duty of loyalty to the vulnerable party who has entrusted them with power, which requires them to act for the benefit of the weaker party and not place themselves in a position where a conflict of interest may arise*".

9.3 Breach referenced Deborah DeMott who observed *"Although one can identify common core principles of fiduciary obligation, these principles apply with greater or lesser force in different contexts involving different types of parties and relationships. Recognition that the law of fiduciary obligation is situation-specific should be the starting point for any further analysis."*

9.4 Breach referenced - *"Watson v Dolmark Industries, Gault J recognised that to identify a fiduciary relationship a court must:15 ...look for circumstances in which one person has undertaken to act in the interests of another or conversely one has communicated an expectation that another will act to protect or promote his or her interests. There are elements of reliance, confidence or trust between them often arising out of an imbalance in ... rights, powers or the use of information affecting their interests. Telling indications may be that person having taken, or been entrusted with an opportunity to protect or benefit others stand in a position also to prefer their own interests."*

06 THE LAW

9.5 In this case, and apart from any other reasoning the Northland Regional Council, through the Local Government Act, has undertaken to act in the interests of the ratepayer, which includes those community members who are the focus of the Freshwater Plan and those indirectly affected by it. Not only does the Act create that interest, it also strengthens it, by purposing that the Northland Regional Council are accountable to ratepayers.

Although it could be said that accountability brings a degree of parity to the relationship, the Council to the ratepayer, to the effect of lessening a fiduciary duty- the demonstrable truth is, that in practice such parity is largely inoperable outside of the democratic ballet and in this case has been fundamentally damaged to the result that ratepayers do require the relief offered through fiduciary law.

9.6 Statements of policy are not laws. The Central Government's National Policy for Freshwater Management [7] is not law and neither is the Northland Regional Council's Freshwater Policy.

9.7 Natural justice principle of fairness in law [8]- the principle of fairness, is first, that decision-makers must be unbiased with respect to the matter before them.

9.8 The constitutional principle [9] requiring separation of power - is law. The Legislator, the Executive and the Judiciary must operate independently from one another - the principle is intended to prevent abuses of power.

07 THE LAW

10. REPRESENTATIONS OF THE NORTHLAND REGIONAL COUNCIL

10.1 The Council state in the Freshwater Plan [11]:

> *"At the heart of Governments National Policy Statement for Freshwater Management (NPS-FM) is the concept of Te Mana o Te Wai.*
>
> *Te Mana o Te Wai is about protecting the mauri (life force) of the wai, and restoring the balance between water, our environment and our communities. It puts the health of water first, providing for human health needs second, and other uses third. The kaupapa includes actively involving tangata whenua in freshwater management and decision-making"*

10.2 Having made the above statement, the Council declare that:

> *"We have adopted this as Te Mana me te Mauri o te Wai for Te Taiokerau"*

10.2.1 In making this statement, the Council demonstrate that the basis for a proposed legal action against farmers is based only in a concept. [12]

10.2.2 A concept is not law and it is not a policy.

10.3 The concept of *"Te Mana me te Mauri o te Wai for Te Taiokerau"* is further explained in the Freshwater Plan when the Council states:

10.3.1 > *"that through whakapapa Māori view freshwater "as a living being that derives from **nga atua**" The concept that freshwater should be treated as a living being with rights "... as a living being with rights to be healthy and to flourish, and to be respected as an ancestor...."*

* Nga Atua means *"the gods"*

08 THE LAW

10.4 The Council explain that "Māori view freshwater as a living being (...)".

10.4.1 This means that the Council have chosen to represent only the "Māori view" of fresh water which the Council describe as a concept.

10.4.2 A concept means an abstract idea. [12]

10.4.3 Abstract means existing in thought as an idea but not having a physical or concrete existence.

10.5 Many members of the Northland community whom the Council are accountable to are unlikely to agree that this described concept of freshwater should be interpreted through policy to have enforceable meaning under the law to non-Māori or Māori who do not accept the concept of *Te Mana me te Mauri o te Wai*.

10.5.1 While it is understood that the Council have an obligation to Māori interests pursuant to the Local Government Act 2002 – they too have an even wider obligation to act in the interests of ratepayers and other members of the community pursuant to the Local Government Act 2002.

10.5.2. Yet, the Council have chosen to base their entire Freshwater Plan on the concept of *Te Mana me te Mauri o te Wai*.

10.6 It does seem that the concept of *Te Mana me te Mauri o te Wai* and the abstract thinking necessary to accept this concept in contemporary New Zealand of 2024, explains why the Council have acted with ignorance and indifference toward private landowners in their representation of the Freshwater Plan.

09 THE LAW

10.6.1 It is understood that Council representatives have engaged with many Marae located in the region and especially around the Kaipara Harbour - in furtherance of the freshwater plan.

10.6.2 The Council confirm [2] that they **have not** contacted private landowners to individually discuss the Freshwater Plan and the ramifications of it:

10.6.2.1 Local enquiries reveal that many farmers have no idea that their Council is planning to seize and control their private land – leaving these farmers defenceless.

10.6.3 The Council **HAS** carried out surveillance on all of this private land, very specific surveillance. [12] The Council completed this work without asking or notifying the landowner.

10.6.4.1 The Northland Regional Council website, which is available to the public, shows a map of the region. The map shows parcels of land within the region and identifiable by location. Parcels of land, estimated to be 230,000 hectares, have been coloured in red and yellow.

10.6.4.2 The Council explain on the website that these coloured areas are of farmland which have slope exceeding 25 degrees and that these slopes are unsuitable for livestock farming.

10.6.5 So, in a surreptitious fashion, the Council have recorded private land, measured private land, made conclusions about private land, and then wantonly represented those conclusions as the only truth.

10.6.6 So, the freshwater plan is founded on the abstract concept of water being an ancestor of higher value than human health and based on a Council allegation of farming fault - namely land erosion.

Council have conflated these ideas to form the Freshwater Plan - which proposes the seizing control of 200,000 hectares of private land as the remedy.

10.7 COUNCIL ACTIONS - STEM FROM A DEEPER CONSTITUTIONAL FAULT

10.7.1 The foundation, basis, and conclusion of the Freshwater Plan demonstrate Council considerations and actions that should not have been possible by a local authority whose functions and responsibilities are clearly described and understood (as discussed earlier in this submission).

10.7.1.1. For the Council to start with a concept based in an abstract idea and to end with a recommendation that 200,000 hectares of private land be seized from the control of the rightful owner – this then, at the least demonstrates a circumstance that requires investigation.

10.7.2 Council is a local authority and local authority means local governance. A local authority does not exist apart from Central Government. In this case, Council state the Freshwater Plan is required pursuant to the National Policy on Freshwater Management – demonstrating the relationship of local authority to Central Government.

10.7.2.1 Before the change of government in October of 2023, it is understood that the actions and proposal of Council, as disclosed in the Freshwater Plan, were the political will of the then government. There is no indication that this was not so.

10.7.3 For the Government to seize control of 200,000 hectares of private land, based on an abstract concept, is deeply concerning and should be to every New Zealander.

As identified later in this submission – farming ecology is not the fault discussed in the Freshwater Plan. Rather it is the Government that wishes to see fault in farming due to non-compliance with the abstract concept of water "as an ancestor" and water being of higher importance than human health - all in the order of *Te Mana me te Mauri o te Wai*.

In effect, the Council propose a very tangible response to a very intangible suggested failing.

10.7.3.1 By naming Māori gods - Te Mana me te Mauri o te Wai, appears as a religious order.

10.7.3.2 In contemporary New Zealand – religion is not compulsory in any form. [13]

10.7.3.3 Any religious order that resulted in water being legally recognised as being of higher importance than human health or that resulted in fundamental human rights being restricted, must be met with firm political and legal resistance.

10.7.4 PARLIAMENT AND THE JUDICIARY

10.7.4.1 Our New Zealand constitution [14] consists of various documents, part of which describes the structure of government which requires the branches of government and the "separation of powers" to avoid the abuse of power.

The Legislation and Design Committee state:

> *"Each branch of Government (executive, legislature, and judiciary) must perform only those functions associated with that branch and not intrude into, or assume the functions of, another branch."*

10.7.4.2. It is the legislator, which is the Parliament, that passes law. [15]

Parliamentarians, by and large, are the people's choice and are expected to act in the interests of their constituents. In a similar way that the local Council must act in the interests of their constituents – to remain within the wider law.

13 THE LAW

10.7.4.3 New Zealand law stipulates that the meaning of statutes must be ascertained from its text and in the light of its purpose and context.

The authors of this submission, know of no codified law that describes the Government seizing control of vast areas of private land in such a circumstance as proposed by the Council in the Freshwater Plan.

10.7.4.4. The principle of eminent domain [16] allows local authorities to take private land for the purpose of public works but only with compensation to the landowner.

10.7.4.5. On the 27th of July 2023 the “New Zealand Bill of Rights (Right to Lawfully Acquired Property) Amendment Bill” [17]was introduced to Parliament

10.7.4.6. Clause 11A states:

11 A Right to lawfully acquired property
(1)
Everyone has the right to own and use their lawfully acquired property, whether they own the property individually or in association with others.
(2)
Everyone has the right not to be deprived of their lawfully acquired property except on such grounds that are established by law and with reasonable compensation.

10.7.4.7 This Bill shows the intent of parliament as the legislator to recognise and strengthen the law of private property rights.

10.7.4.8 In New Zealand, Judges make common law as they decide matters – these decisions are called "precedents" and are law created by Judges.

Judges are not the legislator [18], and as members of the judiciary are legally separated from the legislator – for the purpose of preventing the abuse of power. Judges are state-paid employees.

10.8.1 Judiciary and Court Action:

10.8.1.1. In a criminal trial, if it were the view of Judges, that trial by jury is a good example of democracy in action where a defendant's guilt is decided by his peers on the jury rather than a state-paid Judge, then it stands to that reason that the Judiciary will also view the best law as being law made by the independent parliament.

Democracy recognises this principle, as the people's parliament are able to make law so as to correct judicial precedent.

15 THE LAW

10.8.2 **THE EXECUTIVE AND POLICY**

10.8.2.1 Government ministers and government departments form the Executive, with the role of deciding policy and proposing laws.

10.8.2.2 The "National Policy for Freshwater Management 2020" was the policy of the Labour Government. The policy was amended January of 2024 by the new coalition and National-led government

10.8.3 National Policy for Freshwater Management 2020

10.8.3.1 The Council's "Freshwater Plan" is all about farming and is the subordinate plan to the Central Government policy entitled "National Plan for Freshwater Management"

10.8.3.2 Reviewing the National Plan for Freshwater Management reveals the following:

The document consists of 75 pages of detailed policy. Yet, in all those pages, there is not a a single reference to the following words:

- "Private Land"
- "Farming"
- "Cattle"
- "Farm Land"
- "Erosion"

The word "Farm" is referenced on four occasions but only in the Appendix 1B entitled "Other values that must be considered" - this reference creates an obligation on the Council to ensure that Farm livestock have the provision of freshwater. So this demonstrates land use for livestock farming and not the negative as explained by the Council.

10.8.4 Freshwater Plan as a departure from National Freshwater Management policy:

10.8.4.1. The evidence reveals that the Council have used the National Freshwater Management Policy to create a regional Freshwater Plan proposing the confiscation of private land rights of 200,000 hectares of farmland – even though farming is not mentioned once in the National Policy.

As with the legislation, the policy must be written to ensure that meaning can be ascertained from its text and in the light of its purpose and its context.

10.8.4.2 Farmers and the public are free then, to conclude that the National Policy was never written nor intended to have an outcome that involved the Council proposing the seizure of 200,000 hectares of private land from the rightful owner and in a circumstance where users were unjustifiably blamed as the reason.

10.8.4.3 It does seem that the Council have used the concept of fresh water as an "ancestor," and water having a higher value than human health, and that this is the will of Māori gods - so a type of religious order – to conflate this religious concept with National Policy for freshwater management to apply an obscure finding of fault with farming.

17 THE LAW

10.9.1 CONSTITUTIONAL FAILING

10.9.1.1 Investigation of Northland Council's Freshwater Plan and it's superior, the National Policy on Freshwater Management, discloses a circumstance of constitutional failing caused by the conflation of the Executive and the Judiciary.

10.9.1.2 This manifests as an abuse of constitutional power, brought about by the removal of the legislator as it has never been the legislator's will that private landowners should have their right to farm 200,000 hectares of land seized from them.

10.9.1.3 This conflation is more explained and exposed through the understanding of transitional justice [19], which is the lifetime work of Supreme Court Justice Sir Joe Williams and it is Justice Williams along with others, who lead New Zealand in the area of transitional justice.

Justice Williams explains:

> *"Throughout this time I have been a law student, a lawyer and then a judge, and for nearly 30 years my focus has been on the anvil of transitional justice"*

10.9.1.4 The concept of water as an ancestor and of higher order than human health and so the concept of Te Mana me te Mauri o te Wai which the Council has used to create fault, and fault with sanction (the removal of property rights) and repatriation (to the concept of Te Mana me te Mauri o te Wai) finds its basis in transitional justice - the lifetime work of Justice Williams.

18 THE LAW

The International Centre for Transitional Justice (ICTJ) describe Transitional Justice as referring to *"how societies respond to the legacies of massive and serious human rights violations"*.

Justice Williams has said that transitional justice is about moral legitimacy and not legality. He refers to the process as a "game" and one operating without the formal acceptance of Indigenous people - so undemocratic - but ultimately a process decided by people like himself. In this context the Council's Freshwater Plan claims legitimacy in transitional justice.

10.9.1.5 In 2008 [20] when discussing transitional justice and it's resulting repatriation Justice Williams said:

> *"In New Zealand, the reparative approach encourages Māori communities to argue that the policies and actions of the colonial Crown were responsible for every injury they have ever suffered"*

10.9.1.6 This doctrine of total blame, apart from being a ruse, is clearly shown in the Council's Freshwater Plan, where the baseless allegation is levelled at farmers in order to extract both a legal and moral meaning of fault, in order to apply sanction in a circumstance that was never legal through our legislator but has been made possible through the conflation of the Judiciary and the Executive in furtherance of the will of Justice Williams and others.

19 THE LAW

10.9.2 As discussed at 10.9.1.3, Justice Williams is also on record [20, 21] making the following comments:

10.9.2.1 *"Now, we can feel positive about the fact that we are doing positive things, building economies and making New Zealand feel much better about itself, finding ways of thinking about our relationship to the planet* ***that doesn't involve property rights****."*

10.9.2.2 *"As a Māori, that focus has been both professional and personal. Personal in the way that criminal law is personal to the burglar. I have been in the difficult and interesting position of being both the subject and object of my work"*

10.9.1.3 *"Of course as the Māori son of a farm labourer myself, who will hopefully never set foot on a farm again (...)".*

"All I care about is whether Ngati Pukenga, my Iwi will still exist in 200 years, still speak their language, still run their Marae and be economically self sufficient and sustainable. That's all I care about"

SUPREME COURT JUSTICE
SIR JOE WILLIAMS

[20, 21]

20 IN SUMMARY

In Summary:

Concerning the Freshwater proposal-

- The Northland Regional Council have not personally contacted private landowners - who are council ratepayers - and denies that there is a requirement to do so.

- The authors of this submission only came to the knowledge of this proposal by chance and not through personal contact from the Northland Regional Council.

- It is very likely that at the close of submissions- 5pm 31st March 2024 - many private landowners will have no concept whatsoever as to what the Northland Regional Council propose.

- In essence, Northland Regional Council propose to seize the land rights to over 200,000 hectares of private farmland from their ratepayers, in a circumstance that defies the law on many levels. To the effect that the Council are acting illegally, avoiding due process while arbitrarily removing human rights and generally abusing their governance of the Northland Region.

- The authors will prove to the Northland Regional Council that the Freshwater proposal is ill informed and not required.

21 ECOLOGY

Northland Regional Council have terribly misrepresented farming to the community through loosely tying pastoral farming to unnecessary sediment build-up in creeks from water run-off.

Almost all farms have 24/7 pastoral care by responsible men and women who understand farming, food production and land care.

Pastoral ground cover and water are nature's way of preventing erosion as is discussed in this section.

Principle One - Falling rainwater travels downhill collecting sediment as it travels - it has always been like this - since forever. The evidence is available for the Council to 'see' and acknowledge if they wish to.

All the Council must do is consider the rich fertile soil in the low-lying areas and and then consider the poorer soils of the hilltops as irrefutable evidence of a natural water course. Consider all of Ruawai and it's kumara growing and dairy production as your evidence. Thousands of years of rain and billions of tones of water have helped produce these extremely fertile food-growing regions.

Principle Two - It is an irrefutable fact that exposed topsoil increases erosion through water and wind action against the exposed topsoil. Surely it is not necessary to explain the logic of this to this council?

Principle Three - Livestock farming is the enemy of erosion. Deforestation is the friend of erosion - even this Council can acknowledge this when they rightly conclude that sediment in the Kaipara Harbor came from deforestation of the Kauri forests.

Yet the Council conflates deforestation with farming to produce the perverted conclusion that farming produced this sediment build up!

22 ECOLOGY

Principle Four - Clean water falls freely from the sky. Clean water rises naturally from reservoirs within the earth. This process has been since forever.

The earth is porous and water moves down through it. This is a filter process and the water is freed of its sediment.

Sediment is caught in the earth and forms the biology of the earth which in turn forms the fertile seed bed.

Decomposition has been ad infinitum. This is another function of water. Without its various forms decomposition cannot occur.

It is absolutely unrealistic to expect water to be continually free of sediment. It requires educated individuals to be part of the dialogue.

Principle Five - Farm pasture stores carbon. Farm livestock develop topsoil. Topsoil stores carbon.

Good farming practice assists the earth to be healthy, to retain water and to store carbon.

LIVESTOCK FARMING ENHANCES THE SOIL WHILE PREVENTING EROSION.

23 ECOLOGY

Native Bush Slip onto State High One above the Maungamuka River February 2023

Public Land Government Controlled

In February of 2023 Northlnad Regional Council were given a lesson of nature, when massive areas of land covered in Native Bush slumped onto State highway One at Brynderwyn and at Maungamuka - below the Maungamuka slump flows the Maungamuka River!

These events caused chaos for Northland and it was all Government responsibility - even today, 13 months on, and it is not cleaned up.

24 ECOLOGY

Native bush slip onto State highway One above the Maungamuka River February 2023

Public Land - Government Controlled

NATIVE BUSH SLUMPING ONTO STATE HIGHWAY ONE AT BRYNDERWYN HILLS FEBRUARY 2023

PUBLIC LAND - GOVERNMENT RESPONSIBILITY

25 ECOLOGY

EROSION AND DEFORESTATION

"If you expose and disturb the top soil erosion will occur"

Typical Pine Tree Harvest February 2023 - Northland Council have consented this work

When the rain falls these loose materials get washed into waterways - FARMING - is blamed

The Council proposal assigns another 200,000 hectares of land to be subject to this damage - harvesting every 20 years - 5 times a century

26 ECOLOGY

Worldwide - decaying forest wood releases 10.9 billion tons of CARBON each year - FARMING is blamed for emission

27 ECOLOGY

Pine Tree Slash - Waterway Damage - Erosion

Esk Valley in Hawkes Bay perhaps replicated the failings of deforestation when the stormwater of February 2023 sent millions of tons of pine tree slash into rivers waterways and homes.

Pine forest bare land was eroded, stripped of topsoil and sent as millions of tons of silt. This blocked waterways across the region.

Northland Regional Council want to take this risk also - while blaming livestock farming for erosion risk.

“It was waiting to happen”

February 2023 Tolaga Bay Slash - “no one listened”

https://thespinoff.co.nz/society/28-03-2023/an-environmental-disaster-was-waiting-to-happen-in-tolaga-bay-no-one-listend

28 ECOLOGY

Ministry for Primary Industries report that:

"A small number of companies own a large proportion of New Zealand's production forests: around 70 percent of production forests (by area) are owned by just 20 companies. Around 20 percent are owned by small woodlot owners – forest owners with less than 1,000 hectares. Around 57 percent of our production forests are foreign owned"

- China Forestry Group New Zealand owns a total of 24 forests across New Zealand, amounting to 22,000 hectares of plantation on around 29,000 hectares of land.

29 ECOLOGY

NORTHLAND FARMLAND TO BE SOLD

200,000 Hectares - Family Farms - "Sold & Gone"

Private Land now owned by farmers of the Northland Community 'ear marked' as **'FOR SALE'** to Foreign Bankers and Investment Companies owned by the **world's super-rich billionaires**

A brief look (next page) proves that politicians are selling massive land holdings to the super-rich - without doubt - this council's plans to seize control of 200,000 hectares of private land will meet that same fate. Our rich heritage of land ownership, farming and food production in Northland will be gone forever.

"NORTHLAND TO BE SOLD"

"NORTHLAND TO BE SOLD"

"NORTHLAND TO BE SOLD"

SOLD

Green Rush: Foreign forestry companies NZ's biggest landowners

https://www.rnz.co.nz/news/in-depth/400417/green-rush-foreign-forestry-companies-nz-s-biggest-landowners

The largest freehold landowners in New Zealand are:

- Taumata Plantations Limited **(101,854 hectares)**: Taumata Plantations purchased the former Carter Holt Harvey forests and has kept a significant majority of the land, recently on-selling some of it to New Zealand companies. The company is ultimately **owned by several overseas investment funds** and banks. The largest shareholder is Manulife, a major Canada insurance company.

- Tiong family **(77,686 hectares)**: The **Malaysia-based**, family-owned Tiong Group owns forestry, media and property assets around the world. Their land holdings in New Zealand include the Ernslaw One forests, New Zealand King Salmon, and land owned by their property and land development company, The Neil Group.
-
- New Forests Asset Management **(77,465 hectares)**: New Forests is an **Australia-based assets management company** that operates several investment funds in New Zealand, owned by several subsidiaries. It has amassed its forestry land portfolio in less than four years, starting with purchases in the Wairarapa in 2016. An Overseas Investment Office investigation into one subsidiary's purchases resulted in a **formal warning**, an $80,000 charity donation and $20,000 in costs.

- Matariki Forests **(73,509 hectares)**: Another forestry company, three-quarter-owned by the **US-based Rayonier**. The remaining quarter of the company's shareholding is owned by an Australian-registered company, Waimarie Forests Pty Limited.

31 ECOLOGY

- Roberts and Apatu families **(41,296 hectares combined)**: The intermarried Roberts and Apatu families own two large stations and some additional land on the Napier-Taupō road, which they have collectively farmed for nearly a century.

- Michael Spencer (**35,942 hectares**): Part of the wider Spencer family, one of New Zealand's wealthiest families. Spencer's properties include Lochinver Station, which he bought after a highly-publicised bid from a Chinese company, Shanghai Pengxin, was rejected by the government.

- Port Blakely Limited **(35,889 hectares)**: Another **US-owned forestry company.**

- Global Forest Partners LLC **(33,706 hectares)**: Global Forest Partners, **registered in the Cayman Islands**, is the ultimate owner of two private investment funds that own forestry land in New Zealand.

- New Zealand Carbon Farming **(28,365 hectares)**: Ultimate holding company with **more than a dozen subsidiary companies**. The joint shareholders include managing director Matt Walsh and another director, Bruce Miller. The company describes its core business as a supplier of bulk carbon credits to large energy and oil companies. It has recently purchased and planted radiata pine trees on several large former farms in the Tararua district.

- Wairakei Pastoral Limited **(27,634 hectares)**: Owned by Auckland rich-listers Trevor Farmer, Ross Green and Mark Wyborn. The company's major land-holding is a 26,000ha farm near Taupō. About half of the property is leased to Landcorp.

32 ECOLOGY

PINE TREES CAUSE EROSION

Erosion is caused as pine trees are harvested from steep Northland hill country, where the barren soil is exposed to natural erosion elements of rainfall, which then washes the soil away to the creeks and rivers; and where the wind blows the soil particles off the steep hills

The Pine tree has a relatively shallow and tight root system, the tree quickly grows 30 to 50 meters in height. This causes the trees to easily unbalance as they grow taller and bigger.

As can be seen in **photograph A** (page 34) taken in February 2023, the pine tree is about to fall as its root system is unable to sustain its height and weight due to the small drain running at its base.

When this tree falls, the entire root system of the otherwise healthy tree, will be packed with topsoil and will be pulled clear out of the ground to leave a hole about 3m3 - **see photograph B.** The hole will fill with water and flush soil away, the top soil packed around the root structure will wash out and wash away with rain fall. This is a form of erosion and is far worse on steep slopes where the Council hope to plant Pine trees.

As can be seen in later pictures, mature pine trees falling is common in storm conditions, and far worse on steep hill faces.

33 ECOLOGY

Photograph A - Unstable pine tree

Photograph B - Fallen pine tree: root mass packed with soil

Council - as a comparison, the Council is concerned with cow pugging to any extent- but has no problem with this?

Council - as a comparison, the Council is concerned with farming carbon emissions to any extent - but has no problem with dead decomposing pine trees releasing carbon emissions?

Worldwide, dead and **decaying wood** releases roughly **10.9 gigatons** of carbon every year. This is roughly **115% of annual fossil fuel emissions**, a new study shows. [22]

PINE TREES DRY OUT THE SURFACE - TO BEGIN EROSION CONDITIONS

Local Kaipara Pig Hunter "Robbie" explains:

> *"When I hunt in pine tree blocks the ground under the trees is always dry and hard. When I hunt in native bush the ground is wet and the bush is moist"*

Examination of pine tree in-situ

The following **photographs C to F** depict a stand of mature pine trees growing on a slope estimated to be 30 degrees on a Kaipara farm property.

These trees show plain evidence of soil erosion from the ground surrounding the trees.

It is estimated (without measuring) that this erosion accounts for about 7m3 of soil removed from this section of hill through water erosion.

36 ECOLOGY

PHOTOGRAPH C -

Shows the slope with the trees in-situ. Note: the lumpy ground surface. Note: the position of the trees appearing higher than the ground level- almost on a mound - certainly these trees were not planted like this.

Photograph D -

This a closer photo of the lumpy ground showing the erosion around the trees, whilst showing the tree root structures protruding from the ground - all exposed by water erosion. **Note:** the top soil is gone, it has shifted down the hill slope.

38 ECOLOGY

Photograph E -

The channel formed in the ground is due to water erosion. The channel measures about 2 meters wide x 7 meters long and 300mm deep, to prove that, over time, water has eroded 4.2 m3 meters of soil from just this one location.

Note - the friable, crumbly soil structure as being void of biological material - as a sign of a sick soil.

Photograph F -

Soil structure breaks off easily when grasped - showing very low moisture firmness and no obvious decomposition.

Note: the pine needles, brown and dead are no in way contributing to soil health by decomposition on this hill slope

Note: the jagged structure, so, a non smooth surface structure for the soil - proving it's degradation through erosion, as particles break off to be washed away through rain water and wind erosion.

40 ECOLOGY

One Hill - two sides

On one side of the hill is pasture grazing for heavy Angus cattle - with weights up to 1200kg - on the the other side of the same hill are 20 year old Pine Trees.

This hill weathered the cyclone of February 2023 **- Photographs G & H**

Photograph G -

This is a picture of near perfect Northland hill country growing premium Angus beef cattle - A great New Zealand export earner - bringing dollars for our Northland communities

Note: the pine trees on the other side of the hill (top of picture)

What is going on in this picture? If you don't know, then you don't understand farming. Read on.

41 ECOLOGY

Photograph G1 -

Further down the same hill as in Picture G

What is going on here? What must be respected here? What is this picture evidence of?

Northland Regional Council state that hills like this are an extreme erosion risk.

But are they?

The hill has weathered the cyclone of February 2023. This photo was taken in February 2024. Both pictures G and G1 show excellent farm management and good economic return for the farmer and for Northland.

42 ECOLOGY

The hillside is covered with thick and free-grown Kikuyu grass - the benefits of this are discussed later in this section.

Said plainly, the hillside is being responsibly farmed by a caring and studious farmer. The grazing pattern is obvious - the grass is lush and thick.

The steeper parts of the hillside are growing Northlands native Totara Tree naturally. These trees are not planted.

So, why are they growing there? To know the answer to this, requires an understanding of the land.

These naturally growing Totara trees are not destroyed by the Angus cattle who freely graze around them. Why is this?

The trees grow in that area of the hillside because the seed lays dormant in the ground and because the land has moved sufficiently to allow the seed to germinate and grow the Totara tree. So, these trees are growing as nature intended in EXACTLY the right place to support and strengthen weakness in the hillside.

The responsible farmer knows this, and he leaves them in place to grow and protect his land from erosion risk.

The cattle do not eat the trees because they are not palatable to them.

There is no need for any further intervention from the Council - the responsible farmer knows what to do.

No permit is needed to farm these hills and certainly no tax-payer funded **Council enforcement officer** is needed - that person is a waste of time and money and is a simple aggravation to the farming system and to the Northland economy.

43 ECOLOGY

Note: The farmer wants to grow the food - the consumer wants to eat the food - it is only the politician that says *"NO - I will tell you what you can eat and what you can grow and what you are to do. I am the enforcement officer!"* - Council propose 27 enforcement officers to 'enforce' the Freshwater Plan.

Photograph H -

This photograph shows the other side of the hill - do you see where the trees are thinner in the centre of the plantation? Before the cyclone of February 2023 there were trees in that gap.

Do you see the dead trees in the foreground - died after the cyclone.

Dead trees release carbon.

44 ECOLOGY

Photograph H1 -

Pine tree root structures exposed, broken trees all showing cyclone damage - to the result of decaying wood and carbon emissions.

45 ECOLOGY

Photographs I - L show land recovering from pine tree harvest damage. Pine Trees were harvested winter of 2016 - these pictures were taken February of 2024.

Photograph I shows a very steep hillside completely covered in thick new grass - the hillside gradient was caused by forestry machines flattening the ridge on top and so pushing massive amounts of loose soil down the hill to create the slope angle and an erosion problem.

Over the past 8 years, farm management has allowed the land to naturally regenerate and is now available for light grazing of cattle.

The land is cared for and has returned to this natural state. A farming objective has been to encourage all-natural growth and particularly kikuyu grasses (kikuyu grasses discussed later in document).

The land in this picture was undisturbed by the cyclone of February 2023

46 ECOLOGY

Photograph I -

Year 2024 healthy land returning 8 years after pine tree deforestation in year 2016.

Picture taken in February 2024 - no erosion damage showing from cyclone of February 2023

47 ECOLOGY

Photograph J & J1 -

Picture taken in February 2024 - no erosion damage showing from the cyclone of February 2023.

Totara growing naturally on steep land recovering from pine tree deforestation.

Note: the ground at the base of the Totara tree shows no erosion, is stable and supported by these trees. Grasses growing right to the base of the trees prove the natural health of this situation.

48 ECOLOGY

PHOTOGRAPH J1 -

Picture taken in February 2024 - no erosion damage showing from the cyclone of February 2023.

Mature Totara tree showing the base of the tree well secured and healthy - no erosion and natural health to the ground.

49 ECOLOGY

PHOTOGRAPH J2 -

Picture taken in February 2024 - no erosion damage showing from the cyclone of February 2023.

Another Totara tree growing on a hillside recovering from pine tree deforestation - shows the base of the tree well secured and healthy - no erosion and promoting natural grass growth to the base of the tree.

50 ECOLOGY

PHOTOGRAPH K -

Looking at the hill in the background behind the cottage.

The hill again shows two situations of pine tree planting on one side and pasture on another side.

During the cyclone of February 2023, the pasture slope suffered no damage and continued to be well looked after and beef cattle were grazed successfully - excellent kikuyu grass cover maintained continually. This slope is about 35 degrees and as such the **Council have represented this to the public as being extremely erosion prone - which is a fallacy** - this land has been maintained in this condition for many years!

Whereas the 10 year old pine trees on the other side, were severely damaged, with trees blown down across a creek, trees pushed over to 45 degree angles - estimated 30% of the trees damaged, (no pictures taken of this damage).

IMPORTANT UNDERSTANDING

What do you see in the distant background? You see hundreds of hectares of cattle-growing land on hill slopes showing regenerating native Totara - so livestock and totara grow together - erosion risk is heavily mitigated - Farmers care!

5 1 ECOLOGY

CATTLE FARMING PERFECTLY ON HILL SLOPES

The following photographs and descriptions will explain to Northland Regional Council why cattle grazing is very successful on hillsides far greater than 30 degrees.

These slopes carry 'Limousine Cattle' - an excellent heavy beef breed that provides excellent beef export income for New Zealand.

These slopes all weathered the cyclone of February 2023 without issue through correct farming practices.

Note - Farmers understand farming. Responsible farming allays all the fears through the needless fearmongering to the public by the Council and other special interest groups.

Note -The Council's "Freshwater Plan" only reveals that political academics and special interest groups have little-to-no idea about farming - even basic land care practice is not understood.

Council want "enforcement officers", "Resource Consents", "Rules" "Regulations", "Control", "Prosecutions", and the farmer's money to pay for this garbage.

5 2 ECOLOGY

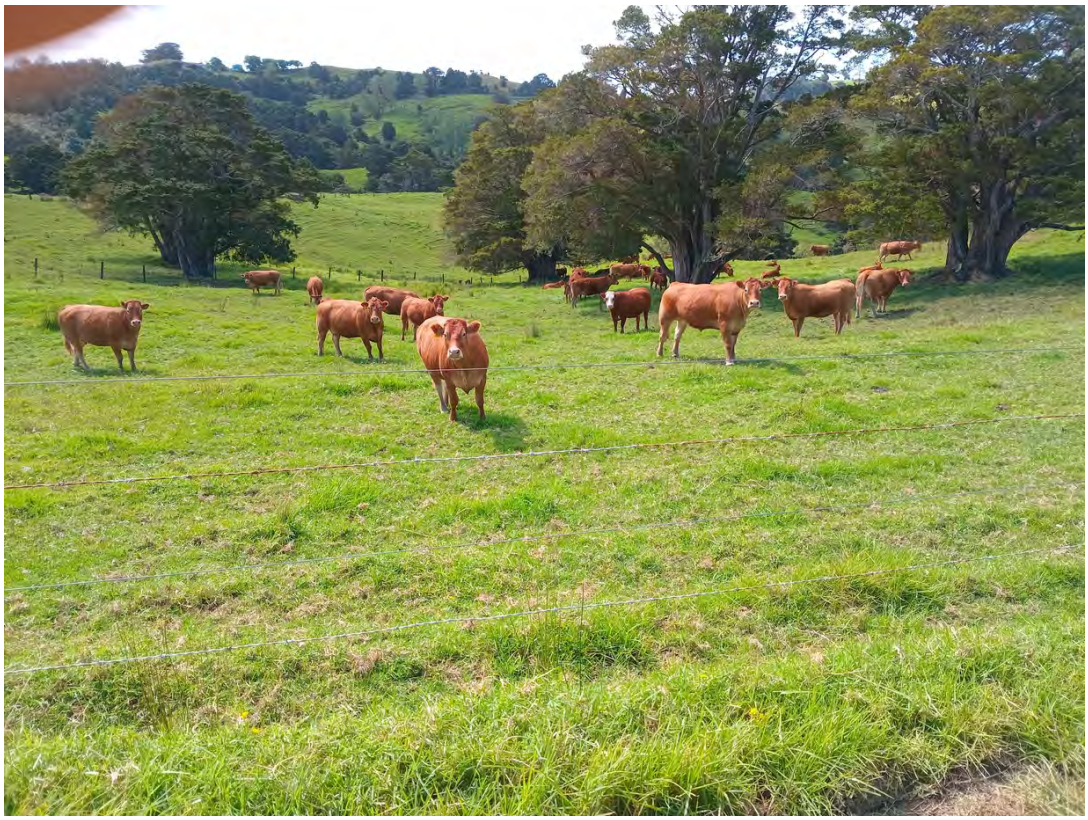
PHOTOGRAPH L -

Healthy, well grown, 'Limousine beef cattle' are farmed, year in year out on steep Northland land through responsible farming.

Note: the excellent condition of the cattle. Consider their obvious support to the Northland community - people who rely on beef cattle production for their employment.

Important Note: Northland is the biggest beef growing region in New Zealand. Beef exports are near one billion dollars of export earnings. Many Northland residents are employed because of beef farming - not the least are the teams of men and women processing meat at Dargaville and Moerewa - Moerewa operating for more than 100 years.

Healthy cattle being grown from healthy pasture which is growing from healthy top soil - the following picture will explain "how and why".



5 3 ECOLOGY

PHOTOGRAPH M -

Young bulls growing on farm land in the Kaipara.

Note: the hillside in the background, according to Northland Regional Council, is “extremely erosion prone” due to being about 35 degrees in slope.

If you look closely under the first totara tree on the hill slope you can see a tiny little bare patch of ground - it has been like that for years - cattle like to rub their heads on it. That is not ‘erosion’ in any sense.

5 4 ECOLOGY

PHOTOGRAPHS N - Q

The following photographs show Kaipara farm land with some slopes greater than 35 degrees.

Note - These pictures were not purposely taken to represent a particular 'safe' location - it was just a paddock near the house.

It was this area where the grass and top soil were closely examined, along with water run off and sediment catchment.

PHOTOGRAPH N -

Looking down over a slope in excess of 35 degrees. Note the *full pasture available to the Limousine cattle. Note the complete pasture cover across this area.

Note - This paddock has been farmed for about 170 years. If it was extremely erosion prone as the Council state - what would you expect?

55 ECOLOGY

PHOTOGRAPH O -

Looking back up the steepest part of the slope over 35 degrees. Note the "full pasture available to the Limousine cattle. Note the complete pasture cover across this area.

Note the bare patch near the top. This is not erosion either and is an area that has been in this state for more than 20 years - cattle rub their heads on it - cattle love to rub their heads on bare ground - this is their "spot". Spots like this are common on beef farms.

Note - This paddock has been farmed for about 170 years. If it was extremely erosion prone as the Council state - what would you expect to see?

56 ECOLOGY

PHOTOGRAPH P -

This photograph is the same slope as that in photographs N and O and **this photograph highlights an important point.**

The ledges visible are about 700mm in width. These are the grazing paths of cattle. Cattle do not normally walk straight up or straight down a hill!

They walk around the hill on these ledges and they graze the banks from the ledges! This is what they do. In effect, the cattle are always more balanced horizontally to the ground. Why is this? The reason is - because they naturally find it easy - they don't like walking up big hills - they will almost always walk laterally or across like this - even when being driven.

Cattle are heavy up to 750 to 1200kg in weight. Their weight on these ledges helps PREVENT erosion by pushing the ground downward in compaction - while the slope face is covered with kikuyu grass which they graze on. In an open paddock cattle do not need to follow this pattern and so the compression is less, but in these narrow areas the natural grazing process largely mitigates erosion. That is the truth.

To condemn these slopes as highly erodible due to livestock - is just wrong speaking- likely spoken by people who are ignorant of beef farming in Northland.

57 ECOLOGY

PHOTOGRAPH Q -

In their "Freshwater" Plan, the Council are concerned about sediment from farms (although we have already demonstrated which industry, under the Council's jurisdiction, is really responsible for sediment migration)

The following picture explains and depicts the perfect answer to concerns about sediment wash-off from beef hill country farming - a simple, useful, non-expensive, time proven and practical solution.

Photograph Q shows a small dam constructed at the base of hillside where naturally formed water courses flow. To the result that water run-off travels first through this filter process where the water sheds its heavy particle into the entrapment, then runs out the overflow of the pond/dam free of particle. This process could easily be completed on Northland farms.

The ponds/dams assist the livestock by providing a clean water source; one that does not involve a creek or river - it is just logic and is sensible.

58 ECOLOGY

PHOTOGRAPH S -

Does the water looks ‘dirty’? Optical illusion.

You are looking at a shallow entrapment and through clear water into the sediment on the bottom.

Owen holds up a glass of water he has just scooped from the pond/dam.
Note: the difference in colour from what appears to be the water in the pond / dam and what is in the glass?

59 ECOLOGY

PHOTOGRAPHS T - Z

The photographs T - Z depict Soil Health and the benefits of Kikuyu grass on Northland Hill Country.

PHOTOGRAPH T -

A 300mm square piece of grass were examined to ascertain the number of kikuyu plants growing.

60 ECOLOGY

PHOTOGRAPH U -

Each separate plant was pulled out

6 1 ECOLOGY

PHOTOGRAPH V -

196 kikuyu plants were counted growing in the 300mm m2

62 ECOLOGY

Photograph W -

140mm length of Kikuyu root leader had 96 lateral root systems

63 ECOLOGY

Photograph Y

Kikuyu root structure - one plant.

64 ECOLOGY

Photograph Z -

A single piece of Kikuyu leader easily holding the weight of a Totara fence batten - we tied a 5kg spade and the batten = 7.3kg and the Kikuya leader easily lifted the weight.

65 ECOLOGY

Photograph AA -

One piece of 300mm m2 grass topsoil chipped out - showing excellent soil health, a mass of root structure and worm activity - only possible through water retention and decomposition - this grows the good grass seen earlier and produces the healthy cattle. 500mm root structure joining the grass leaf and the topsoil.

Photograph BB

Soil sample showing health - with strong grass root systems and worm activity.

The Northland Council have told the public this land is unsuitable for livestock! When it is proven as perfect for livestock and perfect for soil development.

67 ECOLOGY

Photograph CC -

Showing a mass of root and top soil - all binding the earth together - aerating, so attracting water and sediment storage.

68 ECOLOGY

PHOTOGRAPHS DD, EE, FF, GG, HH

These photographs show a hole dug to the depth of 500mm. Top soil was evident almost to that depth. Root fiber was found at 500mm depth
The soil was moist and loose with worm activity present, showing excellent soil health.

The Council reports to the public that this land is extremely erosion prone and unsuitable for livestock growing - yet, the ground appearance, the grass structure volume, the topsoil and subsoil shows that not to be true.

PHOTOGRAPH DD -

69 ECOLOGY

PHOTOGRAPH EE -

PHOTOGRAPH FF -

71 ECOLOGY

PHOTOGRAPH FF -

500mm deep root structure visible

72 ECOLOGY PROVES FARMING

KIKUYU & EROSION CONTROL

Kikuyu grass grows freely and rampantly in Northland - it is ideally suited to the seasons - both summer and winter. The grass is totally ideal for Northland hill country livestock farms - beef and sheep.

The grass is very strong and durable, the incredible root systems result in volumes of grass production - which beef and dairy cattle consume readily.

The ability of this grass to prevent erosion is literally incredible. The grass invades the soil and sub soil where the root systems literally bind the soil to provide an incredibly strong and resistant surface.

A cross section study of this grass in location is recommended - the results will be staggering -

- Erosion-proofing
- Providing incredible volumes of aerating to assist worms
- Providing a subsoil that is able to absorb massive amounts of rain fall and so accumulate and store sediment for decomposition and use in the soil biology.

All that remains is for the Council to understand farming on the hills of Northland and for all farmers to farm their properties to promote soil health - any erosion issues after these facts will be isolated - meaning that none of the issues raised by the Council could have significant consequence.

The erosion and sediment issue is clearly a problem with pine tree plantations - but is anyone listening?

73

ECOLOGY PROVES FARMING

FOR MORE THAN 100 YEARS

For more than 100 years beef farming has supported Northland communities - provided family income and provided government with the tax dollars they so much want.

Affco employ more than 2000 people New Zealand wide. Their Moerewa meat processing works has been operating since 1917 employing thousands of Northland people - and putting food on the table for more than a century.

Northland beef farming supports New Zealand people across the nation - farming, farm support services, transport industry, retail sales, ports and shipping, and many other associated industries.

Northland Regional Council MUST support the community - we insist.

The following pictures are local beef cattle which are the source of food and economical provision for all of Northland.

74 ECOLOGY PROVES FARMING

FOR MORE THAN 100 YEARS

75 ECOLOGY PROVES FARMING

FOR MORE THAN 100 YEARS

76 ECOLOGY PROVES FARMING

FOR MORE THAN 100 YEARS

77

ECOLOGY PROVES FARMING

FOR MORE THAN 100 YEARS

78

ECOLOGY PROVES FARMING

FOR MORE THAN 100 YEARS

79 ECOLOGY PROVES FARMING

FOR MORE THAN 100 YEARS

80 DAVE & HINEMOA

(SATIRE)

Billy's older sister Hinemoa was home from Uni - Hine was in her 4th and final year of her law degree - everyone was happy when Hine was home - she was such a delight!

Dave was in his study and working late when Hine knocked and came in
"Dad can we talk?"
"Sure Hine, what's up? Dave moved to the couch and sat with Hine.

"Dad, I'm confused"
Dave frowned "Why Hine?"
"Well, I'm working on my final dissertation and I want it to be right".
"Of course, so what's the problem?" asked Dave.

"It's the law, in practice Dad! I've seen things that are not right or they can't be right! exclaimed Hine.
"Go on," said Dave "What have you seen?"

"Well you know Dad, I've been getting straight A's and so I have proven to have a good understanding!"
"I'm sure you have" said Dave, (thinking to himself "Well I'm a farmer, I don't really know - but I know my girl and I trust her")

Over the next 30 minutes, Hine exclaimed to her Father about the appearance of a conflation in the branches of democratic power in New Zealand and how she has found an example of the Judiciary and the Executive appearing to work together to form national policy and insert it into law in such a manner that the Legislator is avoided - or so it seemed.

"Okay" said Dave "what does it mean?"

81 DAVE & HINEMOA

Dave & Hinemoa's Story Cont.....

"Well," said Hine, "I think it means that the policy is being used to manipulate the law. By that Dad, I mean that the consequences of the policy and its attachment to the law, prove a manipulation because the consequences are so great and have so much effect on people that such a legal consequence could truly only ever be agreed by the Legislator! Dad, the legislator is the people's parliament! They make our laws NOT the Judiciary and the Executive - our representatives have been missed out! So it is a democratic failing!"

Dave thought to himself, Wow I am so glad I'm a farmer, feeding people is a lot easier than this stuff.

Dave said to Hine "Okay Hine, well what is behind this?" Hine said, "I'm not sure, but seems to me Justice Joe Williams of our Supreme Court, is leading the law in a new direction".

Dave thought quickly "Well Hine, just call it "Joe's law".

THE END

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APPENDIX A

Please see attached Document
LGOIMA e-mails from Andrew Major and Northland Regional Council Responses

LGOIMA e-mails from Andrew Major and Council Responses

Request No.	Email text		Council Response
REQ.619166	Pursuant to the Official Information Act, can you please supply the following information: As it concerns the NRC hosted public meeting at Maungaturoto CountryClub held on the 31st January 2023. How did you notify private land owners, who own farm land, which NRC identify as being unsuitable for live stock farming - of this meeting? When did you notify private land owners, who own farm land, which NRC identify as being unsuitable for live stock farming - of this meeting? How many farmers with affected far land attended the meeting? Pursuant to the Local Government Act 2002 - which section and subsection do you say were satisfied through the hosting of this meeting? For all questions, please supply all correspondence and council records demonstrating your answer - please be specific.	How and when did NRC notify private landowners, who own farm land, of the Maungaturoto drop in session?	The Maungaturoto drop-in session was advertised on the NRC webpage https://www.wai-it-matters.nz/ and social media. It was also promoted using poster displays in community locations around Maungaturoto and Kaiwaka. While NRC did not contact all individual landowners in the area about this event, the councillor for the area was provided with an email which was distributed through his networks.
		How many farmers attended the meeting.	We did not ask attendees to identify whether they were farmers or not.
		Which section and subsection of the LGA did NRC satisfy by hosting the event.	***Please Note:*** the freshwater plan change is being developed under the Resource Management Act 1991 (RMA) to implement national direction in the National Policy Statement for Freshwater Management 2020. There are no explicit requirements under the Local Government Act 2002 (LGA) or RMA for council to develop and release a draft plan change for public consultation. However, consultation on a draft freshwater plan change and options for managing freshwater is consistent with the purpose of local government in section 10 and the principles in Section 14 of the LGA
REQ.619167	Please supply the following information pursuant to the Official Information Act. As it concerns the NRC proposal to prevent livestock farming on existing Northland Farm land – Any legal analysis of the NRC concerning this proposal.	Legal analysis around proposal to prevent livestock farming on existing farm land in Northland.	Regional councils have the ability to control the access of livestock to waterbodies and land under sections 9, 13 and 15 RMA relating regional council functions under 30(1)(c), (f) RMA. Regulation 19 of the Resource Management (Stock Exclusion) Regulations 2020 also specifically allows regional livestock exclusion rules to be more stringent than the regulations.

Request No.	Email text		Council Response
	Full NRC implementation plans for this proposal - including time tables and steps to be taken.		***Also Note:*** the draft options being consulted on do not include a ban or prohibition on livestock access to specified land / waterbodies, but if progressed may require resource consent for this activity (subject to RMA plan change process requirements being satisfied including consultation and cost benefit evaluations).
		Implementation plans for this proposal - including time tables and steps to be taken	Council has not confirmed any new rules for stock exclusion from waterbodies or their margins or from Highly Erodible Land – it is instead asking for feedback on a range of options. If council proceeds with any new rules implementation programmes and timeframes would be developed which would be subject to plan change process requirements under the RMA (including consultation and cost benefit evaluations).
REQ.619195	The Northland Regional Council (NRC) propose to legislate, in order to restrict private land owners from the free farming of their land - specifically, not being able to run cattle on land the NRC has arbitrarily deemed as unfit due to the slope of a hill. Can you please provide your legal analysis as it regards the rights of affected property owners. I refer you to the words of the Legislation Design and Advisory Committee, whose role it is to promote quality legislation in New Zealand - and which in respect to private land advise as follows: - In their Legislation Guidelines (2021), the Legislation Design and Advisory Committee recognise the importance of property rights: " People are entitled to the peaceful enjoyment of their property (which includes intellectual property and other intangible property). The law actively protects property rights through the criminalisation of theft and fraud and through laws dealing with trespass, and other property rights. The Government should not take a person's property without good	Please provide legal analysis as it regards the rights of affected property owners.	NRC has not confirmed any rules for stock exclusion and is instead consulting on a range of options as part of the draft freshwater plan change. Regional councils can create rules that affect private property rights under sections 9, 12-15 RMA in accordance with its functions under s30(1) to maintain and enhance water quality and ecosystems in fresh and coastal water. Please note: if council were to proceed with rules that require resource consent for livestock access to specified areas of land or water, this does not constitute a ban or prohibition on this activity.
		Please provide compensation considerations to affected land owners.	Council has not confirmed any new rules for livestock access and is instead seeking feedback on options as part of consultation on a draft freshwater plan change to implement direction by government in the National Policy Statement for Freshwater management 2020. There are no requirements for councils to compensate for creating rules that restrict the use of land under the RMA unless such a rule would render

Request No.	Email text		Council Response
	justification. A rigorously fair procedure is required and compensation should generally be paid. If compensation is not paid, there must be cogent policy justification (such as where the proceeds of crime or illegal goods are confiscated)." Can you also please provide your compensation considerations to affected land owners.		land 'incapable of reasonable use' (see section 85 RMA) – this to be determined by the Environment Court. The requirement to obtain a resource consent for a specified land use activity does not render land incapable of reasonable use. ***Please also note:*** the Regional Plan for Northland already includes rules requiring livestock exclusion from specified waterbodies – in addition the government has created national regulations that require livestock to be excluded from land within 3m of specified rivers and lakes. No compensation was required for landowners under the RMA or any other law in relation to either of these regimes. Council can identify ways to support landowners including things like grant funding or rates relief (some options considered by council are set out in the draft action plan developed as part of the draft plan change).
REQ.619164	Northland Regional Council (NRC) has published a topographical map on the NRC web site which allows identification of privately owned farm land. The farm land has been coloured in red and yellow by NRC. NRC then advise that these coloured areas are the subject of erosion and are unsuitable for livestock farming. How did the NRC survey this privately owned land? Please provide all documents associated to the survey - including any relevant contract agreements and payments for work done. Please include consultation documents associated with this work. How did NRC obtain the approval of each private land owner to survey their land in this manner? What legal authority did NRC have to conduct this survey on private land? - please state Act and section of law. What legal authority did NRC have to publish their findings of this private land survey, to the public?	How did the NRC survey the High Erosion Prone privately owned land? Please provide all documents associated to the survey - including any relevant contract agreements and payments for work done. Please include consultation documents associated with this work.	The draft maps of Highly Erodible Land were generated using publicly available LiDAR technology which identifies changes in land elevation for the entire region. This has then been overlaid onto publicly available aerial imagery. Council has not 'surveyed' individual properties. The draft maps of Highly Erodible Land are subject to consultation as part of the draft plan change and options for management of these areas are set out in supporting information / discussion documents.
		How did NRC obtain the approval of each private land owner to survey their land in this manner?	Please see above. NRC does not require land owner approval to apply publicly available information on a map / map viewer.
		What legal authority did NRC have to conduct this survey on private land? - please state Act and section of law.	Please see above
		What legal authority did NRC have to publish their findings of this private land survey, to the public?	Please see above

Request No.	Email text		Council Response
	How have NRC communicated to each land owner, the survey result, and the proposed NRC consequences of the survey result? How have NRC been able to validate the truth and accuracy of their claim that the NRC coloured areas of privately owned farm land are indeed the subject of erosion and are unsuitable for livestock farming?	How have NRC communicated to each land owner, the survey result, and the proposed NRC consequences of the survey result?	Council has not contacted individual land owners in relation to the draft maps of Highly Erodible Land – nor do any of the options for livestock exclusion rules have legal effect. Council is instead seeking feedback prior to confirming any new rules for livestock access to land or water. Council has made robust efforts to communicate the HEL maps for those affected or with an interest, including through a range of channels including media, and our contact database.
		How have NRC been able to validate the truth and accuracy of their claim that the NRC coloured areas of privately owned farm land are indeed the subject of erosion and are unsuitable for livestock farming?	The LiDAR used to identify slope is very accurate and is a technology commonly used by councils for a wide range of purposes. The accuracy of the LiDAR data has been verified by field measurements through such uses (eg. flood modelling). NRC is consulting on options for livestock exclusion rules and draft maps of Highly Erodible Land based on slope (no rule changes have been confirmed). The draft maps of Highly Erodible Land do not deem land 'unsuitable' for farming – rather council is seeking feedback on whether these maps are an appropriate way to identify areas at risk of erosion due to slope and potential options for managing livestock access to these areas to reduce erosion and sediment loads to water. If council proceeds with use of the maps of Highly Erodible Land and stock exclusion rules in a proposed Freshwater Plan Change, it will need to provide more detail on the rationale for the approach through the cost benefit evaluation required under section 32 RMA.
REQ 619360	Can you please provide, pursuant to the Official Information Act the following information as it concerns the Northland Regional Council proposal to cancel farming on Northland Farm land:	The number of private land owners to be affected? (*assumption made that this request was about stock exclusion*)	At this stage there are no landowners affected by the draft Freshwater Plan Change (it has no legal effect). NRC has not confirmed any rules for stock exclusion and is instead consulting on a range of options as part of the draft freshwater plan change,

Request No.	Email text		Council Response
	The number of private land owners to be affected? Whether the Northland Regional Council (NRC) have personally communicated these proposed changes to each land owner? If the communications have been made - how they were made- when they were made. If they were made, please provide generic material forwarded to each owner explaining the proposed cancellation?		including draft maps of Highly Erodible Land based on slope.
		Whether the Northland Regional Council (NRC) have personally communicated these proposed changes to each land owner? If the communications have been made - how they were made- when they were made. If they were made, please provide generic material forwarded to each owner explaining the proposed cancellation?	Council has not contacted individual land owners in relation to the draft plan change as the livestock exclusion rules being discussed as options do not have legal effect. Council is instead seeking feedback prior to confirming any new rules for livestock access to land or water. We have communicated on the draft Freshwater Plan Change and options through the following mechanisms: • Website https://www.wai-it-matters.nz/ • Drop in sessions across the region • Online hui (open to all) • A&P shows across the region • Social media • Radio advertising • Newspaper advertising • Media release
REQ 619359	Total number of man hours spent by all parties involved - to prepare the Fresh Water plan and the Erosion Evaluation Plan. Total cost spent to develop the plan.	Total number of man hours spent by all parties involved - to prepare the Fresh Water plan and the Erosion Evaluation Plan. Total cost spent to develop the plan.	It is difficult to determine the actual staff hours involved in the development of the draft Freshwater Plan Change as a range of staff across the organisation have worked on its development. Staff involved from the Policy and Planning section for 2023/24 is, however, equivalent to four FTEs (full time equivalent staff).