HAWKE'S BAY
REGIONAL COUNCIL
TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

Meeting of the Environment and Integrated Catchments Committee

Date: 11 May 2022

Time: 9.00am

Venue: Council Chamber
Hawke's Bay Regional Council
159 Dalton Street
NAPIER

Agenda

Hawke's Bay Regional Council

Environment and Integrated Catchments Committee

11 May 2022

Subject: Follow-ups from previous meetings

Reason for report

1. On the list attached are items raised at previous Environment and Integrated Catchments Committee meetings that staff have followed up on. All items indicate who is responsible for follow up, and a brief status comment. Once the items have been reported to the Committee they will be removed from the list.

Decision making process

2. Staff have assessed the requirements of the Local Government Act 2002 in relation to this item and have concluded that, as this report is for information only, the decision-making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the *Follow-ups from previous meetings.*

Authored by:

Annelie Roets
Governance Advisor

Approved by:

Chris Dolley
Group Manager Asset Management

Iain Maxwell
Group Manager Integrated Catchment Management

Attachment/s

1⇩ Follow-ups from previous meetings

Follow-ups from Previous Environment & Integrated Catchments Committee Meetings

9 March 2022

	Agenda item	Follow-up item	Responsible	Status/Comment
1.	Ecosystem Prioritisation Programme update	Update to be provided Deer management	I Maxwell /Biosecurity	6 July 2022 EICC meeting agenda item
2	Predator Free Hawke's Bay Close Out Report	Proposal for showcasing the Report and findings/learnings from the programme to be presented to future EICC meeting	I Maxwell /Biodiversity	6 July 2022 EICC meeting agenda item
3	Minor items not on the Agenda	Future EICC committee meetings to be held in CHB and Wairoa and include relevant fieldtrip, community initiatives opportunities	I Maxwell/ C Dolley /Governance	11 May meeting being held in Wairoa and 21 September meeting to be held in CHB.

10 November 2021

	Agenda item	Follow-up item	Responsible	Status/Comment
4	Tukipo Wetland	Investigate a field trip to visit the Tukipo wetland	T Petrie	Fieldtrip to be coordinated with the September committee meeting in Central Hawke's Bay

Hawke's Bay Regional Council

Environment and Integrated Catchments Committee

11 May 2022

Subject: Call for minor items not on the Agenda

Reason for Report

1. This item provides the means for committee members to raise minor matters *relating to the general business of the meeting* they wish to bring to the attention of the meeting.

2. Hawke's Bay Regional Council standing order 9.13 states:

   2.1. "A meeting may discuss an item that is not on the agenda only if it is a minor matter relating to the general business of the meeting and the Chairperson explains at the beginning of the public part of the meeting that the item will be discussed. However, the meeting may not make a resolution, decision or recommendation about the item, except to refer it to a subsequent meeting for further discussion."

Recommendations

That the Environment and Integrated Catchments Committee accepts the following *Minor items not on the Agenda* for discussion as Item 15.

Topic	Raised by

Leeanne Hooper
Governance Team Leader

James Palmer
Chief Executive

Hawke's Bay Regional Council

Environment and Integrated Catchments Committee

11 May 2022

Subject: Integrated Catchment Management response to recent flood events in Wairoa

Reason for Report

1. This item provides an update on the activities being undertaken by the Integrated Catchment Management team in response to the impacts of recent flooding in the Wairoa area.

Background

2. The Wairoa region and north along the East Coast experienced two significant and prolonged rain events, 22-24 March and 28-29 March 2022. The events were noticeable for the very high rainfall and extended period.
3. The events caused significant damage on farms and will require an ongoing and sustained programme of action to support the community to farm through this.
4. HBRC has been active in supporting the community in many ways from the onset of the events and will continue to be active in the years to come.
5. Staff have provided a summary of the actions to date in the paper and will talk to this. They will also show photographs of the affected areas.

Discussion

6. Following is an overview of the ICM Team's activities to support landowners.

Catchment Delivery

7. **Phone calling landowners.** Our team will be supporting Federated Farmers (contracted by Wairoa District Council, Gisborne District Council using the first tranche of MPI's recovery fund) to make contact with flood affected landowners asking specific questions to better understand the extend of the damage to their properties. This is expected to take a couple of weeks. The information collected will provide an opportunity to seek further targeted recovery funding from MPI.
8. **Woolshed workshops:** Our staff are identifying suitable content and speakers in preparation for an inter-agency approach to support flood-affected farmers to get through. For example:
    - 8.1. Soils specialist – To present on soil health and options for farmers to undertake soil tests to understand current soil health status (understanding that the impact of severe weather event can take a lot of soil fertility away).
    - 8.2. Pastures – Undertaking feed budgeting, understanding current feed availability and feed demand between now and spring.
    - 8.3. Farming Systems – Is there an option to develop a short term/interim farm system change to assist recovery? With loss of pasture, pressure on pregnant ewes/cows, what options are available to farmers to manage their system over winter with changes to feed supply? What options are available for hill country farming for supplementary feed, accessing feed, different feed types?
    - 8.4. Infrastructure – Temporary fence construction to help with subdivision or paddock restoration.
    - 8.5. Business/Financial – An accountant to speak to the group about tax or business options.

8.6. Animal Health & Welfare – The local Vet to speak about an animal health plan for the short term, understanding impacts of changed options for feeding and managing stock (vaccinating ewes etc.)

8.7. Recovery – What are the future requirements? HBRC talking about HCE and RTRP – starting the conversation with farmers/landowners about a longer-term recovery plan that considers options to future proof the next extreme weather event (drought, flood, earthquake etc.) especially for pregnant ewes prior to lambing.

8.8. **Erosion Control Scheme –** Currently, staff are working with landowners affected by storm damage to find out what their erosion control planting needs are this winter. We will ensure that storm-affected areas are prioritised for pole planting. We understand that other storm recovery work on farms will take priority over pole planting this winter, so planting programmes will be developed on affected properties in the future. Over 7,000 A grade poles for the Wairoa area will be made available. These will be ready from early June.

8.9. **Connecting Rural Wairoa –** The Wairoa Community Development Trust coordinated the 'Connecting Rural Wairoa' initiative, which supplied over 400 households with packages of kindness, that included information and resources to help individuals to manage and thrive through adversity. Our Wairoa Catchment Delivery team volunteered time and vehicles to support the delivery of these care parcels on Wednesday, 27 April.

Catchment Policy Implementation

9. **Supporting Catchment Groups** – Supporting Guardians of the Ruakituri in applying for MPI Integrated Farm Planning Accelerator funding to support production of high-resolution individual farm FEPs and a catchment plan. Working with Catchment Delivery staff on potential for new catchment group startups and potential to access MPI Extension Services funding for Wairoa catchment groups.

Environmental Science

10. **Data for tomorrow -** Our Environmental Science and GIS teams are working with Wairoa District Council, Gisborne District Council, GNS and Manaaki Whenua Landcare Research (MWLR) to collect high quality imagery to assess the impact of the two weather events. Initially, they aim to task the Pleiades satellite to collect aerial imagery of the effected areas (approx. 4000 sq km) at a 0.5m resolution, and following this up with orthophotography during the spring regrassing of the landslide deposits. HBRC science team will be working with MWLR through an existing partnership project, and additional works, to identify the scale and number of landslides occurring from the two weather events, assessing connectivity between the landslides and streams/waterways and updating our landslide susceptibility modelling. This work will also make use of the recently acquired LiDAR imagery and will inform our erosion control schemes.

11. HBRC Science has been in discussion with Te Puni Kokiri and Ministry of Primary Industries to help support this data acquisition for a range of end-user needs and has confirmed purchase under a *Whole of Government* license.

Next Steps

12. Staff are working closely with the Wairoa District Council which is the lead agency for recovery from the event. We will continue to support the coordinated recovery and will be active in the months and years to come after the formal recovery has concluded.

Decision Making Process

13. Staff have assessed the requirements of the Local Government Act 2002 in relation to this item and have concluded that, as this report is for information only, the decision making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the *Integrated Catchment Management response to recent flood events in Wairoa* staff report.

Authored by:

Xan Harding
Senior Catchment Advisor (Policy Implementation)

Warwick Hesketh
Catchment Team Leader

Jolene Townshend
Acting Manager Catchment Delivery

Approved by:

Iain Maxwell
Group Manager Integrated Catchment Management

Attachment/s

There are no attachments for this report.

Hawke's Bay Regional Council

Environment and Integrated Catchments Committee

11 May 2022

Subject: Update on IRG Flood Control Resilience Funded Projects

Reason for Report

1. This report provides an update on the four projects approved for funding as part of the Crown's Flood Control Resilience Funding with the Infrastructure Reference Group (IRG) managed by Kānoa – Regional Economic Development & Investment Unit, formerly known as the Provincial Development Unit.

Background

2. Council has received IRG funding for a total amount of up to $19.2m (plus GST, if any) which is a 64% contribution to four projects.
3. Works commenced on all four projects in late November 2020.

Discussion

Project 1: Heretaunga Plains Flood Control Scheme (HPFCS) Levels of Service - $20m

4. The HPFCS Levels of Service project will review and upgrade sites across the Tūtaekurī, Ngaruroro, Lower Tukituki and Clive rivers as part of the Heretaunga Plains Flood Control Scheme level of service review, to increase flood protection across the scheme to a 1 in 500-year event.
5. HBRC co-funding of $7.2 million is required to match IRG funds of $12.8 million.
6. Physical works at Taradale stopbank are underway. Cycle trail detours are in place to enable works including tree removal and specimen tree relocation. Targeted completion for stop bank strengthening was May 2022. There have been recurring weather events now pushing completion of Taradale stop bank upgrade into winter (June 2022).
7. Investigations are complete for Ngatarawa, Roy's Hill, Moteo and East Clive. Ngatarawa detailed design is complete and will be ready by May 2022 for construction procurement. Latest work done by engineers show that Roy's Hill will not require an upgrade to withstand a 1 in 500 year flood event.
8. Based on investigations done so far, the following sites have been selected for upgrade as a part of this project.

Site Name & Location	River	Works Completed to Date	Proposed Works**
Taradale Stopbank Strengthening (XS 17 - 22 LHS)	Tūtaekurī	Archaeology assessment, geophysical testing, Geotechnical investigation, Topographical survey, Preliminary Design, detailed design, 50% Construction	Increase height of stopbank for overtopping, increased width of stopbank, reduced slope on river-side
Moteo Stopbank Strengthening (XS 43b - 47 RHS)	Tūtaekurī	Archaeology assessment, geophysical testing, Geotechnical investigation scoping, Topographical survey, field investigations, concept design	Increase height at places – TBC following optioneering

Site Name & Location	River	Works Completed to Date	Proposed Works**
Omaranui (XS 23-41 RHS)	Tūtaekurī	Archaeology assessment, Topographical survey, 80% design procurement	Increase height of stopbank for overtopping, build new stop bank between XS 28 and XS 32.
Haumoana Stopbank Strengthening (XS 1 - 4 RHS)	Lower Tukituki	Archaeology assessment, Geotechnical investigation scoping, Topographical survey	Increase height of stopbank for overtopping
East Clive Stopbank Strengthening (XS 1 - 4 LHS)	Lower Tukituki	Archaeology assessment, Geotechnical investigation scoping, Topographical survey, field investigations, concept design	Increase height at places – TBC following optioneering
Ngatarawa (XS 49 - 51 RHS)	Ngaruroro	Archaeology assessment, Geotechnical investigation underway, Topographical survey, field investigations, concept design, detailed design	Height of stop bank to be increased at places and slopes to be reduced on both sides
Haumoana Upstream of Blackbridge (XS 4 - 10 RHS)	Lower Tukituki	Archaeology assessment, Topographical survey	Increase height of stopbank for overtopping
Farndon Road Erosion	Clive	Works scoped for Engineering Panel	Scour protection to Farndon Road

*** Subject to outputs from site investigations, geotechnical modelling and any additional hydraulic modelling*

9. Procurement for significant native planting programme to support environmental outcomes at Ngatarawa and Roy's Hill is complete. Further, landscape design is being developed in partnership with Waiohiki marae to undertake Public Use of Rivers (PUR) works following completion of Taradale stop bank upgrade.

10. HBRC has committed to deliver eight stop bank strengthening projects over the three-year period through IRG funded works. Further, by undertaking integrity investigations of similar or higher priority sites in tandem, HBRC provides confidence in the resilience of our flood protection assets and thus achieve the objective of increasing climate resilience of HPFCS systematically. Should these investigations lead to physical work requirement, this will add to the following list.

Year	Committed Projects
1	Taradale Stopbank (earthworks, stop bank upgrade, PUR)
2	Moteo Stopbank (berm improvement – groynes or strategic planting; earthwork requirement being assessed as part of design)
2	East Clive (stopbank upgrade required following overtopping assessments; landfill on riverside presented additional challenges)
2	Ngatarawa – Berm improvements (native tree planting programme)
2/3	Clive River @ Farndon Road (erosion protection - potentially sheet piling)
2/3	Omarunui (stopbank upgrade required & archaeological complications being worked through)
3	Haumoana (stopbank upgrade required & archaeological complications being worked through)
3	Haumoana upstream of Blackbridge (earthworks, stopbank upgrade)

11. FY 20-21 expenditure was $832k against a projection of $944k.

12. The estimated value of FY 2021-22, 2022-23 and 2023-24 planned works is $4.03 million, $9.52 million and $5.61 million respectively. In 2021-22 this includes stopbank strengthening construction works on Taradale, detailed design of three sites (based on results from

geotechnical investigations), commencement of investigative work on further two sites. Omarunui and Farndon investigations may push some works from year 2 to year 3.

13. FY 2022-23 planned works includes stopbank strengthening construction works on at least further four sites, detailed design of two sites (based on results from geotechnical investigations) and completion of environmental enhancement of 5 sites.

14. FY 2023-24 planned works includes stopbank strengthening construction works on at least further two sites and completion of environmental enhancement of 3 sites.

Project 2: Upper Tukituki Gravel Extraction Flood Control Scheme - $8 million

15. The purpose of the Upper Tukituki (UTT) Gravel Extraction project is to seek opportunities to subsidise extraction and transportation of gravel from this scheme with a focus on competitive tendering and supporting the local economy. Gravel extraction is required to maintain existing nameplate capacity of 1:100 level of protection within this scheme. As a consultation topic in the 2020 Long Term Plan, Council agreed to fund the HBRC co-contribution of $2.88m from the UTT scheme through a long term loan allowing the project to proceed.

16. A Request for Tender (RfT) was sent to 23 contractors, all of whom had pre-qualified through the Registration of Interest (RoI). The tender included a volume of 116,700m^3 gravel available for extraction, split between the Tukipo and Makaretu rivers.

17. HBRC received a total of four tender submissions. Through the tender evaluation, two preferred contractors were selected, with approximately half the available material being awarded to each.

18. Tender acceptance letters have been sent and contracts signed by both. Extraction has been started by both.

19. It is planned for the next tender round to be sent to market in May, with delay caused by flooding in Central Hawke's Bay in March, resulting in section surveys being required to confirm availability.

20. A Chilean Needle Grass survey was carried out from the confluence of the Waipawa and Mangaonuku Rivers to approximately 3.3 km downstream. No Chilean Needle Grass was identified in the survey area. The current restriction on gravel extraction has been eased, allowing some extraction to occur in this area with restrictions on end use. A formal notification has been received from the HBRC Biosecurity team.

21. To date, HBRC has completed:

    21.1. Gravel material testing programme - results were made available to all tenderers as part of the ROI.

    21.2. Prioritisation of key reaches – based on the following criteria: freeboard (related to 100 year flood risk), average annual flood risk (related to availability), and lateral erosion risk. This allows extraction to focus on areas which are critical to the flood protection of the UTT scheme.

    21.3. Availability of gravel – based on prioritisation, data provided as part of ROI to tenderers and shall assist with programming. This data has also been shared with local contractors, on request, following the last public meeting.

    21.4. Identification of additional access – HBRC Schemes team assisting with landowner discussions for critical access.

    21.5. Request for Information from industry – 17 submissions received relating to cost for extraction and transportation. This data will underpin the project's rationale for reasonable subsidised costs, specifically relating to transportation of material.

    21.6. Public meetings with both ratepayers and contractors to provide updates on project status. Contractor representation at public meetings were small- and medium-sized local

businesses as well as larger businesses from out of the region. HBRC staff have also met on site with a small local contractor to better understand their business and how they might support any potential Chilean Needle Grass (CNG) studies.

21.7. Assessment of known archaeological assessment sites – working with New Zealand Archaeological Association (NZAA) to map known sites on HBRC GIS with buffer zones based on site type.

21.8. Liaison with HBRC Biosecurity and AgResearch to scope a testing programme to manage CNG within the UTT scheme. Works are likely to benefit from this programme and external funding is being considered to achieve successful outcomes.

22. FY 2020-21 expenditure was $298,000 and FY 2021-22 costs are estimated at $1.7 million.

23. In FY 2022-23 costs for gravel extraction are estimated at $6.02 million.

Project 3: Upper Tukituki Flood Control Scheme SH50/Waipawa Erosion - $1 million

24. Completed.

Project 4: Wairoa River, River Parade Erosion - $1 million

25. This one-year project was to provide steel-sheet piled erosion protection and associated ecological and biodiversity works on left bank of the Wairoa River.

26. The sheet piling works have been completed and the focus has now shifted to landscaping and completion of the site. Recent rain events have caused damage to the site that will require cleanup prior to landscaping. Resources are currently deployed to urgent projects within the region as a result of two rainfall events.

27. HBRC has been engaging with local groups Tātau Tātau o Te Wairoa Trust, Wairoa Reserves Board – Matangirau (WRB) and Wairoa District Council to identify the aspirations and requirements of this project on the cultural values to the region.

28. Option analysis of cultural expression between Tatau Tatau, WRB, HBRC and WDC to be finalised.

29. FY 2020-21 expenditure was $98k, and FY 2021-22 costs are estimated at $1,052M.

Social Procurement

30. Schedule 3 of the funding agreement details Social Procurement Outcomes (SPOs) which are to be met as part of the agreement. In order to meet our contractual obligations, HBRC has proposed the following initiatives.

30.1. HBRC is collaborating with respective maraes to plan public use of river works for every stretch of river under the IRG upgrade work.

30.2. Engagement of contractors who employ staff through Ministry of Social Development's (MSD) mana in mahi and Hastings District Council's redeployment programme

30.3. Networking through MSD to identify Māori/Pasifika businesses

30.4. Upskilling and training contractors/consultants through a Tender Training workshop which includes 'implementation of tender' training. Session 1 was a pre-requisite for subsequent drop-in sessions for one-on-one support with third party provider. Session 2 has been conducted for half of the attendees and will be conducted for the remaining attendees.

30.5. Partnering with Eastern Institute of Technology – environmental science, biosecurity, film & photography. Project study opportunities, project support, work experience, planting assistance. HBRC have employed 2 film and 2 environmental science students to work and learn as part of the HBRC Project Team.

30.6. Mates4Life suicide awareness and prevention programme – linking up contractors/consultants with mental health and wellbeing programmes.

30.7. Highlighting mental health & wellbeing with our contractors in a drive to include this at toolbox talks alongside health and safety. Incremental changes to the status quo.

30.8. Establishing partnership agreements to dedicate project resources to upskill and train staff. This includes contractors, consultants and client organisations whereby a continual professional development style of record keeping is maintained in a simple, manageable, cost effective way. This has been successfully implemented in the Taradale project.

Collective Outcomes – National

Progressive Procurement Toolkit

31. HBRC's procurement team have recently developed a progressive procurement toolkit in collaboration with Height Project Management. It is modelled on the Sustainable Outcomes Toolkit (May 2019) developed by Auckland Council Healthy Waters and Height Project Management which covers the following key areas, often referred to as the 'four pillars'.

    31.1. **Environmental** – preventing and reversing environmental degradation.

    31.2. **Economic** - building a diverse and prosperous local economy.

    31.3. **Social** – shared and equal opportunity for community prosperity.

    31.4. **Cultural** – finding opportunities to genuinely partner with mana whenua.

32. The IRG programme and associated social outcomes have been discussed at a national level amongst the River Managers Special Interest Group (SIG). Each of the regional councils are responsible for meeting their respective SPO's and have agreed that as a collective group there are benefits to collaborating to provide a number of national SPO's. HBRC's progressive procurement toolkit has been socialised with other regional councils with the intent of implementing a shift change in procurement to not only include SPO's but the other three pillars (Environmental, Economic and Cultural).

Decision Making Process

33. Staff have assessed the requirements of the Local Government Act 2002 in relation to this item and have concluded that, as this report is for information only, the decision making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the *"Update on IRG Flood Control Resilience Funded Projects"*.

Authored by:

Tim Jones
Project Engineer

Harry Donnelly
Project Engineer

Priya Karanjai
Project Engineer

Martina Groves
Manager Regional Assets

Approved by:

Chris Dolley
Group Manager Asset Management

Attachment/s There are no attachments for this report.

Hawke's Bay Regional Council

Environment and Integrated Catchments Committee

11 May 2022

Subject: River Managers Special Interest Group business case

Reason for report

1. This item updates the Committe on work being undertaken by the regional council sector to obtain ongoing central government co-investment in flood protection and river management schemes, and presents a supplementary report prepared by the sector for central government on permanent co-investment in New Zealand's flood protection schemes.

Executive Summary

2. A Regional Council business case seeking a central government co-investment contribution of $150 million per annum to enhance the integrity of flood protection schemes was presented to central government officials in 2019. The three-year programme of COVID-19 relief funding (the sector's Resilient River Communities programme or 'shovel-ready' projects co-funded by Kanoa) has been a major contribution to Regional Councils' efforts to respond to the challenges that climate change presents. However, the business case has not yet achieved the ongoing central government commitment to co-investment it was intended to achieve. Hence the preparation of a supplementary report. The purpose of that report is to update a 2019 comprehensive business case on the same topic.

3. The report draws on case examples from 2021 with a focus on the 31 May 2021 Ashburton/Canterbury flooding but also drawing on information from the July 2021 Westport and Marlborough events. The report notes that while infrastructure remains of critical importance, avoiding risk through appropriate land-use planning is vitally important. In addition, the report reflects regional council progress toward achieving the flood protection schemes of the future. Compared to those of the past, these must satisfy a wider spectrum of community, environmental, cultural, climate change, economic objectives, and contemporary iwi / Te Mana o te Wai partnerships.

4. The sector has continued to work together on the co-investment case. The regional sector is now sharing that to stimulate conversation. The sector collaboration is to seek a budget line item for $150 million of co-investment from the Climate Emergency Response Fund, as proposed in the report.

Background

5. A Regional Council business case seeking a central government co-investment contribution of $150 million per annum to enhance the integrity of flood protection schemes was presented to central government officials in 2019. The three-year programme of COVID-19 relief funding (the sector's Resilient River Communities programme or 'shovel-ready' projects co-funded by Kanoa) has been a major contribution to Regional Councils' efforts to respond to the challenges that climate change presents[1]. However, the business case has not yet achieved the ongoing central government commitment to co-investment it was intended to achieve. Hence the preparation of a supplementary report [2](attached).

6. Following the significant flood events of 2021, Environment Canterbury led the creation of a supplementary co-investment report for central government. The purpose of that report is to

[1] https://www.resilientrivers.nz/

[2] *Central Government Co-investment in Flood Protection Schemes, Supplementary Report,* River Managers' Special Interest Group, January 2022

update a 2019 comprehensive business case on the same topic. This is timely, given damaging floods (West Coast, Gisborne, Auckland in 2022), and is highly relevant to Otago given the repeat floods in 2019-2020.

7. The report draws on case examples from 2021, with a focus on the 31 May 2021 Ashburton/Canterbury flooding but also drawing on information from the July 2021 Westport and Marlborough events. The report describes these flood events, flood protection scheme locations and performance assessments, community responses, details about the on-going impacts of the flood events and scheme value propositions. Most importantly, the report also provides event-specific details about the many millions of dollars of valuable Crown assets protected from 2021 floods by flood protection schemes. The protection of these assets is just one of the many reasons for central government to invest in flood protection schemes.

8. The report notes that while infrastructure remains of critical importance, avoiding risk through appropriate land-use planning is vitally important. This includes hazard assessment and communication, mapping and zoning, locating new development in low-risk areas, restrictive planning in high-risk areas and managed retreat.

9. In addition, the report reflects regional council progress toward achieving the flood protection schemes of the future. Compared to those of the past, these must satisfy a wider spectrum of community, environmental, cultural, climate change, economic objectives, and contemporary iwi / Te Mana o te Wai partnerships.

10. The sector has continued to work together on the co-investment case. The regional sector is now sharing that to stimulate conversation. The sector collaboration is to seek a budget line item for $150 million of co-investment from the Climate Emergency Response Fund, as proposed in the report.

Discussion

11. Floods are New Zealand's most frequent and, cumulatively, most significant and avoidable hazard. They are the natural hazard most able to be mitigated through application of a well-proven package of flood protection schemes. They are also the natural hazard with the best return on investment from measures contributing to active risk reduction.

12. Climate change will substantially increase the risk of severe and frequent flooding in New Zealand. Climate change projections [3] for Hawke's Bay are that mean annual rainfall totals are expected to decrease across the region, and the intensity of extreme, rare rainfall events are likely to increase. Changes in mean annual flood of up to a 50% increase are expected by the end of the century for most of Hawke's Bay Rivers.

13. Flood protection schemes are a critical first action in adapting to the impacts of climate change. Without ongoing investment in these schemes, we will not address climate change and community resilience.

14. The challenge is to ensure the existing schemes are managed and enhanced in a way that enables them to continue to play a vital part in New Zealand's approach to building climate resilience. Seeking co-investment from central government as part of a nationwide solution to a national problem is a key part of this response. The recent Ashburton, Westport, and Marlborough floods have provided further evidence of the need for central government investment and the supplementary report documents that evidence as an update to an earlier report [4](**attached**).

15. In Hawke's Bay, Hawke's Bay Regional Council provides flood protection and land drainage to approximately 70,000 ha of rural and urban land. This is achieved through managing infrastructural assets that include 249km of stopbanks, 19 pump stations, 650 structures

[3] *NIWA (2020). Climate change projections and impacts for the Tairawhiti and Hawkes Bay. Prepared for Envirolink, Hawkes Bay Regional Council and Gisborne Regional Council*

[4] *Tonkin and Taylor Limited, Hiding in Plain Sight, Prepared for River Managers' Special Interest Group, April 2018.*

(bridges, culverts, flood gates) and various other assets, across the region's rivers and a total of 25 flood protection and/or drainage schemes.

16. Capital investment set out in the 2021-31 Long Term Plan (years 1 through to 10) of $M18.2. The Infrastructure Strategy 2021-2051. provides an estimate of $M88.6 over the 30- year period which includes high level estimation of major renewals and replacement. The LTP does not include flood events, other natural hazard events, betterment and/or response to climate change adaptation.

17. Significant issues will face the flood protection, river assets and drainage activities for the Hawke's Bay Regional Council over the next 30 years. The LTP committed to undertaking infrastructure planning for all schemes. The issues being investigated by this infrastructure or scheme planning are presented diagrammatically in **Figure 1**. All significant issues are inextricably linked to one another, with 'Funding' being a key issue. The Infrastructure Strategy sets out a long planning horizon which recognises that addressing some of the significant issues will require long lead times that will inform decision-making, cost implications and affordability.

Figure 1 Significant issues and associated links for flood protection and drainage

18. These issues are relevant across all regional councils, as we collectively approach the future thinking on affordability to appropriately address significant issues facing flood protection across New Zealand.

19. Recent events across Canterbury and West Coast demonstrate the vulnerability of flood protection schemes, severity of flood events and the damage caused. The affordability of repairs and recovery faced by Regional Councils while balancing business as usual programmes of work, prevails as a continued challenge to all Councils including ORC. For example, between November 2019 and February 2020 two heavy rainfall events affected the Otago region, particularly the Clutha River catchment, which caused damage and subsequent repairs required to schemes and rivers. The flood recovery programme is almost complete. There were 36 flood damaged sites, of which 29 had been completed as of 31 December 2021.

20. Government co-investment has occurred with government initiative to provide economic stimulus funding for 'shovel Ready' projects following the COVID-19 event, initially referred to as Crown Infrastructure Partners (CIP) Shovel Ready Funding. Four HBRC projects, specifically related to flood protection, were successful in receiving central government (Kanoa) co-funding of approximately $19.2m out a total project value of $30m. These are being delivered as part of the sector's Resilient River Communities programme[11] comprising 55 projects with a total value in excess of $300M.

21. More communities and expanded public assets (with much a higher value than when the schemes were originally constructed) are now at risk from floods. This is evident with urban growth and intensification of agricultural practices.

22. Schemes also are now required to achieve integrated land uses, enhance ecological and water quality outcomes and meet contemporary iwi and wider community aspirations. Increased levels of investment are now required with the increased pressure with climate resilience, community resilience and scheme performance to meet the demands of the environmental and climate challenges we face.

23. This can only be achieved with the support of the Government returning to the flood protection investment table. Without continued co-investment, communities and the HBRC will face even longer lead times in implementing programmes to mitigate the significant issues including responding to on-going flood events and recovery/repair from flood events.

Considerations

Financial Considerations

24. These are described in the report.

Significance and Engagement Considerations

25. No considerations arising from this item.

Legislative and Risk Considerations

26. No considerations arising from this item.

Climate Change Considerations

27. The release of the supplementary report is proactive and seeks further investment now, considering the effects of climate change which will bring more frequent and more intense flood events.

28. Climate resilience is currently being enhanced by the accelerated delivery of flood protection projects under the current climate resilience programme of work to support Covid-19 recovery. This one-off central government investment, combined with co-funding from HBRC, has brought forward $30 million of infrastructure projects providing community resilience earlier than would have otherwise been affordable for ratepayers.

Communications Considerations

29. The release of the supplementary report is being communicated through the regional council sector.

30. The HBRC communications team are involved with the regional council sector through the climate resilience programme.

Next Steps

31. The sector will continue to work together to seek a budget line item for $150 million of co-investment from the Climate Emergency Response Fund, as proposed in the report.

32. Letters have been sent by sector representatives to key Government Ministers and meetings are being arranged. A media campaign and ongoing engagement with partners and stakeholders, led by the sector, will commence.

Decision Making Process

33. Staff have assessed the requirements of the Local Government Act 2002 in relation to this item and have concluded that, as this report is for information only, the decision-making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the *River Managers Special Interest Group Business Case* staff report and also notes the Regional Council Sector work seeking to obtain ongoing central government co-investment in flood protection and river management schemes.

Authored & approved by:

Chris Dolley
Group Manager Asset Management

Attachment/s

1	Central Government Co-Investment in Flood Protection January 2022 Supplementary report	Under Separate Cover
2	Tonkin and Taylor Report - Hiding in Plain Sight April 2018	Under Separate Cover

Hawke's Bay Regional Council

Environment and Integrated Catchments Committee

11 May 2022

Subject: Air Quality Compliance with National Environmental Standards for Particulate Matter

Reason for Report

1. This item presents Dr Emily Wilton's assessment of the likelihood the region's urban airsheds and rural towns will consistently meet the existing particulate matter (PM_{10}) standard and comply with the proposed new standards for $PM_{2.5}$. This item also outlines the implications for the region's air quality objectives of the updated World Health Organisation (WHO) air quality guidelines.
2. In 2020, the Ministry for the Environment (MfE) publicly consulted on a proposal to include a daily $PM_{2.5}$ standard of 25 µg/m^3 (micrograms per cubic metre) and an annual standard of 10 µg/m^3 in the National Environmental Standards for air quality (NESAQ). The proposed daily standard would allow for three exceedances of the threshold in a 12-month period.
3. Additionally in 2020, the existing standard for PM_{10} reached a milestone that meant all the region's airsheds are now limited to no more than one exceedance per year of the daily threshold of 50 µg/m^3.

Executive Summary

4. In 2020, MfE proposed adding a daily and annual $PM_{2.5}$ standard to the NESAQ and using these, rather than PM_{10}, as the main regulatory tool for particulates. The review of the NESAQ does not have a clear timeline for completion and, in the meantime, the existing standard of PM_{10} has passed the date by which all airsheds are limited to just one exceedance of the threshold in a 12-month period. Dr Emily Wilton from Environet Limited assessed the ability of the region's urban and rural centres to meet the current PM_{10} standard and the proposed $PM_{2.5}$ standards.
5. The Napier Airshed is expected to consistently meet the existing PM_{10} standard without the need for further regulation, though the margin of safety is relatively small. The Napier Airshed is also expected to meet the proposed annual $PM_{2.5}$ standard. An estimated reduction of 20% in winter daily $PM_{2.5}$ is required to comply with the proposed daily $PM_{2.5}$ standard, which is unlikely to be achieved by 2030 without additional management measures.
6. The Hastings airshed may need further reductions in PM_{10} to consistently meet the daily standard but these may occur in the absence of additional regulation and potentially by 2025. However, implementing further measures to reduce emissions would provide greater confidence. The Hastings airshed is expected to meet the proposed annual $PM_{2.5}$ standard but not the daily standard, requiring an estimated 33% reduction in winter daily $PM_{2.5}$. An example of additional measures that could apply in both Napier and Hasting is setting ultra-low emission burner (ULEB) criteria for new and replacement burner installations, accompanied by educational campaigns promoting clean forms of heating and good practice when using burners, such as ensuring the wood is dry.
7. Dr Wilton undertook emission inventories for Wairoa, Waipawa and Waipukurau. Separate airsheds have not previously been gazetted for the three towns because particulate concentrations were considered unlikely to exceed the NESAQ PM_{10} standard. The inventories identified domestic heating as the main contributor to daily winter particulate levels in each town, though Wairoa also has a significant contribution from industry. Reductions in particulate concentrations are expected to occur over time through natural attrition of old

burners that are currently not NESAQ compliant. It is uncertain whether natural attrition will be sufficient to achieve the proposed NESAQ $PM_{2.5}$ standards.

8. Dr Wilton's assessment did not extend to the Awatoto airshed but the move to using $PM_{2.5}$ as the main regulatory tool is expected to benefit the Awatoto airshed, where natural sources dominate PM_{10}. $PM_{2.5}$ has a smaller component of natural sources and is likely to be dominated by particulates from combustion. The NESAQ for PM_{10} has been breached in the last two years but the airshed would comply with the proposed daily and annual $PM_{2.5}$ standards.

9. The WHO updated its air quality guidelines in September 2021. The most significant changes were a reduction in the daily $PM_{2.5}$ guideline from 25 $\mu g/m^3$ to 15 $\mu g/m^3$ and the annual guideline from 10 $\mu g/m^3$ to 5 $\mu g/m^3$. Additionally, the daily PM_{10} guideline changed from 50 $\mu g/m^3$ to 45 $\mu g/m^3$ and the annual guideline from 20 $\mu g/m^3$ to 15 $\mu g/m^3$. The WHO annual limit for nitrogen dioxide (NO_2) was reduced from 40 $\mu g/m^3$ to 10 $\mu g/m^3$ and a daily limit set at 25 $\mu g/m^3$. The daily PM_{10}, $PM_{2.5}$ and NO_2 guidelines allow for 3-4 exceedances per year.

10. The WHO threshold limits for $PM_{2.5}$ are significantly lower than those currently proposed by MfE. A final decision has not been made on the proposed NESAQ amendments. If instead MfE adopts the new WHO guidelines or the Council recommits to a strategic goal of meeting the WHO guidelines by 2025, then additional regulatory measures will be required to achieve them. The annual $PM_{2.5}$ guideline will be especially challenging, considering that average $PM_{2.5}$ in seasons outside winter can exceed 5 $\mu g/m^3$. The Awatoto airshed, which has less seasonal variation in $PM_{2.5}$, would also need a reduction in levels to achieve the annual guideline.

11. The WHO threshold for NO_2 might also present a new challenge for urban air quality. Numerous exceedances of the daily limit were observed during roadside monitoring of NO_2 in Napier and Hastings during winter last year. It is also possible the annual limit is not being met. Transport is the main source of NO_2 in our urban centres and it is not a source that is currently regulated in our Air Plan.

Strategic Fit

12. Both the Strategic Plan and the Regional Resource Management Plan contain targets for regional air quality. Changes to the NESAQ and WHO air quality guidelines have implications for the stated targets and the region's ability to meet them.

13. The Strategic Plan 2020-25 lists as a goal - "By 2025, regional air quality consistently meets World Health Organisation guidelines". This goal was introduced prior to the 2021 update to the WHO guidelines. A decision to recommit to this goal in future strategic plans means aiming for stricter guidelines than existed when the plan was adopted. They are also stricter than thresholds currently in the NESAQ or being proposed for the NESAQ.

14. Objective 39 of the Regional Resource Management Plan is - "A standard of ambient air quality is maintained at, or enhanced to, a level that is not detrimental to human health, amenity values or the life supporting capacity of air, and meets National Environmental Standards". Therefore, it is appropriate to determine whether the region is or could meet proposed changes to the NESAQ, with or without additional interventions. Dr Wilton's work addresses that question.

Background

15. MfE announced in 2019 that it was reviewing the NESAQ. The proposed amendments, released for public consultation in 2020, signalled the introduction of daily and annual $PM_{2.5}$ standards to replace PM_{10} as the main regulatory tool for managing particulate matter. MfE aligned the proposed new $PM_{2.5}$ standards with the WHO guidelines, which at the time were an annual threshold of 10 $\mu g/m^3$ and a daily threshold of 25 $\mu g/m^3$, with three permissible exceedances of the latter in a 12-month period.

16. The existing NESAQ gave polluted airsheds, which included the Hastings airshed, until

1 September 2020 to achieve the PM_{10} threshold with no more than one exceedance per year. With the passing of that milestone, the limit now applies to all the region's airsheds.

17. The WHO, in 2021, updated its air quality guidelines based on new evidence on the health impacts of air pollution. The updated guidelines included significant changes to thresholds for particulates and NO_2. The new daily and annual $PM_{2.5}$ guidelines are 15 $\mu g/m^3$ and 5 $\mu g/m^3$ respectively. The daily and annual PM_{10} guidelines are 45 $\mu g/m^3$ and 15 $\mu g/m^3$ respectively. The annual NO_2 guideline is 10 $\mu g/m^3$ and the daily NO_2 guideline is 25 $\mu g/m^3$. The daily guidelines permit 3-4 exceedances in a 12-month period.

18. Particulate concentrations in Napier and Hastings have reduced since continuous monitoring began in 2005. The reductions have been achieved through a combination of rules and non-regulatory initiatives like the Heatsmart scheme. The Air Plan introduced rules phasing out the use of old burners for domestic heating. The Heatsmart scheme offered residents financial assistance to change to cleaner forms of heating and install insulation. The measures were introduced to safeguard the health of residents and to comply with the NESAQ. The Napier and Hastings airsheds complied with the NESAQ last year. It is a significant achievement considering PM_{10} concentrations in Hastings once exceeded the PM_{10} standard 27 times within a winter season.

19. Health based changes to the NESAQ and the WHO guidelines will potentially shift the goalposts for the region's air quality. Following the release of the consultation document on proposed NESAQ amendments, Dr Wilton assessed whether the Napier and Hastings airsheds are likely to meet proposed changes to the NESAQ. Her scope extended to some of the region's larger towns – Wairoa, Waipukurau and Waipawa. However, the proposed amendments have not been finalised.

20. MfE signalled in March that it is awaiting the updated Health and Air Pollution in New Zealand (HAPiNZ) report before progressing the NESAQ review, which will add to the evidence informing the particulate matter proposals. MfE is also undertaking work to determine how NESAQ will be incorporated into the planned new resource management system. It is possible stricter thresholds may ultimately apply to the region's air quality either through the NESAQ or by the Council choosing to recommit to the WHO guidelines, now that they have been revised.

Assessment Results – Napier Airshed

21. The Napier Airshed has had one or fewer exceedances of the NESAQ for PM_{10} in the last eight years and is expected to comply with the standard in the future. The margin of success is currently small and subject to meteorological conditions. However, further reductions in emissions should occur through natural attrition of older wood burners and gradual uptake of ultra-low emission burners (ULEBs) or other forms of heating. The annual guideline of 20 $\mu g/m^3$ has been consistently met in the Napier Airshed since continuous monitoring began in 2005.

22. An estimated 20% reduction in daily winter $PM_{2.5}$ is required in the Napier Airshed to achieve compliance with the proposed daily standard of 25 $\mu g/m^3$. The estimated reduction accounts for three permitted exceedances in a 12-month period. A 20% reduction is unlikely to occur by 2030 through the natural attrition of older burners but compliance might be achieved if the installation of new or replacement burners is limited to those meeting ULEB criteria. The proposed annual standard for $PM_{2.5}$ of 10 $\mu g/m^3$ has been met in the last two years and that is likely to continue.

Assessment Results – Hastings Airshed

23. The Hastings Airshed has had one or fewer exceedances of the NESAQ for PM_{10} in 2020 and 2021 but ongoing success is uncertain and dependent on meteorological conditions. Dr Wilton noted that some non-compliant burners and fires appear to still be operating in the airshed. This came to light when she completed an air emission inventory for Napier, Hastings and Havelock North in 2020, which included a telephone survey asking residents about the main

way they heat their homes. Full compliance with the rules of the Air Plan and limiting new or replacement burners to those meeting ULEB criteria would increase the likelihood of success. The annual PM_{10} guideline has been met in the last five years and that should continue.

24. An estimated 33% reduction in daily winter $PM_{2.5}$ is required in the Hastings Airshed to achieve compliance with the proposed daily standard. This is unlikely to be achieved by 2030 through restricting the installation of burners to ULEBs because the attrition of burners currently in use is not expected to be at a rate that would achieve the required level of reduction. However, it might be achieved if that restriction is accompanied by an education campaign that reduced emissions by another 10%. For example, the campaign could highlight good practice when operating a burner, particularly the use of dry wood, and promote the uptake of clean forms of heating. Annual average $PM_{2.5}$ is currently within the proposed annual standard.

Assessment Results – Wairoa, Waipukurau and Waipawa

25. Emission inventories were undertaken by Dr Wilton for Wairoa, Waipukurau and Waipawa. These showed that domestic heating accounts for most of the towns' daily winter PM_{10} and $PM_{2.5}$. Wairoa also has a significant contribution from industry, mostly related to the operation of boilers.

26. Dr Wilton estimated reductions in particulates that might occur in the towns by 2030 under two scenarios – the absence of regulations and restricting burner installations to ULEBs. In the absence of regulations, a reduction of 20% is possible in Wairoa and 30% in Waipukurau and Waipawa. Under the ULEB requirement, the reductions increase to 25% and 40% respectively.

27. Low-cost PM_{10} monitoring in Wairoa and Waipukurau suggests the towns are either meeting the PM_{10} standard or the projected reductions without regulation will enable the standard to be met. However, monitoring using instruments that comply with Schedule 2 of the NESAQ is required to confirm this.

28. Low-cost $PM_{2.5}$ monitoring in Wairoa and Waipukurau suggests that Wairoa may need the ULEB requirement to meet the proposed $PM_{2.5}$ standard and possibly accompanied with a behaviour change campaign. Waipukurau could possibly meet the proposed standard by 2030 in the absence of regulation. As noted above, monitoring that is compliant with Schedule 2 of the NESAQ is required to confirm this.

Awatoto Airshed

29. The Awatoto airshed was not included in Dr Wilton's assessment. The existing PM_{10} standard has been breached in the last two years, with five exceedances in each year. The contribution of natural sources, particularly in La Niña conditions, is considerable and makes meeting the standard difficult. It is an airshed that would benefit from the main regulatory measure being $PM_{2.5}$ because the component of natural sources, such as sea spray, is typically much smaller. The proposed daily and annual $PM_{2.5}$ standards are currently being met in Awatoto.

Updated WHO Guidelines

30. The changes to the WHO guidelines for PM_{10}, which reduce the daily limit to 45 $\mu g/m^3$ (with three permitted exceedances) and the annual limit to 15 $\mu g/m^3$, should be achievable in Napier without further regulation. They are also achievable in Hastings, particularly if there is full compliance with the Air Plan and a ULEB requirement for new and replacement burners is introduced. Wairoa, Waipukurau and Waipawa should also achieve the guideline, but monitoring with upgraded instruments is required to confirm this. The high level of PM_{10} contributed by natural sources in Awatoto makes the WHO guidelines very hard to achieve in that airshed.

31. The changes to the WHO guidelines for $PM_{2.5}$, which reduce the daily limit to 15 $\mu g/m^3$ (with three permitted exceedances) and the annual limit to 5 $\mu g/m^3$, will be very challenging to achieve. Reductions in winter daily $PM_{2.5}$ of more than 50% would be needed in Hastings and

Napier and similar reductions could also apply to Wairoa, Waipukurau and Waipawa. Winter levels overall would need to be on a par with summer levels and even summer concentrations can, on occasions, be near or exceed 5 $\mu g/m^3$. In Awatoto, the daily limit is likely to be achieved but annual averages hover around 6 $\mu g/m^3$.

32. While this report concentrates on particulates, the updated NO_2 guidelines may also prove challenging to meet. Roadside monitoring of NO_2 was undertaken in Napier and Hastings during June and July 2021. Within the two months, the daily limit was exceeded four times at the Hastings location and more than twenty times at the Napier location. The average daily NO_2 concentration of 21 $\mu g/m^3$ and 16 $\mu g/m^3$ in Napier and Hastings respectively, raises concern that we might exceed the annual guideline if NO_2 is monitored year-round.

Discussion

33. The NESAQ is undergoing a review to ensure it reflects current knowledge about the health impacts of ambient PM_{10} and $PM_{2.5}$. The timeline for completion of the review is uncertain. The WHO air quality guidelines were updated in 2021 to incorporate new evidence about the impacts of air pollution on human health.

34. The proposed amendment of the NESAQ will shift the focus of regulatory compliance from PM_{10} to $PM_{2.5}$. This means that the polluted status of an airshed and associated restrictions on consented discharges would depend on $PM_{2.5}$ concentrations. This move would benefit the Awatoto airshed, where the large contribution of natural sources to PM_{10} makes the PM_{10} standard difficult to achieve. Napier and Hastings will likely need a shift from current wood burners to ULEBs combined with practice change campaigns to meet the proposed daily $PM_{2.5}$ standard. This could also apply to the region's larger towns and they may also need to be gazetted as airsheds.

35. If the NESAQ is amended in line with the updated WHO guidelines or the Council chooses to adopt these as a strategic goal, then achieving them would require reducing winter average $PM_{2.5}$ concentrations to near summer levels. However, in Awatoto, summer levels are already often above 5 $\mu g/m^3$. NO_2 levels would also come under the spotlight and as these relate mostly to transport, reducing emissions would involve a different approach to those employed to reduce particulates.

Next Steps

36. $PM_{2.5}$ monitoring with upgraded instruments is needed in Hawke's Bay's larger towns to gain a better understanding of particulate levels. New instruments measuring PM_{10} and $PM_{2.5}$ are currently being co-located with older instruments at the Napier and Hastings monitoring sites, with the intention of replacing the old monitors with the new ones. Concentrations between the old and new instruments will be compared over winter. It may be found that transitioning to the new instruments will raise measured concentrations because of a change in measuring technology rather than a change in emissions. This could mean the magnitude of reductions required to achieve new air quality targets may be greater than initially anticipated.

37. The extent to which pollutant levels need to be reduced is dependent on a completed NESAQ review and/or a Council decision on adopting the updated WHO guidelines as a strategic goal and feedback from tangata whenua, key stakeholders, and the community during Kotahi plan development.

Decision Making Process

38. Staff have assessed the requirements of the Local Government Act 2002 in relation to this item and have concluded that, as this report is for information only, the decision making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the *Air Quality compliance with National Environmental Standards for Particulates* staff report.

Authored by:

Dr Kathleen Kozyniak
Principal Scientist (Air)

Approved by:

Anna Madarasz-Smith	**Iain Maxwell**
Manager Science	**Group Manager Integrated Catchment Management**

Attachment/s

1	Air Quality Management in Hawke's Bay, 2021 update. Prepared by Emily Wilton, Environet Ltd	Under Separate Cover

Hawke's Bay Regional Council

Environment and Integrated Catchments Committee

11 May 2022

Subject: Coastal Bird Survey Results

Reason for Report

1. This item provides a summary of the results of a baseline survey of indigenous bird values along the Hawke's Bay coastline (the survey).

Executive Summary

2. Hawke's Bay supports a vast array of coastal bird species along our diverse coastline. As part of our responsibilities for the sustainable management of natural resources, and in line with our strategic goal of healthy, functioning and climate-resilient biodiversity, a baseline survey of these bird species using areas of our coast and estuaries was required to provide HBRC with population estimates and detailed distribution maps for Hawke's Bay's coastal bird species.
3. A total of 321 km of the Hawke's Bay coastline (from south of Whangaehu beach to Mahanga) was traversed either by foot or by boat, and the presence and number of all species of birds and marine mammals encountered was recorded for each separate 1 km section of coastline surveyed.
4. A total of 79 bird species and two marine mammal species were detected during this survey. 57 bird species (72%) are native or endemic to New Zealand, and 28 of these species (35%) are ranked as either Nationally Threatened or At Risk under the New Zealand Threat Classification System.
5. Local indigenous species diversity was highest at estuaries, river mouths and coastal lagoons, on inshore islands and along sections of coastline with mixed rocky shore and sandy beach habitats.
6. Maungawhio Lagoon and the eastern coast of Māhia Peninsula, Te Whanganui-a-Orotū/Ahuriri Estuary and the Pōrangahau Estuary are nationally and regionally important habitats for a range of Arctic-breeding and endemic shorebird species, including kuaka/bar-tailed godwit, ruddy turnstone, pohowera/banded dotterel and ngutu pare/wrybill.
7. Based on the findings of the survey, changes to the regional threat rankings of 12 of the 23 bird species are recommended; four species have an improved status, six species have a worsening status, and two species have a neutral status. Nine of these changes are a result from new data collected during this survey.

Strategic Fit

8. The survey contributes to our strategic goal of healthy, functioning and climate-resilient biodiversity (HBRC Strategic Plan 2017-2021).
9. It includes critical information to increase the effectiveness to implement existing and upcoming statutory frameworks including:
    - 9.1. Regional Coastal Environment Plan
    - 9.2. New Zealand Marine Oil Spill Readiness and Response Strategy 2018-2022
    - 9.3. National Policy Statement for Indigenous Biodiversity.
10. This work also contributes to Kotahi policy development for determining Significant Conservation Areas.

11. The survey aligns with programmes in Biosecurity, Biodiversity, Predator Free Hawke's Bay, Coastal/Marine Science, and Policy work streams. The dataset will inform the Ecosystem Prioritisation Programme, Coastal and Marine ecosystem prioritisation (in progress), and Outstanding Water Bodies.

Background

12. The Hawke's Bay coastline (ca 345 km) is an important breeding and foraging ground for many indigenous birds. Many of these species are at risk of extinction due to habitat loss and degradation, predation, and impacts from other human activities. Climate change is likely to add compounded challenges to these species.

13. HBRC has statutory responsibilities relating to the sustainable management of the natural values of the Hawke's Bay coastline, including its indigenous bird values.

14. HBRC commissioned a complete and systematic survey of the indigenous bird values of the Hawke's Bay coastline in January 2021, to create a regional-scale baseline measure of the diversity, distribution and abundance of indigenous birds inhabiting the Hawke's Bay coastline.

Discussion

15. The survey:

    15.1. Covered 321 km of the region's approximately 345km coastline by foot or boat

        15.1.1. 24 km of the coast was not surveyed (north of Kairakau to Waimarama and the eastern side of Mahia Peninsula) due to lack of landowner approval or inaccessibility

    15.2. Recorded 79 bird species and two marine mammal species (NZ fur seals and common dolphins)

    15.3. Recorded 32,660 individual birds.

16. 28 of the bird species detected (35%) are ranked as either Nationally Threatened or At Risk under the New Zealand Threat Classification System, including:

    16.1. 4 species ranked as Nationally Critical

    16.2. 1 species ranked as Nationally Endangered

    16.3. 4 species ranked as Nationally Vulnerable

    16.4. 8 species ranked as At Risk, Declining

    16.5. 2 species ranked as At Risk, Relict

    16.6. 4 species ranked as At Risk, Recovering and

    16.7. 5 species ranked as At Risk, Naturally Uncommon.

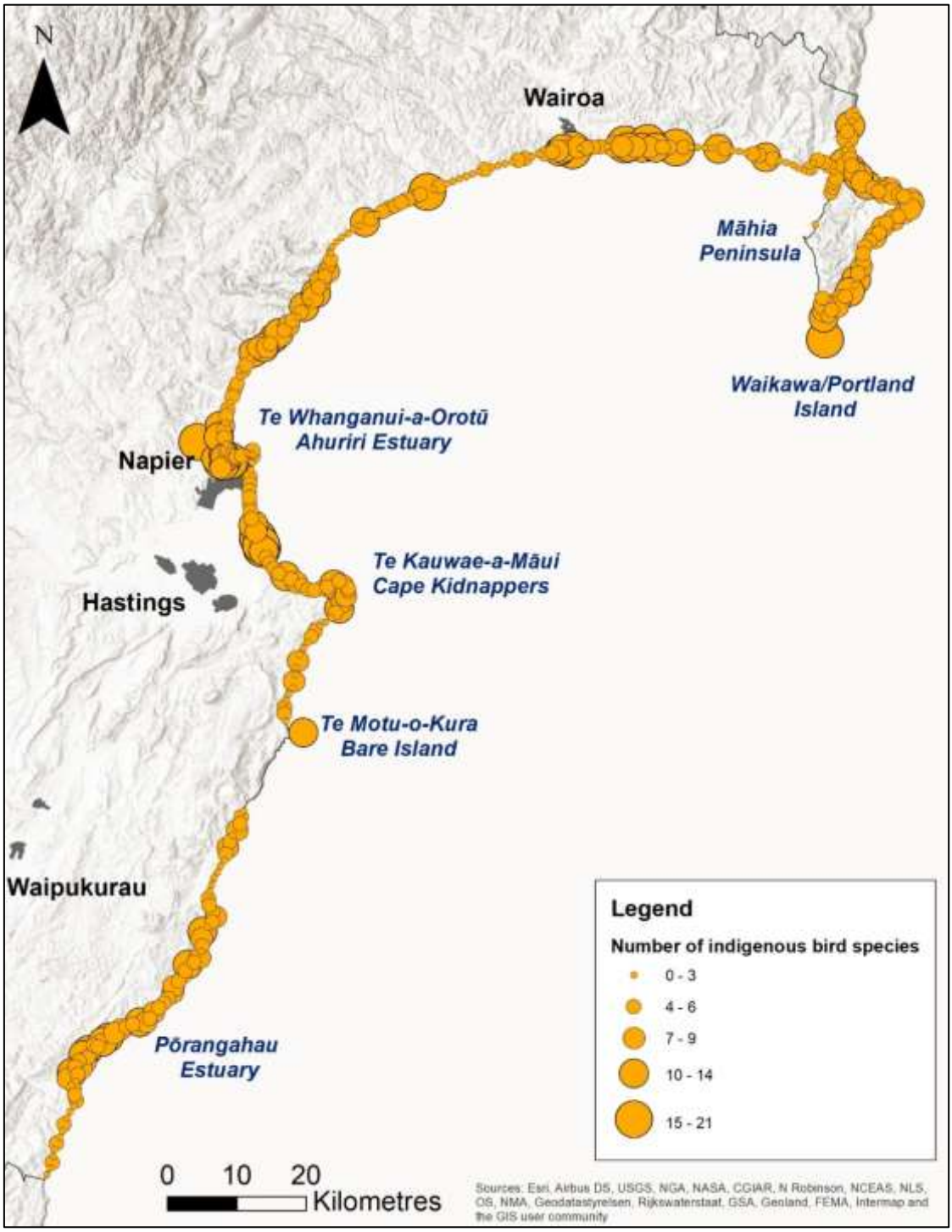
17. 19 of the bird species detected (24%) are ranked as Regionally Threatened under the New Zealand Threat Classification System, including:

    17.1. 12 species ranked as Regionally Critical

    17.2. 3 species ranked as Regionally Endangered and

    17.3. 4 species ranked as Regionally Vulnerable.

18. The survey highlighted the role that larger estuaries and river mouths play as areas of high species richness. Stretches of the mainland coastline that possessed a heterogeneous mix of habitats including a mix of sandy or shingle beaches and intertidal rock platforms also supported a higher diversity of indigenous bird species, including the eastern coastline of Māhia Peninsula, the coastline between Tangoio and the Moeangiangi River, and the coastline between Pōrangahau and Pourerere beaches.



19. Among the 65 estuaries and coastal lagoons surveyed, Te Whanganui-a-Orotū/Ahuriri Estuary supported the highest diversity of indigenous birds with 33 species and 3,356 individuals counted. The Pōrangahau Estuary supported the second highest number of indigenous bird species, with 24 species and 1,311 individuals counted, and the Maungawhio Lagoon supported the third highest number of species, with 22 species and 420 individual birds counted.

20. Key findings of the survey include that:

    20.1. Hawke's Bay supports 16% of the global population of pohowera / banded dotterel

    20.2. Tūturiwhatu / New Zealand dotterels have experienced a substantial increase in population size and breeding range along the Hawke's Bay coastline since 2011 due to a successful species recovery plan

    20.3. Hākoakoa / sooty shearwaters were re-discovered to be breeding on Te Motu-o-Kura /Bare Island.

Next Steps

21. Changes to the regional threat rankings of 12 of the 23 bird species are being recommended as a result of new data collected during this survey, being:
    21.1. four species have an improved status
    21.2. six species have a worsening status
    21.3. two species have a neutral status.

Decision Making Process

22. Staff have assessed the requirements of the Local Government Act 2002 in relation to this item and have concluded that, as this report is for information only, the decision-making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the *Coastal Bird Survey Results* staff report.

Authored by:

Becky Shanahan
Senior Scientist Marine and Coasts

Anna Madarasz-Smith
Manager Science

Approved by:

Iain Maxwell
Group Manager Integrated Catchment Management

Attachment/s

There are no attachments for this report.

Hawke's Bay Regional Council

Environment and Integrated Catchments Committee

11 May 2022

Subject: HBRC Forestry

Reason for Report

1. This paper provides a summary of Hawke's Bay Regional Council's (HBRC) forestry assets, including the Tūtira mānuka plantation.
2. The information was presented initially in two separate papers, one dealing with the mānuka plantation and the other the remainder of the forestry asset, to FARS Committee 2 March 2022.
3. The two papers have been combined and presented again here following decisions at that meeting.

Executive Summary

4. HBRC manages the 550ha Crown-owned Tangoio Soil Conservation Reserve as required by section 16 of the Soil Conservation and Rivers Control Act (1941). Fifty-eight percent (320ha) of the Reserve is currently in commercial forestry and the remainder in native forest at varying stages of regeneration. Commercial forest in the Reserve has a 30 June 2021 valuation of $6,214,000 (attached).
5. In addition, there are 529ha of commercial forestry across five HBRC-owned properties of a combined area of 1029ha. These properties have a range of objectives as described in this item, including wastewater irrigation, carbon sequestration, recreation, and trialling and demonstrating alternative timber species. Commercial forest in the HBRC properties has a 30 June 2021 valuation of $7,754,800.
6. 136ha of Tūtira Regional Park was planted in mānuka over the period 2011 to 2013, approximately 104ha of which has successfully established and matured to form a mānuka plantation. The objectives of the plantation were to trial and demonstrate the viability of high UMF mānuka as an economic soil conservation crop alternative to plantation forestry on erosion-prone land and to facilitate the eventual reversion of the steep lands above Lake Tūtira to native forest. All of the costs and few returns have been realised early in the life of the plantation and it is currently well short of a positive return, but the 50-year projection is for an IRR of 8%.
7. Around 24ha of commercial forest has been established on river land controlled by HBRC. This is currently unvalued.
8. HBRC is a minor partner in 190ha of erosion-control forests across the region. These are expected to return in the realm of $500,000 to HBRC over the coming 10 years.
9. HBRC has a significant carbon portfolio of 146,400 post 1989 NZU and 14,907 pre 1990 NZU, currently worth $12 million at the current price of $76 per NZU.
10. Staff are in the process of forming a draft carbon policy to present to Council. The policy will confirm the approach HBRC will take to trading carbon which will have a significant effect on the returns of different land use and species selection options and, therefore, on decisions made in the management of the HBRC forest estate.
11. Detailed management plans are in place for the Tangoio Soil Conservation Reserve and the HBRC Forest Estate and have been approved by two trained foresters, one a member of the New Zealand Institute of Forestry. The Maungaharuru Tangitū Trust has approved the

management plan for the Tangoio Soil Conservation Reserve as is required by the Mana Enhancing Agreement signed with HBRC in 2016. Objectives and policies from the plans have been provided in this item and full plans will be provided to Councillors on request.

Strategic Fit

Water quality safety and certainty

12. All of the forests provide erosion control and sediment reduction benefits to some extent, but in the Waipukurau and Waipawa Forests this is negligible as the land is very stable anyway. In the erosion-prone soils of Tūtira, Waihapua and Tangoio, the benefits are significant. Having replaced aging septic tanks with the Mahia township wastewater scheme, the Mahia Forest plays an important role in improving water quality and safety in that area.

13. The Tūtira mānuka plantation has effectively revegetated 100 ha of erosion-prone soils (12% of the catchment draining to Lake Tūtira) in one of the most sensitive catchments (in terms of environmental, cultural and recreational values) in Hawke's Bay.

Smart sustainable landuse

14. The HBRC Forests are all multi-use properties. As well as the financial returns they generate via carbon sequestration and log sales, they play important roles in the communities in which they are situated. Forest management decisions are made in consideration of all the various values and objectives of the properties.

15. The Tūtira mānuka plantation is enabling a transition to native forest at a projected 8% IRR over 50 years. This is not as high a return as exotic plantation forestry could achieve, but is a much more suitable use for the land given the overriding soil conservation, recreation, and cultural objectives. It is also more than was achieved through grazing the land.

16. The plantation has made a significant contribution to the development of sustainable landuse options nationally. As the only plantation of 100ha or more at that time, it was an important case study and research site in the *High Performance Mānuka Plantations PGP Programme,* which ran from 2011 - 2018 and in which HBRC was a key investor. It was also one of two key sites used by Landcare Research scientists in assessing the erosion control potential of the landuse[5]. Comvita Ltd continues to undertake its own research in the plantation to determine the factors influencing honey production.

Healthy and functioning biodiversity

17. The Tangoio Soil Conservation Reserve and Mahia Forest contain areas classified by HBRC's ecologists as ecosystem prioritisation sites. Significant areas of natives are being planted and regenerated in the Tūtira and Waipukurau Forests, and the Tangoio Soil Conservation Reserve over the coming years.

18. The mānuka plantation has significantly increased the area of indigenous vegetation in the Lake Tūtira catchment. Mānuka is a primary colonising species and creates the conditions for other secondary species to establish and emerge through it over time, leading eventually to mature native forest.

Sustainable services and infrastructure

19. The Mahia Forest provides an important wastewater treatment function to the Mahia Community, and the Waipukurau Forest (also known as Gum Trees Mountain Bike Park) is a popular recreational venue and attraction to the town. Management of the Tangoio Soil Conservation Reserve is very important in ensuring the ongoing integrity of the section of State Highway 2 that runs through it. Due to access limitations, the Waihapua Forest Park has not yet

[5] Marden, M; Lambie, S; Phillips, C. (2020). Potential effectiveness of low-density plantings of manuka (Leptospermum scoparium) as an erosion mitigation strategy in steeplands, northern Hawke's Bay, New Zealand. *New Zealand Journal of Forestry Science.* 50:10. Retrieved from: https://nzjforestryscience.nz/index.php/nzjfs/article/view/82/33

been developed, but there is strong support for this in the surrounding Tūtira community (as previously represented by the now disbanded 'Tūtira Visionary Group').

20. In increasing soil protection in the event of significant rainfall events, the Tūtira mānuka plantation contributes to the protection of the landscape, infrastructure and services of the Regional Park (attached). The plantation aligns with other significant work to conserve soils and water quality in the Tūtira catchment, including the Maungaharuru Tangitū-led *Tūtira Mai i Ngā Iwi* and *Te Waiū o Tūtira* projects, and provides valuable lessons for the Right Tree, Right Place Project and HBRC's objectives in promoting regional afforestation.

Background

Tangoio Soil Conservation Reserve

21. The Tangoio Soil Conservation Reserve comprises 550ha adjacent to State Highway 2 between Tangoio and Tūtira. It was acquired by the Crown in 1946 for the protection of the Highway, following ongoing closures due to slips, most notably the 'Anzac Storm' of 1938 which caused the Highway to be closed for a period of months.

22. The Reserve was managed in turn by a series of Government departments, before this responsibility passed to the Hawke's Bay Catchment Board and then its successor HBRC in 1989 as required by Section 16 of the Act:

    22.1. *"Every soil conservation reserve shall be under the control and management of the Board within whose district it is situated, and the Board shall manage and control the reserve in such manner as in its opinion will best conserve the soil of the reserve and prevent injury to other land."*

23. Currently, 58% of the Reserve's area (320ha) is in commercial forestry and the remainder in varying stages of reversion to native forest. Returns from the commercial forestry are held in a Reserve Fund, which is used to entirely fund the management of the Reserve - no ratepayer funds are used in the management of the Reserve.

24. Budgets are reviewed every 3 years and cashflows modelled over 40 years to ensure the ongoing sustainability of the Reserve Fund. As required by Sections 21-23 of the Maungaharuru Tangitū Hapū Claims Settlement Act (2014), surplus funds not required for Reserve management are transferred to a 'Catchments Fund' where they available for carrying out soil conservation projects in the surrounding catchments in partnership with the Maungaharuru Tangitū Trust (MTT).

25. To date, $320,000 of Reserve Funds have helped leverage some $6 million in funding for the MTT-led projects *Tūtira Mai Ngā Iwi*, *Te Waiū o Tūtira*, and *Kia eke Te Ngārue, Kia eke Arapawanui.*

26. A Mana Enhancing Agreement signed with MTT in 2016 requires HBRC to maximise training and employment opportunities for MTT in the Reserve, and for HBRC and MTT to agree the Reserve's three-yearly management plans.

27. As the forests on the Reserve were established prior to 1990, they are not eligible for entry in the Emissions Trading Scheme and earning NZU.

Forests owned by HBRC

River Berms

28. Around 24ha of forest is planted on river berms around the region. Generally, soils are very stony and conditions for tree growth are poor in these sites. River berms are also invariably weed hot spots and control of these in newly-established plantings can be challenging.

29. Despite these challenges, forests are a good use for the many unused hectares of river berm land controlled by HBRC. As well as the revenue from carbon and logs, tree canopies assist in shading out the various weeds over time and negate the need for grazing and the associated

risks of nutrient loss in the free-draining gravel soils. The flat terrain ensures low logging costs with no tracking and subsequently low risk of sediment loss.

30. 6ha of the river berm forests are radiata pine established in the mid to late 1990s. The other 18ha is a 2021 planting of radiata pine (14ha) and *Eucalyptus bosistoana* (4ha) on the left bank of the Waipawa River off Walker Road.

31. While the Walker Road planting is too newly established for registration in the emissions trading scheme, HBRC's extensive willow plantings received a one-off allocation of 14,907 pre-1990 NZU in 2008.

Joint Venture Forests

32. Between 1994 and 2000, HBRC entered into 10 joint ventures with landowners across the region to establish radiata pine plantations on some 190 hectares of erosion-prone land. The joint venture contracts expire on harvest of the trees.

Table 1: HBRC Joint Venture Erosion Control Forests

Owner	YOE	Logging Date (at 30yrs)	Ha	Estimated Ha Harvestable	HBRC share	Estimated HBRC revenue
Netherton Station	1995	2025	29	14	14%	$35,000
McRae Trust	1995	2025	9.5	9.5	13%	$30,875
Roy Stoddart	1995	2025	40	4	15%	$ -
Parsons Estate	1996	2026	22.6	22.6	22.6%	$127,690
Beamish	1996	-	5.4	0	18%	$ -
Waipari Station (Kairākau)	1997	2027	20	20	16.6%	$83,000
Lloyd and Virginia Cave	1997	2027	30	30	13%	$97,500
Bruce Goldstone	2000	2030	4.5	4.5	13%	$14,625
Waipari Station (Glengarry)	2000	2030	20	20	14%	$70,000
Haupouri Station	2000	_	8.4	0	18%	$ -
Totals			**189.4**	**124.6**		**$535,385**

33. Though erosion control was HBRC's primary objective, the agreements anticipated the forests would eventually be harvested and generate a financial return. The objective of the joint venture contracts is stated in Clause 1.1 of each:

    33.1. "*The goal of the parties hereto is the establishment and management of the Erosion Control Plantation, which is to be planted with rapidly growing exotic timber species, for a rotation period to ensure that the land within the Erosion Control Plantation is managed and harvested in a manner which will minimise the erosion impacts*".

34. More recently, staff have agreed with landowners that approximately 64ha of the joint ventures will not be harvested as the environmental impacts would be too great. Staff are looking into ways to assist the joint venture partners to revert the unharvested forests to native over time, either through assisting registration of the trees in the ETS and using NZUs earned to fund the work, or by using some of the revenue earned in harvesting the better JV forests.

35. Management objectives for the joint venture forests are listed in the HBRC Forest Estate 2021-2031 Management Plan as:

    35.1. To ensure where harvest is environmentally and economically feasible, it is carried out with minimal soil conservation or environmental impacts

    35.2. To assist landowners in transitioning harvested sites to a sustainable post-harvest landuse

    35.3. To assist landowners to transition to permanent native forest where harvest is not environmentally or economically feasible

35.4. To maximise financial returns from the forests without compromising the above objectives.

Tūtira Regional Park Pine Forest

36. Between 1991-1993, 78ha of pine forest was established on the Tūtira Regional Park prior to HBRC purchasing the property, and a further 36ha immediately after. All were established primarily for soil conservation following the devastation wreaked by Cyclone Bola (attached), with eventual financial returns from harvest being an important secondary objective.

37. The forest is currently in the process of being harvested and afterwards approximately 50% will be converted to native forest for permanent retirement. Council papers relating to the harvest procurement process were presented to EICC on 19 June 2019 and regarding the replanting on 3 February 2021.

38. Management objectives for the Tūtira Forest are listed in the 2021-2031 HBRC Forest Estate Management Plan as:

38.1. To manage the forest and plantation in a way that best supports the soil conservation, biodiversity, recreational, cultural and aesthetic values of the Regional Park

38.2. To maximise soil conservation and minimise sediment loss to waterways and Lakes Tūtira and Waikōpiro

38.3. To facilitate reversion to native forest over time

38.4. To enhance biodiversity values on the property and create connections to other habitat in the district

38.5. To maximise financial returns from the Forest while not compromising any of the above.

Tūtira Regional Park Mānuka Plantation

39. Since its purchase by HBRC in 1998, successive management plans for the Tūtira Regional Park had provided for the reversion of the 140ha of steep land above the lakes to native forest. This was seen to be the most appropriate landcover given the various soil conservation, recreation, biodiversity and cultural values and objectives of the property.

40. Initially it was proposed to revert the land by scaling back grazing intensity, thereby allowing mānuka and kanuka to establish while preventing large areas of rank grass and weeds from developing.

41. By 2010, a strong and growing market in mānuka honey had led to discussion around the feasibility and potentially greater profitability (relative to the standard practice of collecting honey from wild and unimproved mānuka) of establishing plantations of mānuka bred specifically for high UMF*[6]. In 2011, HBRC became an investor in the *High Performance Mānuka Plantation Research Programme* alongside industry and government agency partners.

42. The Tūtira mānuka plantation was established under the umbrella of this programme. The objectives of the plantation were to speed the reversion to native occurring naturally, trial the viability of mānuka plantations as an alternative and more sustainable landuse option to grazing or plantation forestry on steep and/or eroding hill country, and use the results to inform landowners and a planned HBRC 'Trees on Farms' regional afforestation programme, all while making a greater than 7% return on investment.

43. Consultants advising on the venture considered HBRC's threshold ROI of 7% would be easily achieved and that the IRR was likely to be around 19.5%. This advice was given with the caveat …"*it should be pointed out that no large-scale areas of known high UMF variety mānuka have been established. Thus, costs and returns to date are best estimates*[7]".

[6] UMF stands for "Unique Manuka Factor" and is a measure of the unique type of antibiotic activity naturally present in Manuka honey

[7] Hardwood Management. (2011). Mānuka Business Proposition. Retrieved from: http://hawkesbay.infocouncil.biz/Open/2011/09/CS_14092011_ATT_EXCLUDED.HTM

44. Ultimately, some 104ha of mānuka were successfully established. The seedlings were supplied by Comvita Ltd and had been bred for high UMF levels and for the timing of their flowering.

45. A contract signed by HBRC and Comvita in 2012 gave Comvita exclusive rights to beekeeping on the property. The contract is reviewed every 7 years, with the last review having been carried out in 2019. Given the high percentage of high UMF honey in the previous year, in the 2019 review HBRC negotiated a change from a fixed 18.5% percent share of honey revenue to the use of a 'sliding scale', with percentage share of revenue based on the UMF value of the honey.

Table 2: Sliding Scale, HBRC revenue share

UMF	HBRC Share of Net Revenue
UMF <5	5%
UMF 5-8	10%
UMF 8-11	20%
UMF 11-15	30%
UMF 15+	35%

46. The first commercial harvest from the plantation occurred in 2018 and has continued annually since. Key metrics are shown in Table 2 below. The 2020-2021 season harvest was badly affected by poor weather and triggered the floor payment of $50 per hive.

47. Preliminary results from the 2022 harvest indicate an improved return this year. Hive placement and removal was aligned more strictly to the main nectar flow, resulting in a higher percentage (estimated ~80%) of monofloral honey. UMF levels are sitting in the range 4-6, with estimated final levels of 7-9 after the 10-month presale storage period. Mānuka honey is stored for a period of time prior to sale to allow greater levels of UMF to be converted from its chemical precursor (DHA).

48. The improved timing was made possible by using a helicopter to place hives in locations where previously track limitations had restricted vehicle access in wet ground conditions. It remains to be seen whether the helicopter cost is justified by the increased honey returns. Once the season's final harvest report is received, staff will assess the costs and benefits of improving track access for greater returns. Given the overriding soil conservation and aesthetic considerations, doing so would only be considered if the impacts on these were minimal.

Table 3: Key Metrics of Harvest to Date, Tūtira Plantation

	Hive numbers	Kg Honey (total)	Kg Honey (per hive)	% UMF 10 or higher (after x months storage)	HBRC Return (excl GST)	Initial forecast in business case
2018	72	1,977	27	13%	$6,334	$19,384
2019	72	2,187	30	0	$6,561	$24,829
2020	96	5,598	58	0	$5,835	$28,314
2021	112	542	5	0	$5,600	$28,314
2022 (Preliminary results)	100	1,813	18	To be confirmed	To be confirmed	$28,314

49. As shown in Table 3, notwithstanding the potential improvements in the current season, honey returns have been short of those predicted in the initial business proposition presented to council in each year to date. A particularly poor 2020-2021 season was reported by staff in the August 2021 'Significant Activities' update to Council, where it was picked up and reported on by media in an article titled *Hawke's Bay Regional Council's mānuka honey venture makes dismal returns* and published in Stuff online 12 Nov 2021. A paper was presented to Finance, Audit and Risk Sub-committee (FARS) on 2 March 2022 addressing concerns raised by the article.

Waihapua Forest Park

50. The Waihapua property had been of interest to HBRC for many years before the opportunity to purchase it arose in 2009. The reasons were summarised by a sub-committee of Council charged with forming a strategy statement for the property in the same year:

    50.1. "*It's significant open space and strategic value given its location adjacent to key amenity areas and Tangoio Soil Conservation Reserve; its potential to demonstrate land use options relating to soil conservation and waterways; its severely eroded nature (Attached); and its commercial advantages associated with timber and carbon trading.*"

51. Following purchase, Council developed the following Goal for the property:

    51.1. "*A profitable working example of integrated and multi-functional land use centred on sequestration and soil conservation forestry consistent with wider social, amenity, environmental and economic values and opportunities within the Tutira area."*

52. Council also identified key functions for the property as:

    52.1. *'social engagement, amenity values, recreation, the improvement of water quality, soil conservation, biodiversity and indigenous ecological values, research, and demonstration.*"

53. Council was advised at the time an internal rate of return of 6-7% was likely.

54. The name 'Waihapua Forest Park' was formally adopted by Council on 27 April 2011 after advice from Maungaharuru Tangitū Trust, endorsed by the Tūtira Visionary Group- a group formed around that time to encourage the development of tourism and other opportunities for the Tūtira District. The name is derived from a deep spring with special qualities found on the property.

55. Planting was planned in conjunction with the Hawke's Bay Branch of the New Zealand Farm Forestry Association and carried out between 2009 and 2013. More than 25 timber species on a range of management regimes were established (attached). There are two dedicated trial sites on the property, one of *Eucalyptus fastigata*, and the other of mixed ground durable eucalyptus species. The site-specific planting resulted in many small compartments, useful for trial and demonstration purposes, but significantly increasing the difficulty of logging economically using conventional methods.

56. Approximately 30ha of the property was deemed to be too steep and erosion-prone to establish in production forestry or was already in the early stages of reversion to native forest and not planted with production species on that basis.

57. As well as being envisaged as a future recreational and educational venue in its own right, Waihapua was seen as a key addition to a potential walkway over the corridor of public lands stretching almost uninterrupted for some 16km from the bottom of the Tangoio Soil Conservation Reserve in the south to the top of the Tūtira Regional Park in the north (figure 1).

Figure 1: Concept Plan, Tūtira Trails

58. Due to a lack of safe access to the property, the walkway has not yet been developed and opened to the public. The main access is through private property, but the easement only provides for HBRC and its contractors. Other options are possible, but difficult to form tracks in given the steep and eroding nature of the land. Access from State Highway 2 is hazardous and would require investment before opening to the public.

59. Management objectives are listed in the HBRC Forest Estate 2021-2031 Management Plan as:

    59.1. To maintain soil conservation on the property and minimise sediment loss to the Waikoau River and erosion impacts on State Highway 2

    59.2. To establish and maintain secure access to the property for recreational use

    59.3. To establish and maintain links from the property to Guthrie-Smith Arboretum and Education Trust and Tūtira Regional Park

    59.4. To enhance biodiversity values on the property, creating connections to other habitat in the District

    59.5. To demonstrate alternative commercial forest species and support the development of their genetics and markets

    59.6. To maximise financial returns from the Forest while not compromising any of the above.

Mahia Forest

60. The Mahia Forest property was purchased in 2009 primarily as a receiving environment for Mahia township's treated wastewater, but also as a carbon and timber investment property.

61. Unlike the Central Hawke's Bay Wastewater Forests, Wairoa District Council (WDC) did proceed with irrigating treated wastewater into the Mahia Forest.

62. After being pumped over the hill from the township, the wastewater passes through a series of three settlement ponds, before being screened and pumped to irrigation fields in the forest. Irrigation in the different fields is alternated to allow them to fully dry out between applications and maintain the treatment capacity of the soils. Of the total 50ha land area, and 35ha forested area, approximately 11ha is used to treat wastewater.

63. A key risk in wastewater-irrigated forests is exceeding the treatment capacity of the soil. This was a major reason for the dissolution of Rotorua's Whakarewarewa Forest wastewater irrigation scheme after 28 years of operation. This risk is managed in the Mahia Forest through

ongoing monitoring of tree health, application volumes and soil moisture levels. The risk to the environment is managed by monitoring water quality parameters in the stream leaving the forest.

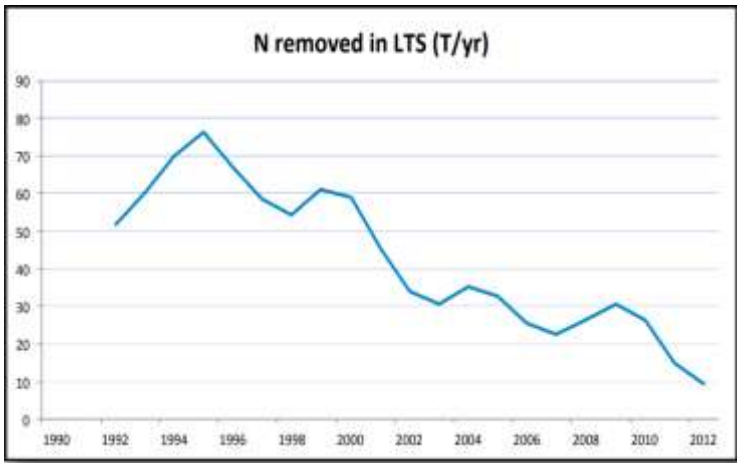


Figure 2: Nitrogen removed from Wastewater in the Whakarewarewa Land Treatment System Over Time[8]

64. Management objectives are listed in the HBRC Forest Estate 2021-2031 Management Plan as:

64.1. To maintain the ability of the land to receive and effectively treat wastewater from the Mahia Township for the foreseeable future.

64.2. To protect cultural values within the Forest, and in particular the registered archaeological sites.

64.3. To enhance biodiversity values in the Forest, building on the work of the Predator Free Mahia Project.

64.4. To maximise financial returns from the Forest while not compromising any of the above.

Central Hawke's Bay Forests: Waipukurau and Waipawa

65. The two Central Hawke's Bay properties were purchased between 2009 – 2010 and, as with the Mahia Forest, were established in forest for the purpose of safely disposing of treated wastewater from the townships while earning revenue from carbon sequestration and high value hardwood timber.

66. Central Hawke's Bay District Council opted for another option to deal with their wastewater, and the forests have never been used for this purpose.

67. In 2009 HBRC signed an MoU with the Rotary Rivers Pathway Trust, allowing the Trust use of the Waipukurau Forest for mountain biking for a term of 30 years. Since that time, the Trust has established approximately 15km of mountain bike tracks in the forest, with a further 5km scheduled for completion in the coming months. The Park is ridden an estimated 10,000 times annually.

68. Currently, the Waipawa Forest has only a commercial purpose, though two requests from the community have been made for its use. The Central Hawkes Bay District Council has requested the use of the forest for disposing of sludge remaining after their sewerage treatment, and the Hawke's Bay Riders' Club has requested its use for horse rides and potentially grazing.

69. Management objectives for the Central Hawke's Bay Forests are listed in the HBRC Forest Estate 2021-2031 Management Plan as:

69.1. To maintain the ability of the land to receive and effectively treat Central Hawke's Bay

[8] Rotorua Lakes Council. (2014). Rotorua Wastewater Treatment Plant Applications for Resource Consents and Assessment of Environmental Effects Support Document, No. 1. Retrieved from: https://atlas.boprc.govt.nz/api/v1/edms/document/A3028753/content

wastewater if required.

69.2. To maintain the recreational value of the Waipukurau Forest to the Central Hawke's Bay Community.

69.3. To enhance biodiversity values in the Waipukurau, creating connections to habitat along the Tukituki River.

69.4. To maximise financial returns from the Forests while not compromising any of the above.

Management

70. Currently, management of the Tangoio Soil Conservation Reserve, HBRC Forests, and Tūtira mānuka plantation is carried out by a Forests and Reserves Officer, in the Open Spaces Team of the Asset Management Group of HBRC.

71. Forest management decisions are made according to HBRC's standard financial delegations and significance criteria. Detailed management plans for the Tangoio Soil Conservation Reserve and HBRC Forests align with the LTP period and set out forest objectives and policies. The plans have been reviewed and approved by two reputable Hawke's Bay foresters as well as the Team Leader Open Spaces and Group Manager, Asset Management.

72. Due to the high complexity of HBRC's carbon portfolio and the significant costs of calculation errors (both in terms of fines and impacts on decisions), carbon accounting is still contracted to an external consultant. Similarly, harvest in sensitive environments is contracted to harvest managers.

73. A position of both forestry regulator and manager puts HBRC in an unusual situation and entails risks of the regulator being held to account for its own practices, a risk that is greater than that of many other local authorities given the erosion-prone and environmentally-sensitive nature of a large area of its forests. However, this is not an unreasonable expectation and helps HBRC to keep skin in the game of forestry, form solid working relationships with industry, and sustain expertise within the organisation in making decisions and advising on matters relating to forestry.

Discussion

Key Issues

Alternative species

74. HBRC forests contain a wide range of species as shown in Figure 3 below. Though generally alternative species don't provide the certainty or level of harvest returns of radiata pine, in some situations, other priorities such as aesthetic value and carbon sequestration have taken precedence. Past replanting decisions, particularly at Waihapua, also reflect Council's desire to support species diversification within the New Zealand Forest Industry.

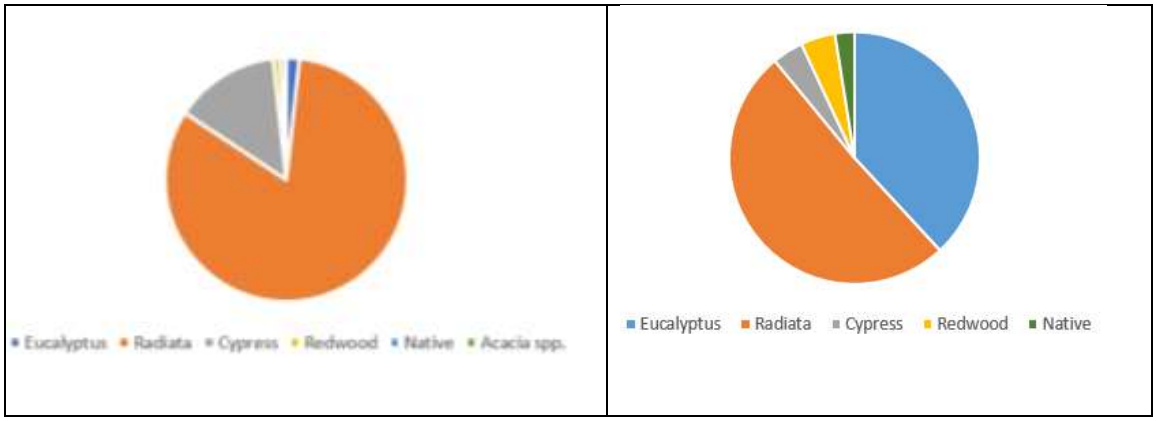


Figure 3: Species mix in TSCR (left) and HBRC Forests (right)

75. The current HBRC Forest Estate Management Plan species selection policy attempts to balance these objectives with managing risk in the returns on investment of ratepayer funds (particularly given the increasing area returning to native) by maintaining radiata pine at around 50% of the commercial area of the estate with the remainder allocated to alternative species. Given the importance of maintaining the sustainability of the TSCR reserve fund and Catchments Fund and the progressively decreasing area of commercial forest, the species selection policy there is 75% radiata pine, once again applied to the commercial area only. This ratio will be revised at the next management plan period (3-yearly to coincide with the LTP period), particularly given the recent high prices for some cypress species.

76. The development of alternative timber species has historically been limited in large part by limited resources spread widely over a variety of species. Recently, leadership in projects such as the Specialty Wood Products Partnership (SWPP), New Zealand Drylands Forest Initiative (NZDFI), and the Cypress Interest Group of the New Zealand Farm Forestry Association has focused effort and resources more effectively behind the most promising species.

77. Small volumes of alternative species have become available for milling recently - E*ucalyptus fastigata* were situated amongst radiata pine logged at Tangoio, and large *Eucalyptus regnans* and *Juglans nigra* (black walnut) will be felled soon in a land clearance exercise, also at Tangoio. In general though, the alternative species are all young and, particularly as alternative species have longer rotation ages than radiata pine, no significant volumes will become available for harvest for at least another 15 years. It is difficult to model financial returns from alternative species given the small volumes traded and subsequent lack of market data.

78. Under current market conditions, the large areas of *Eucalyptus fastigata* and *regnans* on the HBRC estate are uneconomic to harvest and are a carbon crop only. Although the timber able to be effectively processed is of reasonable quality, markets for the logs are very limited and prices very low. This is mostly due to very poor recovery of sawn timber from logs (~50%) due to issues with warping, cell collapse and splitting during and after milling, and the time and handling in trying to minimise these issues. It is possible markets for these species may develop in the future as technology in wood biofuels, LVL (laminated veneer lumber), and CLT (cross laminated timber) develops.

79. Species selection objectives and policies are listed in the *HBRC Forest Estate Management Plan* as:

Objectives

79.1. *To grow species appropriate for site and best meeting the Council's financial and non-financial forest management objectives*

79.2. *To support well founded species diversification of the New Zealand Forest Estate.*

Policy

79.3. *Select native species in preference to exotic where they are equally able to achieve the given management objectives.*

79.4. *Confirm replanting species selection choices prior to harvest based on the most current advice and information available and on the criteria of:*

79.4.1. *Alignment with primary management objective of the land, ie either erosion control or wastewater treatment, and secondarily recreational access*

79.4.2. *Site suitability*

79.4.3. *Financial returns on investment*

79.4.4. *Contribution to regional economy (regional processing opportunities).*

79.4.5. *Aesthetics (in high public use areas)*

79.4.6. *Strategic alignment with industry initiatives and HBRC goals.*

Carbon forests and carbon trading

80. Carbon farming was a significant factor in the purchase of the Waihapua, Mahia, Waipukurau and Waipawa forests and the decision to plant large areas of fast-growing eucalyptus species in them. Apart from the highest erosion susceptibility land at Waihapua, they weren't envisaged as being permanent forests, and timber production was listed as a complementary objective, though as described previously this will be difficult to achieve.

81. The NZU balance earned in the forests to date and modelled into the future is shown in figure 4 below. The dotted line indicates the decreasing accuracy in predicting NZU balances at extended timelines. At the current price of $76 per NZU, the balance of 146,400 post 1989 NZU and 14,907 pre 1990 NZU is currently worth $12 million.

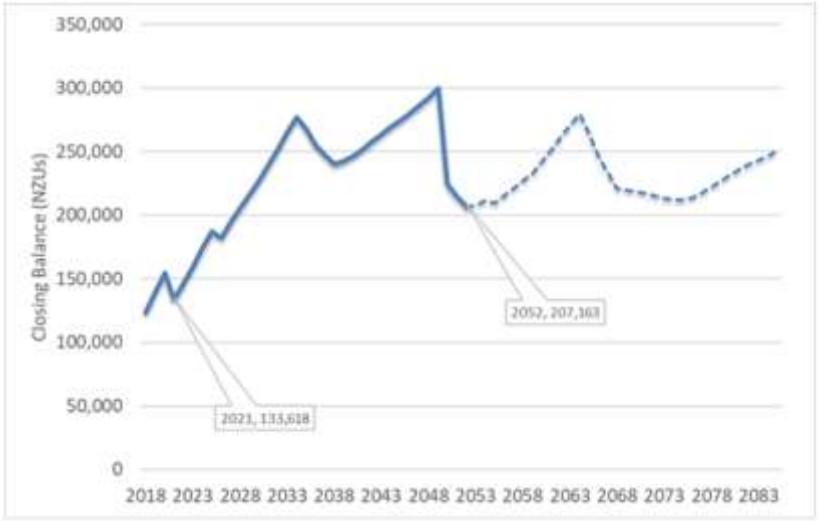


Figure 4: Forecast HBRC NZU balance to 2083

82. No NZU from the HBRC carbon holding account have been sold to date, but this will potentially change soon with NZU proposed to be sold to finance the recently-created Climate Action Ambassador role.

83. FARS Committee 2 March 2022 asked that a clear carbon policy be formed prior to any NZU sales and staff are currently in the process of doing so.

84. Particularly if carbon continues to increase in value over time (figure 5), the carbon policy, and specifically whether NZU are traded and at what times and volumes, will have a significant impact on returns and therefore decision-making in HBRC's forest estate.

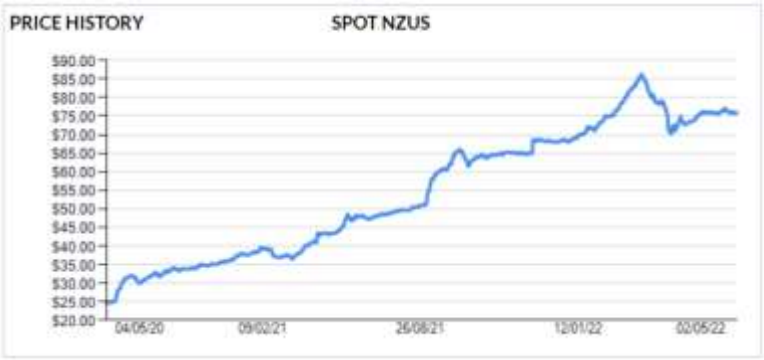


Figure 5: Change in NZU price over time

85. For example, Table 4 below shows the IRR that would be achieved from the Tūtira mānuka plantation under 3 scenarios and demonstrates the significant impact NZU sales have on the profitability of the plantation.

Table 4: IRR at different NZU Sale Scenarios

Years earned	NZU Price at that time	Scenario 1: First NZU sales in 2022	Scenario 2: NZU sold as earned	Scenario 3: No NZU sales
2018	$23	-	$19,458	-
2019	$25	-	$10,650	-
2022	$82	$169,084	$64,780	-
Total		$169,084	$91,560	-
IRR over 50 years		8%	8%	NA $830,000 loss

Central Hawke's Bay Eucalyptus regnans

86. Large areas of eucalyptus regnans (approximately 75ha) were planted in the establishment of the Central Hawke's Bay forests. As a rapidly growing species, *E. regnans* takes in large volumes of water and nutrients and is well-suited to wastewater irrigation. In addition, stands of healthy *E. regnans* hold more carbon than any other forest type in the world making them well suited to carbon forestry.

87. However, without irrigation *E. regnans* isn't a suitable species for the CHB climate. The rainfall band in its natural range in Tasmania and southern Victoria is 900-1100 mm[9], whereas the five year average for Waipukurau is 690mm, with recent lows of 550 mm in 2019 and 530 mm in 2020.

88. Approximately 3.5ha (8%) of the *E. regnans* in the Waipukurau Forest and 2ha (5%) of the *E. regnans* in the Waipawa Forest died in the 2019-2020 and 2020-2021 summer droughts. Tree mortality was worst in areas with northern aspects and the poorest soils. These areas have been cleared for replanting in more suitable species, but particularly given the predicted impacts of climate change, more deaths are likely in the future.

89. There are no markets for the trees at this age. Due to their size, a lot of manual handling is involved in processing and carting them for firewood. Firewood merchants these days prefer large diameter logs processed using automated machinery, allowing many cubic metres of wood to be carted and processed efficiently and with little manual labour.

90. A minimum age of 40 years is generally recommended before *E. regnans* can be sold and milled for timber, in order to better deal with the growth stresses, splitting and warping the species is prone to. Even then, markets for the trees are very limited and if they can be found at all they pay poorly, as described previously.

91. In addition, fire risk in the properties is significant. The *E. regnans* and other eucalyptus species in the forest are all of high flammability, and even the radiata pine is classed as moderate in this regard. Land on the western boundary of the Waipukurau Forest, in the direction of greatest risk due to the prevailing wind, has been subdivided and is being sold in lifestyle blocks, and the risk of fires being started from human activity and migrating into the property from these properties will increase.

92. The replanting plan for the Waipawa Forest is on hold pending a decision on whether HBRC is going to retain the property or not. If the property is to be sold, staff recommend leaving the cleared areas unplanted given purchasers may not want those areas back in forest. If the property is retained and Council agrees to CHBDC's request to dispose of biosolids on it, the replanting plan will need to be made with that in mind.

93. Members of the NZ Farm Forestry Association and the Rotary Rivers Pathway Trust (the organisation that has established the mountain bike tracks in the forest) were involved in

[9] Williams, B & Besednjak, T. (2007). EM112 Gumeracha Eucalypt Climate Change Trials 2007 Interim Report. Retrieved from: *https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.733.3033&rep=rep1&type=pdf*

planning the replanting of the Waipukurau Forest cleared areas. The plan is still being confirmed, but key principles at this point are:

93.1. Radiata pine isn't the best fit with the recreational values of the forest. Aesthetically, there are better options, and the harvest regime for radiata pine would require largely destroying the approximately $300,000 investment in mountain bike tracks every thirty (30) years. Planting species able to be logged selectively and milled in small local or portable mills for niche markets would minimise this damage and disruption to the recreational use of the property. As the forest is generally easy rolling contour, this method of harvest will be easily achievable.

93.2. Deciduous trees and broad-leaved natives are far less flammable than exotic conifers due to the volumes of water they hold in their leaves and stems over summer periods, and in the Waipukurau Forest this is an important factor given the issues described previously. Poplars in particular have proven to slow wildfires in Australia when planted in dense belts. Oaks are the deciduous species with the most coordinated support behind their genetic and market development.

93.3. While HBRC already has a demonstration forest and trials in the higher rainfall environment of Waihapua (1,267mm 10-year average rainfall), the Waipukurau Forest provides an opportunity to replicate this in a dryland environment, including the use of lower flammability species. This is particularly relevant given the predicted impacts of climate change.

93.4. It is important that native vegetation is planted in the forest. Many of the eucalyptus trees will never provide a saleable log and at present are purely a carbon crop. For the longevity of the forest, there must be adequate native vegetation to take over before the eucalypts become too large and unmanageable. Natives are beginning to regenerate underneath, but this process is slow due to the low rainfall and scarcity of native seed sources and needs to be supported. Native plants and trees would be difficult to establish on the hard bony sites that need replanting and will be planted more strategically in high amenity areas and in the wetter valley bottoms.

Access

94. HBRC is dependent on access across private land for entry to the Mahia and Waihapua Forests, and for log truck access to the Tūtira Forest, and for access to three areas of the Tangoio Soil Conservation Reserve. Only one of these access points is not protected by easement.

95. To log the trees in the Tangoio Soil Conservation Reserve above the Devil's Elbow, access will need to be gained across a further three properties. One of these access points will be a one-off requirement only as the area will not be replanted in commercial forestry, but easements will be sought for the other two given they will be replanted in commercial trees.

Waipawa Forest

96. The only property in the HBRC portfolio without a clear objective at this point is the Waipawa Forest. It is currently an underutilised and (given the *Eucalyptus regnans* issues) a low-productivity asset. Given CHBDC's interest in disposing of biosolids derived from wastewater treatment on the property, a conversation has been initiated with them regarding the long-term future of the site.

Impact on the Community or Council

97. With the exception currently of the Waipawa Forest, the various forest assets managed by HBRC provide a range of significant values to the communities they are situated in, and decisions on their management therefore have the potential to impact significantly on these communities.

98. Staff propose that updates on the forestry assets are provided to Council following the end of

every financial year. Harvest reports for the mānuka plantation and any forest that has been logged will generally be available at this time.

99. Decisions of significance will continue to be brought to Council as per Council policy and as has been the case with recent examples such as the Tūtira pine forest replanting plan and the Tangoio and Tūtira pine forest harvesting procurement. At this point in time, the decisions of significance needing to be made are whether to divest of the Waipawa Forest and confirmation of HBRC's carbon trading policy.

Other Council's experiences

100. Local authorities own or manage 53,282 hectares (2.5 %) of the 2.1 million hectares of commercial forest land in New Zealand for a wide range of objectives (attached). As such, there is ample opportunity to learn from other councils' experiences as required.

101. Though other Regional Councils have contributed to research into mānuka plantations as a landuse, the Tūtira plantation is the only known Council-owned mānuka plantation in the country.

Next Steps

102. Review of Waipawa Forest to be undertaken to determine optimal use of this asset.

103. Staff will bring a draft carbon trading policy to Council when complete.

104. Staff will report back to Council when the 2022 Tūtira mānuka plantation and pine forest harvest reports are available.

Decision Making Process

105. Staff have assessed the requirements of the Local Government Act 2002 in relation to this item and have concluded that, as this report is for information only, the decision-making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the *HBRC Forestry* staff report.

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Attachment/s

1⇩ Forestry attachments

Forest assets of New Zealand Territorial Authorities

Table 1: Data from HBRC staff email survey 2019

Local Authority	Area (ha) of Forest	Area (ha) in Production Forest	Area in Radiata	Owned by	Managed by	Goals of Forest Management
Hawkes Bay Regional Council	1650	1170	490	550ha Crown Soil Conservation Reserve; rest HBRC	HBRC	Revenue from logs, carbon, and honey (mānuka plantation); demonstration of different species; species trials; soil conservation; wastewater irrigation / treatment
Timaru District Council	235	235	164	Crown reserves save 36ha TDC owned	TDC, in house Parks dept.	Log revenue
Wairoa District Council	46	46	46	WDC	WDC	Timber, recreation
Marlborough and Kaikoura District Council joint ownership	3,096	3,096	3033	MDC & KDC	Merrill & Ring	Originally soil conservation, now commercial with some mountain biking
Tasman District Council	3349	2918	2405	TDC	TDC	Revenue to offset rates through logging. Grazing, cellular leases, recreation, biosolid dispersal, ginseng lease
Carterton District Council	349	245	205	CDC	Forest Enterprises	Honey (mānuka 40ha), logs, recreation
Western Bay of Plenty	1875	1114	964	WBOPDC	WBOPDC	Recreation, landscape, timber, soil conservation for water catchment and harbour water quality, care of cultural sites
Environment Canterbury	2464	2464	2283	ECan	ECan	Flood protection (braided rivers); carbon; logs, soil conservation, recreation, biodiversity; reversion to permanent native
Northland Regional Council	523	320	320	NRC	Property Team, with Consultant and Contract Manager	Originally soil conservation for river and harbour protection, water quality and care of cultural sites, biodiversity, now operated as a commercial forest

Local Authority	Area (ha) of Forest	Area (ha) in Production Forest	Area in Radiata	Owned by	Managed by	Goals of Forest Management
Greater Wellington Regional Council	49,674	5,231	5,231	Land owned by GWRC and trees owned by RMS	PF Olsen (Plantation) GW (Native)	Log revenue, honey revenue, soil conservation, water supply catchment protection (native- not commercial), public use (glider club, rifle range, karting club, horse riding, mountain biking, pony club, walking, biodiversity); recreational hunting; 4WDs
Dunedin City Council	20,000	18,000	14,580	Dunedin City Holdings Ltd (CCTO)		Log and carbon revenue, recreational use (walking, mountain biking, horse riding, hunting, motor cross, 4x4), water supply protection (production forest), honey production, ecological research, threatened species habitat (NZ falcon, SI robin, Eldon's galaxias, Australasian bittern, SI fern bird, spotless crake), mining heritage site protection, to support and or participate in added value wood processing in Otago and Southland.
Tararua District Council	664	431	427			Soil conservation, road stabilisation, honey revenue, recreation
Waimate District Council	152	152	140	WDC/ DOC / Other Crown	WDC	Investment / carbon

Table 2: Data from Ashburton District Council

Local Authority	Area (ha) in Production Forest	Managed by	Objectives of Forest Management
Invercargill City Council	3058	CCTO	Financial
Southland District Council	1384	IFS Growth	Financial
Queenstown Lakes District Council	296	In-house with contracted support	Recreational and financial
Central Otago District Council	122	Laurie Forestry ltd	Financial
Waitaki District	114	Contracted + Council support officer	Financial and reserve management
McKenzie District Council	1,000	In -house and contracted	Financial
Ashburton District Council	1,098	In -house	Financial
Selwyn District	97	In-house and contracted	Financial and reserve management
Christchurch City Council	1,363	PF Olsen	Financial and Recreation
Waimakariri District Council	600	Contracted and in-house	Contracted and in-house
Hurunui District Council	75	Laurie Forestry	Financial
Nelson City Council	610	PF Olsen	Financial and recreation
Horowhenua District Council	114	Forme Consulting	Financial
Masterton District	56	Forest 365	Financial
Palmerston North City Council	428	In house and contract as required	Financial and water catchment
Horizons Regional COUNCIL	1,377	Contracted to Forest 360	Erosion control and financial
Rangitikei District COUNCIL	10	In house and contracted as required	Reservoir management
New Plymouth District Council	326	PF Olsen	Financial , includes JVs
Hastings District Council	46	Contracted	Landfill
Gisborne City Council	1,680	CCTO	Financial
Taupō District Council	990	Contracted	Financial
Rotorua Lakes District Council	136	In-house and contracted	Recreational and financial
Whakatane District Council	7	In house and contracted	River protection
Bay of Plenty Regional	111	Contracted	Financial
Tauranga City Council	1,063	Contracted to Interpine ltd	Recreational, reservoir management and financial
Western Bay District Council	647	Contracted to Interpine ltd	Recreational and financial
Hauraki District Council	97	Contracted	Financial
Thames Coromandel District Council	286	Contracted	Financial
Environment Waikato	95	Contracted	Financial
Kaipara District Council	135	Contracted	Financial
Whangarei District Council	92	Contracted	Financial
Northland Regional Council	295	Contracted	Financial
Far North District Council	52	Contracted	Financial
Total area of forest across both tables	**53,282ha**		

[3] Rotorua Lakes Council. (2014). Rotorua Wastewater Treatment Plant Applications for Resource Consents and Assessment of Environmental Effects Support Document, No. 1. Retrieved from: https://atlas.boprc.govt.nz/api/v1/edms/document/A3028753/content

HBRC Forests and Tangoio Soil Conservation Reserve Key Financial Figures

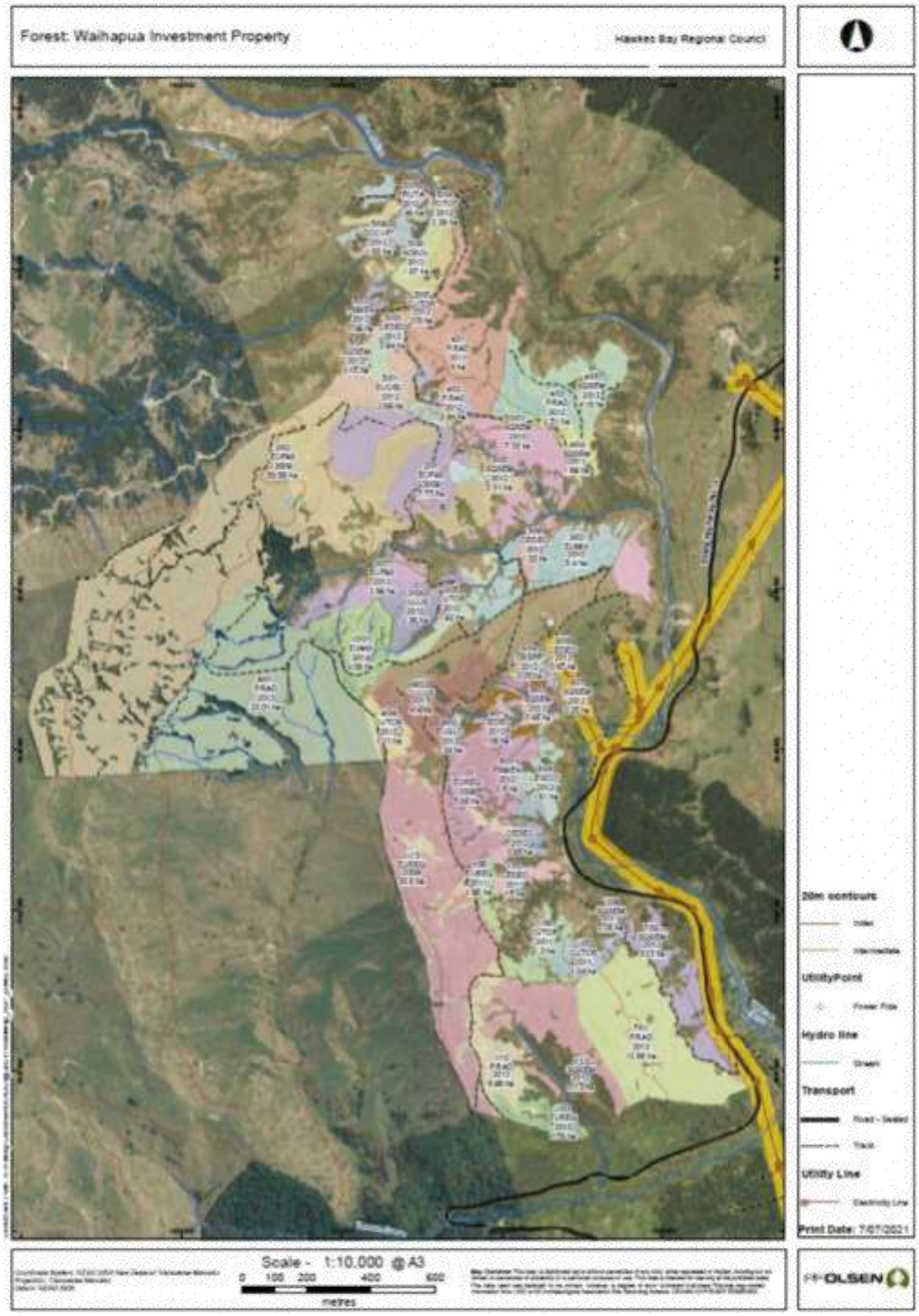
Property	Land & Improvements Valuation 31 May 2019 $'000	Tree Crop Valuation 30 June 2021	NZU Balance	NZU Value at $82 per NZU	Purchase date	Purchase price	Gross property land area (ha)	Net stocked area (ha)
Mahia	$129,000	$139,300	6,246	$512,172	2010	$450,000	52	36
Waihapua	$1,560,000	$1,097,000	45,456	$3,727,392	2009	$1,048,000	316	212
Waipawa	$521,000	$290,200	15,790	$1,294,780	2009	$753,000	78	70
Waipukurau	$736,000	$361,300	22,301	$1,828,682	2009	$1,615,000	119	105
Tutira	$2,267,000	$5,867,000	56,607	$4,641,774	1998	Unknown	470	114 (pine) 96 (mānuka)
Tangoio Soil Conservation Reserve	$866,000	$6,214,000	N/A	N/A	N/A	N/A	550	330

Tūtira photo points post-Cyclone Bola

1988

2020

Waihapua Forest Map



Waihapua photo point, 1988 and 2021

Tūtira Regional Park Camping Ground Post-Cyclone Bola (1988)

Photo point, Tūtira Regional Park - 2014 and 2022

Hawke's Bay Regional Council

Environment and Integrated Catchments Committee

11 May 2022

Subject: Discussion of Minor Items not on the Agenda

Reason for Report

1. This document has been prepared to assist Committee Members note the Minor Items Not on the Agenda to be discussed as determined earlier in Agenda Item 6.

Topic	Raised by