Meeting of the Environment and Integrated Catchments Committee

Date: 10 November 2021

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

10 November 2021

Subject: FOLLOW-UPS FROM PREVIOUS ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE 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:

Leeanne Hooper
TEAM LEADER GOVERNANCE

Approved by:

Chris Dolley
GROUP MANAGER
ASSET MANAGEMENT

Iain Maxwell
GROUP MANAGER INTEGRATED
CATCHMENT MANAGEMENT

Attachment/s

1⇩ Followups for November 2021 EICC mtg

Follow-ups from Previous Environment & Integrated Catchments Committee Meetings

8 September 2021

	Agenda item	Follow-up item	Responsible	Status/Comment
1.	Follow-ups from Previous meetings	Provide an update on development of the Memorandum of Transition between HBRC, NCC and HDC for delivery of the Coastal Hazards Strategy	C Dolley	Memorandum of Transition drafted and going to the Clifton to Tangoio Coastal Hazards Joint Committee workshop on 5 November. Scheduled to go the Clifton to Tangoio Coastal Hazards Joint Committee meeting on 19 November. Will be workshopped with Councillors, to be scheduled in December 2021.
2	Follow-ups from previous meetings	DoC National Deer Strategy will inform HBRC deer control activitu and will be discussed at EICC once the Strategy has been made available	C Leckie/ I Maxwell	Strategy will be made available by DoC in the next 6-12 months
3	Enviroschools 2020-21 Update	Invite Youth Council to attend the November EICC meeting	D Broadley/ S Chandler	Item on 10 November 2021 Agenda

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

10 November 2021

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

10 November 2021

Subject: FUTURE FARMING TRUST 2020-21 ANNUAL REPORT

Reason for Report

1. This item introduces the Future Farming Trust 2020-21 Annual Report (attached) and presentation by the Trust Board.

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 HB Future Farming Trust 2020-21 Annual Report and presentation.

Authored by:

Leeanne Hooper
TEAM LEADER GOVERNANCE

Approved by:

James Palmer
CHIEF EXECUTIVE

Attachment/s

1⇩ HB Future Farming Trust Annual Report 2020-21

2⇩ HB Future Farming Trust Financials 2021

HAWKE'S BAY FUTURE FARMING
TE MATAU A MĀUI AHU WHENUA-HĪKINA TAIAO

Hawke's Bay Future Farming Trust
TE MATAU A MĀUI AHU WHENUA - HĪKINA TAIAO

Annual Report – 30 June 2021

The Trust held twelve monthly meetings over its last financial year, ending 30 June 2021.

Current Trustees are John van der Linden (chair), vice-chair Phil Schofield, treasurer Scott Lawson, Liz Krawczyk, Greg Hart, Tom Belford and Will Foley. Backgrounds of all Trustees are furnished in the Trust website: www.hbfuturefarming.org

The Trust also maintains a Facebook page at: www.facebook.com/HBFutureFarming-104458421275553/

Since date, Trust activities have been supported on a contract basis by David France, serving as project manager, as described further in this report.

Our mission is to:

"Promote, inspire and celebrate profitable farming systems that enrich the environment and the community."

We see our work as falling into two categories – communications and evidence-building, the former to receive roughly 25% of our resourcing, the latter, 75%.

Projects Underway

1. Communications

From a communications standpoint, we want to recognise and celebrate all sorts of initiatives Hawke's Bay farmers and growers are making to improve – which means lessen – their environmental footprint. Those could range from riparian planting or establishing wetlands to improving water efficiency or planting erosion-prone hillsides.

Website
We have begun to provide such examples on our website via case studies and videos, with the intention of stepping this up in the coming year.

Workshops
Over the last two years we have sponsored and/or organised a series of face-to-face forums to present alternative grazing and pasture management approaches to Hawke's Bay farmers. Taken together, over 200 HB farmers have participated in these workshops.

Our most recent workshops in Waipukurau, Wairoa and Rissington, featured regenerative soil expert Siobahn Griffin and attracted over 50 attendees.

2. Evidence-building

The Trust aims to establish to farmers and growers – using evidence we develop here in Hawke's Bay – that more beneficial environmental practices and better financial performance go hand-in-hand.

We plan to work with leading edge farmers and growers, documenting the success of their overall farming systems and – hopefully – making their practices irresistible to others who are watching expectantly or sceptically from the sidelines.

Our Trustees are united in the belief that our long-term focus must be on healthy soils, and the land, plant and animal management practices – label them however you like – that yield healthier, carbon-enriched soils.

To that end, we have committed limited funding to preparing two major, multi-year demonstration project proposals to MPI, and we have completed an analysis of soil carbon potential on a set of dairy farms in the region. Starting with the latter …

Soil carbon

This project, led by Trustee Phil Schofield is designed to measure with scientific rigour the ability of farm practices to increase soil carbon. We have measured soil carbon across three properties at various stages of organic/regenerative development owned by farmer John Kamp in Patoka. These farms were formerly high chemical input dairy operations.

Our carbon measurement methodology utilises the approach 'blessed' by MPI for nationwide application. In our view, soil carbon is a key indicator of overall soil health, which we regard as the prime driver of farming success. Additionally, as is well-known, the current Government has an interest in assessing whether carbon sequestered in soil (and potentially increased) can eventually be factored into its carbon neutrality objectives.

Our soil samples have been analysed by Landcare Research and indeed provide strong evidence that alternative land management can build soil carbon (and better fix nitrogen) in the pastoral setting. The differences in soil carbon stocks between the three farms are large, with 64 Tonne per ha more soil carbon under the farm that has been managed under various components of regenerative farming for 10 years. This work will be published in the coming year.

Economic/environmental assessment

Another project is targeting ten dairy and sheep & beef farms across Hawke's Bay. We are selecting farmers who are committed to change – who want to improve both their environmental and economic performance, measuring both with greater rigour to establish the 'evidence base' mentioned earlier.

Utilising HB farm economist Barrie Ridler, we commissioned reports on four local farming operations who have or are introducing alternative farming practices.

The first phase of this project is to complete a holistic economic and environmental assessment of the overall farming system for each farm, measuring all inputs and outputs, modeling how various interventions might improve performance, and then monitoring the outcomes from changed or alternative practices. This will be a multi-year project, and at this point four farms have been assessed, with reports prepared for the participating farmers and an overall project summary posted on the Trust website.

In this work, the Trust not 'selling' a solution. But that said, we expect that the practice changes that will be indicated will fall in the category currently labelled 'regenerative farming'.

Major Project Proposals

MPI applications

The Trust has developed two major projects and funding proposals for MPI aimed at demonstrating the viability of alternative farming practices in the region. Both of these have involved considerable interaction with regional and national sector and research partners, as well as MPI. Both presently sit in the MPI assessment process.

Project 1 – Mangaone Catchment Group

Model for sustainable, resilient pastoral farming in NZ

Problem: Increasingly BAU pastoral farming cannot meet the manifold challenges placed upon it:

- tighter environmental quality standards,
- need to account for and reduce GHG emissions,
- soil loss and diminished quality,
- water constraints exacerbated by climate change,
- animal welfare concerns and,
- more demanding expectations by consumers regarding performance in all these areas.

Yet, faced with these challenges, why have some farmers in our region had shin-deep grass during drought, while others have parched pastures? Farms under regenerative management in this catchment that we have already studied show more soil carbon and have grown more pasture during the last two droughts than their neighbours.

Where to: We want to build on this work throughout the catchment. To rigorously examine and test alternative 'farming systems' – such as those termed 'regenerative agriculture' – that offer promise anecdotally for improving multiple environmental outcomes while simultaneously improving farm economic performance and resilience. We deem this holistic approach – addressing the full range of real world challenges faced by farmers – is critical to changing farmer practices.

This undertaking joins:

- Hawke's Bay Future Farming Trust,
- Top-class independent soil science team including experts from Landcare and Lincoln University, among others,
- B+L NZ and DairyNZ,
- Hawke's Bay Regional Council,
- Commercial partners in the environmental monitoring space, and
- Mangaone Catchment Group, representing all 25 farmers in 25,000ha catchment (conventional sheep & beef, organic dairying & regenerative practices), ready to consider change.

Ours is a bellwether catchment for NZ. Sheep and beef plus dairy represent 66% of NZ farms and 81% of NZ's agricultural area. How well these farms cope in the near-future will determine whether they – *and other pastoral farms throughout NZ* – survive.

Using state-of-the-art farm planning tools, real-time measurement technology & science-led soil sampling, our team aims to:

- Test current conventional pastoral farming practices against regenerative soil and pasture management and water/energy efficient alternatives, aiming for improvement in both environmental (water quality & retention, soil health/carbon, GHG footprint) and economic/productivity performance;
- On a catchment-wide basis;
- With a farm-by-farm measurement rigour and comparability that can withstand sceptical academic, regulator and farmer scrutiny (requiring 6-7 years of evidence building to establish causal relationships and trends);

- Leading to adoption of more sustainable farming systems throughout pastoral NZ. Our objective is real world behaviour change.

The opportunity we have here is a biophysical and human 'field lab' that could be a model for pastoral NZ. MCG farmers want to be environmentally responsible, market-responsive (i.e., profitable), *and proud of what they do*.

National relevance & significance

Our project is totally aligned with strategic objectives of the Government as set forth in the Fit for a Better World vision.

Likewise, the Climate Change Commission recommends a path in which the farming sector pulls its full weight, including farming practices that optimise carbon sequestration and minimise GHG emissions.

Because we expect to demonstrate and evangelise the effectiveness of alternative practices, B+L New Zealand and DairyNZ are committed strategic partners.

B+L NZ strongly support the project given their sector's high priority for examining regen ag potential, including possible on-farm carbon sequestration. They are keenly interested in trialling alternative practices such as suggested by the He Waka Eke Noa guidance document in the scientifically rigorous, 'controlled' context this project offers. That guidance broadly identifies these opportunities for mitigating GHG emissions and potential carbon capture:

- Reduce use of N-fertiliser & supplementary feeds;
- Improve crop husbandry;
- Adjusting stocking rates, converting less productive land;
- Optimise pasture quality;
- Minimise periods of bare land;
- Capture and store carbon in indigenous and exotic trees.

These alternative practices overlap considerably the RA practices reviewed in the MPI-commissioned, *Regenerative agriculture in Aotearoa New Zealand* (co-authored by a member of our research team). Together, the He Waka Eke Noa guidance and the MPI RA white paper lay out a clear menu of alterative practices to be investigated on the ground.

Our alignment extends to the strategic priorities of the HB Regional Council – water security/resilience, targeting of erosion and nutrient loss from pastoral land, achieving a carbon neutral region by 2050. Hence HBRC's willingness to contribute ongoing funding and in-kind support to the project.

In sum, our project will advance these nationally significant goals for the sector:

- Establish the benefits of regenerative agriculture relative to individual farm performance.
- Greater water security and resilience in the face of climate change.
- Demonstrate potential for on-farm carbon sequestration and GHG offset value.
- Curb the massive fertile soil loss suffered by NZ each year.
- Rid freshwater streams of unwanted nutrients.
- Affirm the exceptionality of our food to overseas consumers.
- Improve farm profitability.

- Instill farmer confidence, mental resilience and pride.

Budget:

$7,964,000 over 7 years

MPI Funds requested $3,990,320 = 50.1%
Co-investor cash $1,707,750 = 21.4%
Co-investor in-kind $2,265,930 = 28.5%

Project 2 – Carbon Positive – LandWISE

With all work to be directed by LandWISE, the Carbon Positive project identifies SOIL, WATER and ENERGY as key influencers in the carbon cycle. It aims for net positive carbon storage.

The project will scientifically compare the effects of alternative "conventional" vs "regenerative" field cropping systems, increase carbon sequestration and seek to remove fossil fuels from the system. Water and energy efficiency studies extend to horticulture and pastoral farms. It will leverage regional skills, talent and world class innovators, challenging the boundaries for improvement. Outputs are applicable to all farming sectors. The project will span a six-year timeframe to allow time and seasonal fluctuations to moderate the results.

Activities

- Operate the LandWISE Micro Farm as a detailed case study of the effect of alternative management strategies on soil quality, carbon levels and water holding, opportunities for irrigation and energy efficiency and potential to be carbon-positive, and water and energy self-sustaining. Aim to maximise soil health, nutrient and water buffering and minimise need for external inputs. The MicroFarm will be a living case study, encouraging visitors and providing outreach to share lessons from trials, engaging with a wider audience, and supporting farmers making changes.

- Conduct 12 full irrigation system, soil, and management evaluations to baseline performance, investigate new high efficiency technologies and other opportunities for improvement and support farmers to make and integrate changes that save applied water and energy and increase resilience to drought. Monitor results, prepare extension resources, and share lessons with a wider audience.

- Conduct 12 whole-farm energy use surveys, identify highest energy use aspects and opportunities for improvement and on-farm generation, and opportunities to shift from fossil energy to alternatives. Support farmers to investigate, plan and make changes. Monitor results, prepare extension resources, and share lessons with a wider audience.

Output of Activities

- MicroFarm research will document rigorously monitored systems and effects and generate information to lead development and adoption of new best practices. Lessons will be disseminated via presentations at field days and conferences, web-resources, papers and popular articles and podcasts.

- Aggregating results from individual farm irrigation system evaluations will indicate the regional potential for water and energy efficiency and production gains achievable through adoption of a range of alternative technologies, soil management and irrigation scheduling practices.

- Aggregating results from individual farm energy surveys will indicate the regional potential for energy efficiency gains achievable through adoption of a range of alternative technologies. Investigations into de-fossilisation of energy will identify farm-practical and commercially viable (or nearly viable) energy options including opportunities to on-farm generation.

Outcome

- The key outcome of the MicroFarm studies will be adoption of new, best farm systems for field crop production that are environmentally, economically, culturally and socially sustainable. Soil resilience and soil carbon stocks will increase, providing more stable production with less exposure to adverse climate change effects and contributing to the country's nett carbon reduction. No case will be the same, but the principles will be widely applicable allowing adoption and benefits beyond the project focus areas.

- Upgraded irrigation systems and enhanced system and soil management will maximise water and energy efficiency, crop production and quality. There will be maximum utilisation of on-farm water, minimised reliance on water from surface or sub-surface takes, and reliable yields of higher value products with sustainability credentials.

- Farm energy consumption and costs, and the proportion sourced from fossil fuels, will be reduced, lowering nett emissions, and adding value to exported products. Opportunities for novel systems and equipment will be identified enabling establishment of new high-tech businesses serving the sector and exporting globally.

Budget
$4,537,284.00 over 6 years

MPI Funding Request	$3,619,284.00	80%
Co-Investor Cash	$645,000.00	14%
Co-Investor In-Kind Funding	$273,000.00	6%

Financials
The Trust's financials fiscal year through 30 June 2021, are prepared by BM Accounting and now under independent review, as required by our charter. After review, they will be published on the Trust website.

Next Steps

Our immediate focus in the coming year is coming to closure with MPI on our two major project proposals, and formalise and activate the working relationships with our wide range of partners involved in those projects.

We plan to conduct farmer workshops on a bi-monthly basis to demonstrate alternative farming practices, as well as sponsor broader public education events regarding Hawke's Bay's farming challenges and future.

We will expand the content on our website and Facebook page, and begin a bi-monthly e-newsletter to reach HB framers and growers and the wider agribusiness community.

We will also review Trust composition and continue to explore ways to involve Maori landowners in our mission.

Submitted by:
John van der Linden (Chair) and Scott Lawson (Treasurer)
Hawke's Bay Future Farming Trust

Statement of Profit or Loss

Hawke's Bay Future Farming Charitable Trust
For the year ended 30 June 2021

	NOTES	2021	2021 OVERALL BUDGET	2020
Trading Income				
Operational Grants		250,000	250,000	330,000
Total Trading Income		**250,000**	**250,000**	**330,000**
Gross Profit		**250,000**	**250,000**	**330,000**
Other Income				
Interest Received		4,944	-	3,244
Total Other Income		**4,944**	-	**3,244**
Total Income		**254,944**	**250,000**	**333,244**
Expenses				
Accountancy Fees		3,327	2,780	-
Administration Fees		761	5,000	-
Advertising		130	6,500	-
Bank Fees & Charges		-	-	8
Computer Expenses		980	2,000	260
Consultancy Fees		47,634	-	-
Depreciation		1,941	-	169
Donations		347	-	-
General Expenses		825	500	-
Printing & Stationery		-	-	213
Professional Fees		-	-	2,000
Secretarial Services		625	-	923
Farmer Profiles		900	6,000	-
Soil Carbon		15,804	12,000	-
Communication		25,970	15,000	10,630
E2M		16,000	40,000	-
Total Expenses		**115,243**	**89,780**	**14,203**
Profit (Loss) Before Tax		**139,701**	**160,220**	**319,041**
Trustees Income Before Tax		**139,701**	**160,220**	**319,041**
Net Trustees Income for the Year		**139,701**	**160,220**	**319,041**

These financial statements have been prepared without conducting an audit or review engagement and should be read in conjunction with the Notes to the Financial Statements and Compilation Report.

Balance Sheet

Hawke's Bay Future Farming Charitable Trust
As at 30 June 2021

	NOTES	30 JUN 2021	30 JUN 2020
Assets			
Current Assets			
GST Receivable		13,777	-
ANZ Go Account		38,372	13,704
ANZ Savings Account		50,045	-
ANZ Term Deposits	4	395,897	348,244
Total Current Assets		**498,091**	**361,948**
Non-Current Assets			
Property, Plant and Equipment		1,941	3,881
Total Non-Current Assets		**1,941**	**3,881**
Total Assets		**500,031**	**365,829**
Liabilities			
Current Liabilities			
Accounts Payable		41,289	-
GST Payable		-	46,789
Total Current Liabilities		**41,289**	**46,789**
Total Liabilities		**41,289**	**46,789**
Net Assets		**458,742**	**319,041**
Trust Funds			
Trust Capital		458,742	319,041
Total Trust Funds		**458,742**	**319,041**

These financial statements have been prepared without conducting an audit or review engagement and should be read in conjunction with the Notes to the Financial Statements and Compilation Report.

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

10 November 2021

Subject: BIODIVERSITY - ACHIEVING OUR BIODIVERSITY OUTCOMES

Reason for Report

1. This item provides an overview of cross Council investment in biodiversity-related programmes and upcoming challenges in the biodiversity space that will potentially require resourcing through the 2024-34 Long Term Plan.

Executive Summary

2. *The Global Biodiversity Crisis* - The world is witnessing a large-scale degradation of nature, resulting in an unprecedented loss of species. Current global biodiversity trends indicate a rapid loss of both the area and the quality of natural ecosystems. The recent rapid loss of biodiversity suggests the planet is witnessing its sixth mass extinction wave, which is human-induced. Despite an increase globally in policies and actions to support biodiversity, biodiversity loss has worsened. On the current trajectory, it is predicted that approximately half of all species are at risk of extinction by the end of the century.
3. New Zealand is listed as the worst country in the world for many threatened species. More than 4000 species are currently threatened or at risk of extinction. The drivers behind biodiversity loss are multiple and complex of which no one entity can solve alone.
4. The Regional Council has a range of programmes that help protect or enhance our environment; however, most of these are focused on water quality. Few are aimed at addressing terrestrial or marine biodiversity decline. This item outlines those programmes that help protect and enhance biodiversity and the internal collaboration in delivering them.

Strategic Fit

5. Biodiversity is one of the four priority focus areas in the 2020-2025 Strategic Plan: Healthy, functioning and climate-resilient biodiversity. Kia ora, kia āhei, kia mārohirohi ā-āhuarangi hoki te rerenga rauropi.
6. There are four strategic goals.
    6.1. By 2020, regional priority locations for ecosystem restoration - including in the coastal marine area - have been identified.
    6.2. By 2030, key species and habitat (sites) are prioritised and under active restoration. *Source: HB Biodiversity Strategy, 2015-2050 and Action Plan 2017-2020*
    6.3. By 2050, a full range of indigenous habitats and ecosystems, and abundance and distributions of taonga species are maintained and increased in every catchment in Hawke's Bay. *Source: HB Biodiversity Strategy, 2015-2050 and Action Plan 2017-2020*
    6.4. By 2050, Hawke's Bay is predator free in line with NZ 2050 target. *Source: PF2050*
7. Climate change also impacts biodiversity. With many of our lowland ecosystems reduced to small, fragmented remnants with poor connectivity, they, and the species that live within them, are particularly vulnerable to the effects of climate change such as drought, fire, heavy rainfall and sea level rise.
8. Other plans that feed into Council's biodiversity programmes are Hawke's Bay Biodiversity Strategy, Hawke's Bay Regional Pest Management Plan and the Asset Management Ecological Management and Enhancement Plan.

9. The Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020 was launched in August 2020. An implementation plan for this strategy is currently being drafted, which the regional sector is feeding into. The National Policy Statement for Indigenous Biodiversity is due to go to cabinet mid-2022. Kotahi will see the Regional Policy Statement and Plan updated to give effect to the NPSIB and NPSFM. It will do this by including objectives, policies and rules which protect wetlands, give effect to Te Mana o te Wai, enable restoration projects and implementation of the Hawke's Bay Biodiversity Strategy, and require territorial authorities to identify and protect SNAs.

Background

10. Indigenous biodiversity in New Zealand is in crisis. Around 4000 species are currently threatened or at risk of extinction. Many species continue to decline or are just hanging on. This includes biodiversity in the Hawke's Bay region, which has lost 77% of the original indigenous forest that once covered the region. Half the remaining forest types are categorised as threatened, with the greatest losses being lowland forest types.

11. The causes of biodiversity loss are multiple and complex. This loss is driven by pressures such as invasive species, land and sea use, direct exploitation of species, climate change, and pollution. Equally, not having suitable systems in place in terms of policy, legislation and leadership, not having enough knowledge or resources to act, and a disconnect between people and nature contribute to these direct pressures.

12. As shown in attachment one, the council has a range of programmes that help protect and enhance biodiversity. The success of these programmes is dependent on good internal communication and collaboration.

13. The following is an outline of some of these programmes.

14. **Ecosystem Prioritisation programme** – The focus of this programme is to secure remaining high biodiversity remnants in Hawke's Bay from extinction. The main works undertaken are deer fencing, pest plant and animal control and planting. It involves working closely with a large number of external agencies and stakeholders, such as QEII Trust, the rural sector and land occupiers.

15. **Possum Control Area programme** – This programme has arguably had the most significant biodiversity gains in Hawke's Bay. Although no formal monitoring was undertaken, there are a number of examples of native species, such as long tailed bats, whiteheads and numerous plant species, increasing, or recolonising areas post possum control. This programme currently relies on land occupiers to undertake control.

16. **Site specific pests** – This programme primarily supports land occupiers and community groups in undertaking pest control at sites of high biodiversity value through the provision of traps, engaging contractors and providing technical support.

17. **Predator Free programme** – There is currently 40,000ha in sustained mustelid control in Cape to City and Poutiri Ao o Tane. In addition, there is 14,500 ha, with possum eradication being undertaken on the Mahia peninsula. Predator control (possums, stoats, ferrets, weasels and feral cats) is a critical component in biodiversity recovery and was outlined in the parliamentary commissioner for the environments report "Taonga of an island nation: saving New Zealand birds" as one of the top three interventions for biodiversity recovery in New Zealand. The Predator Free programme is one of HBRC's strategic goals. It will be a key initiative that directly drives biodiversity outcomes and enhances other HBRC and community investments into biodiversity.

18. **Environmental pest plant programmes** – A range of environmental plants, such as old man's beard, Japanese honeysuckle, wilding pines and Darwin's Barberry, are managed either at specified sites or region-wide to minimise their impacts on indigenous areas.

19. **Erosion Control Scheme** – The purpose of this scheme is to enable tree planting and other erosion control work to occur on those areas of land that are not for commercial planting purposes. The Erosion Control Scheme aims to reduce soil erosion, improve

water quality, improve terrestrial and aquatic biodiversity through habitat protection and creation and provide community and cultural benefits through forest ecosystem services.

20. **Environmental Protection and Enhancement Programme** – The purpose of this fund is to provide accelerated on-ground action across five priority areas identified throughout the region – Ahuriri Estuary, Lake Tūtira, Lake Whakakī, Lake Whatumā and our Marine environment. A key focus of this work is to partner with the community and stakeholders to deliver high-value environmental outcomes on a catchment scale such as improved water quality, riparian protection, biodiversity enhancement, wetland development/ protection.

21. **Open Spaces** – Protect and enhance biodiversity throughout the Regional Park network by working with the community, tangata whenua, businesses and schools to undertake restoration plantings and predator and pest plant control. The Regional Park network is collectively over 1000 hectares (alongside 1200 hectares of forestry) and has several areas of high biodiversity value such as Pekapeka Regional Park wetlands, Tūtira Regional Park, Whittle Reserve and Waitangi Regional Park. The Open Spaces team supports restoration activities such as areas of the Karamu and Napier streams, which create important corridors to enhance urban biodiversity, or wetland creation and protection, helping create habitat for precious taonga such as tuna and inanga. Predator control programmes to protect endangered species such as Bittern, Black billed gull, and New Zealand dotterel, are undertaken by the community with support from the Catchment Services section.

22. **Environmental Science** – A variety of water quality and ecology monitoring programmes are undertaken across the region. This monitoring includes direct measurements of biodiversity (e.g. macroinvertebrate counts in rivers and phytoplankton counts in lakes) but mainly focuses on habitat quality and instream conditions supporting biodiversity. Reporting is focused on ecosystem health type metrics rather than specific biodiversity metrics.

    22.1. The science team is also building its understanding of key environmental and ecological relationships that support the region's coastal resources. This includes the biodiversity that supports ecosystem services and functions, monitoring to determine the state of these resources, and how our activities may be impacting them. This knowledge supports decisions that improve the state of our natural resources so that they can function for generations to come and includes looking at the animals and plants that inhabit these environments.

23. **Asset Management** – has a range of programmes that seek to protect and increase the biodiversity values of flood protection assets (river, drainage). An example of this is the implementation work jointly undertaken with the Biodiversity Team to deliver the Ecological Management and Enhancement Plan, which includes shorebird surveys and the protection of high biodiversity remnants along the lower reaches of the Ngaruroro River. Another example is the biodiversity enhancement work undertaken as part of the stopbank upgrade project. The asset management group see this biodiversity work increasing and will require continued expertise within the regional council.

24. **Policy** - key policy mechanisms advocate for preserving and enhancing indigenous flora and fauna through statutory advocacy and strengthening regulatory settings through Kotahi. In addition to the National Policy Statement for Freshwater 2020 (NPSFM), which requires us to give effect to Te Mana o Te Wai and protect and restore wetlands, a National Policy Statement for Indigenous Biodiversity (NPSIB) is intended for release during this term of government. The main goal of the draft NPSIB was to maintain indigenous biodiversity through more consistent identification and protection of Significant Natural Areas (SNAs) by city and district councils.

    24.1. Kotahi will see the Regional Policy Statement and Plan updated to give effect to the NPSIB and NPSFM. It will do this by including objectives, policies and rules which protect wetlands, give effect to Te Mana o te Wai, enable restoration projects and

implementation of the Hawkes Bay Biodiversity Strategy, and require territorial authorities to identify and protect SNAs.

25. As shown in attachment two, Council also works with a large number of external agencies and stakeholders in delivering biodiversity programmes, such as the Department of Conservation, QEII Trust, Biodiversity Hawke's Bay, Forest and Bird, New Zealand Landcare Trust, Nga Whenua Rahui, Local Authorities, the rural sector, community groups and land occupiers.

Discussion

26. Council has a range of environmental programmes that help protect and enhance biodiversity, and teams within council collaborate well both internally and externally in delivering these. However, staff acknowledge they are not fully streamlined or at the scale required to halt biodiversity decline in Hawke's Bay. Like climate change, Biodiversity sits across multiple sections within Council. To maximise Council's investment in biodiversity, an internally facing biodiversity operational strategy is required to better coordinate these programmes and enhance their impact. Staff are early in the process towards the development of such a strategy.

27. Furthermore Council currently does not have a biodiversity monitoring programme in place therefore consistent, comprehensive information about biodiversity across the Hawke's Bay region is not available. Without this information it is not possible to assess the impact our programmes may be having nor the progress we may be making in halting biodiversity decline.

28. Staff recently explored options for undertaking biodiversity outcome monitoring that could be implemented in Hawke's Bay. Unfortunately, there is currently no consistent national approach in biodiversity outcome monitoring. HBRC staff, in partnership with the national Biodiversity Working Group, have led a Tier 2 Biodiversity Outcome Monitoring Programme review with the aim of generating consistency in how the Regional Sector monitor biodiversity. This programme is being piloted by a number of regional councils this summer and will likely undergo further refinement. The intent is to create a nationally consistent biodiversity outcome monitoring programme that can then be operationalised in Hawke's Bay to produce meaningful information on regional biodiversity trends that can also be aggregated up and compared at a national level.

29. Further to this, the National Policy Statement for Indigenous Biodiversity is intended for release during this term of government which may require the Regional Council to:

    29.1. Work closely with Local Authorities in identifying, mapping and managing adverse effects to Significant Natural Areas

    29.2. Identifying taonga species

    29.3. Managing risks to highly mobile fauna

    29.4. Support restoration and enhancement of SNAs

    29.5. Amend our current Regional Biodiversity Strategy

    29.6. Implement a regional biodiversity monitoring programme.

30. It is difficult to prepare for and accurately cost the likely resource implications of the NPS-IB for Council until the policy statement is released but given the above components that may affect council, it will likely require funding through the 2024-34 LTP.

31. As noted above, biodiversity is one of the four priority focus areas in the 2020-2025 Strategic Plan. However, with current investment we are unlikely to meet our 2030 (key species and habitat (sites) are prioritised and under active restoration) and 2050 (full range of indigenous habitats and ecosystems, and abundance and distributions of taonga species are maintained and increased in every catchment in Hawke's Bay) goals. As part

of the development of an internal biodiversity operational strategy, a close look at the strategic plan goals and opportunities to fine tune existing programmes to assist in meeting these goals is essential. Ultimately this may lead to a structural change within Council.

Next Steps

32. There are currently a series of drivers at play that will influence both the resources and structure of Council's investment in biodiversity. These include Aotearoa New Zealand Biodiversity Strategy 2020, the National Policy Statement for Indigenous Biodiversity, Kotahi, the development of a Biodiversity Outcome Monitoring Programme, the review of the Possum Control Area programme, alongside community expectations.

33. Staff are working on the following actions.

    33.1. Development of an internal biodiversity operational strategy that will allow us to better align work programmes across council to maximise the return on investment in biodiversity and to assist with meeting the Strategic Plan goals. It is acknowledged that the Strategic Plan goals are ambitious but prior to requesting any further resources it is essential that existing programmes are better aligned to enhance internal performance on biodiversity investment first. This is partially underway with a review in progress of the Ecosystem Prioritisation programme, as part of a wider grants policy review, that is going to combine the Erosion Control scheme, Ecosystem Prioritisation programme and the Environmental Protection and Enhancement Programme into one document. This will be presented to EICC in early 2022.

    33.2. Continue to lead the development of a nationally consistent Tier 2 Biodiversity outcome monitoring programme with the intent of submitting a proposal to the 2024-34 LTP for a region-specific biodiversity monitoring programme.

    33.3. Assessing the resource implications of the Aotearoa New Zealand Biodiversity Strategy 2020 Implementation Plan and the National Policy Statement for Indigenous Biodiversity (once released) with the intention of submitting a proposal to the 2024-34 LTP.

Decision Making Process

34. 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 *"Biodiversity - Achieving Our Biodiversity Outcomes"* staff report.

Authored by:

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Attachment/s

1⇩ Biodiversity Activities Across Council

2⇩ Biodiversity Team Internal and External Relationships

FY21-22 Biodiversity activities across Hawke's Bay Regional Council

Project / Activity	Person Leading	Staff Time	Internal HBRC Stakeholders
Catchment Services - Biodiversity			
Freshwater wetland monitoring programme	Annabel Beattie	0.7	Science
Ecosystem Prioritisation programme	Mark Mitchell	2	Catchment Delivery
Ecological Programmes for Asset Management Group	Jessica Murray	0.1	Asset management
Statutory Advocacy and Consent Review	Mark/Annabel/Jess	0.1	Policy, Consents
Intensive ecological monitoring for open spaces	Annabel Beattie	0.1	Open spaces
Input into policy and plan development	Mark Mitchell	0.1	Policy and planning
Monitoring and research projects e.g. bats, skinks, shore birds	Mark Mitchell	0.3	Science, Asset Management
Rare and endangered species database	Mark Mitchell	0.1	
Jobs for Nature biodiversity projects	Mark Mitchell	0.5	Catchment delivery, Open Spaces, Asset Management
Site Specific programme – support for community groups	Nathan Alexander	0.5	Catchment delivery, Open Spaces, Asset Management
Catchment Services - Biosecurity			
Possum Control Area Programme	Allan Beer	1.5	Catchment Management
Predator Free HB Programme	Campbell Leckie	4	Catchment Management
Environmental Pest Plant Programme	Wendy Rakete-Stones	7.5	Catchment Management
Right Tree right place	Michael Bassett-Foss		Catchment Management
Pest Animal Control	Allan Beer	0.5	Catchment Management
Biosecurity - Marine	Alice McNatty	0.15	Science
Environmental Science			
Estuarine Ecology Monitoring Programme	Anna Madarasz-Smith	0.24	Policy/planning, Environmental Info
Sandy Beaches	Becky Shanahan	0.24	Biodiversity Team, Policy, Environmental info
Estuary Fish	Anna Madarasz-Smith	0.05	Environmental info

Project / Activity	Person Leading	Staff Time	Internal HBRC Stakeholders
Habitat investigation	Anna Madarasz-Smith	0.24	Policy /planning, Environmental info
Intertidal Reef Monitoring	Becky Shanahan	0.24	Policy/planning, Environmental Info
Marine Environmental Protection and Enhancement Project	Anna Madarasz-Smith	0.10	Policy/planning Environmental Info
Water quality - monitoring macroinvertebrates index	Andy Hicks		Environmental Info
Water quality monitoring rivers - periphyton no differentiation between native and exotic	Andy Hicks		Environmental Info
Water quality monitoring lakes - phytoplankton/ algae	Andy Hicks		Environmental Info
Fish Monitoring - Quantify species exotic vs native	Andy Hicks		Environmental Info
Fish Barriers - Science - Identification of fish barriers and installing fish ramps.	Andy Hicks		Environmental Info
Fish Barriers - fix fish barriers	Andy Hicks		
Whitebait - Monitor catch quantities with the fishing community	Andy Hicks		Environmental Info
Whitebait – monitoring and advice	Andy Hicks		Environmental Info
Riparian - Develop and update riparian information to include shade benefits as well as overland flow benefits	Barry Lynch	0.2	Catchment management, Environmental Info
Lake Submerged Plant Indicator - Biodiversity index - Native vs exotic 13 lakes	Andy Hicks		Environmental Info
Wetland - Tukipo Catchment - Wetland building and testing effectiveness.	Andy Hicks/Thomas Petrie		Catchment Management, Environmental Info
Whakaki Freshwater Improvement Fund - additional to Environmental Protection & Enhancement funding - Aquatic bird survey	Andy Hicks		Catchment management, Environmental info
Stream Ecosystem health monitoring - focus on smaller waterways - invertebrates, microbial, temp, oxygen	Andy Hicks		Environmental Info
Groundwater - Stygofauna monitoring	Andy Hicks		Environmental Info

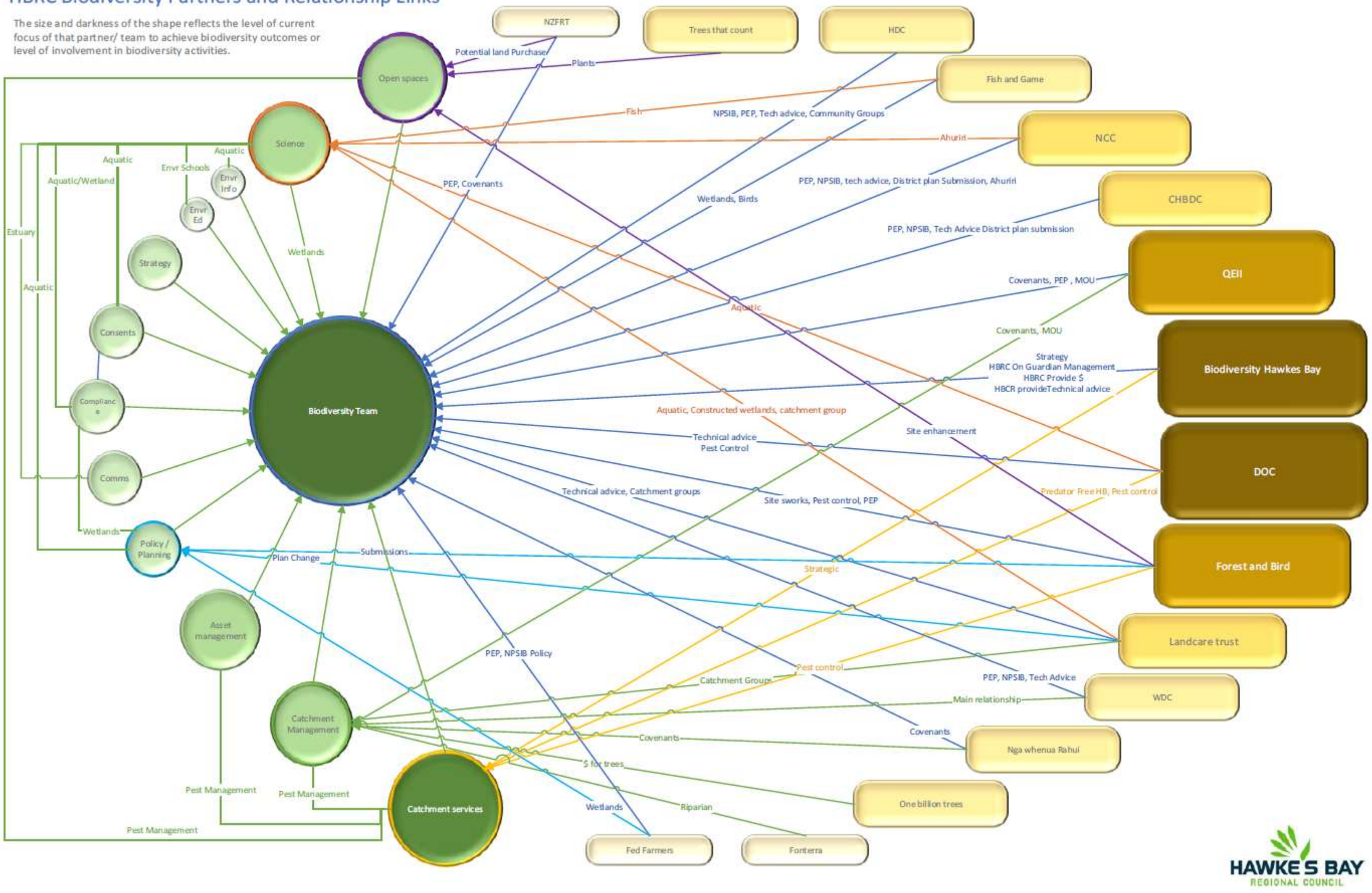
Project / Activity	Person Leading	Staff Time	Internal HBRC Stakeholders
Engineering			
Wairoa River- Maintenance and planting	Antony Rewcastle	0.2	
Whakaki- weir	Anthony Rewcastle	0.2	
Kopuawhara- maintenance	Anthony Rewcastle	0.2	
Esk River Care Group - Planting Project and maintenance	Anthony Rewcastle	0.2	
Napier Urban Streams - Eels	Anthony Rewcastle		
Taipo Streams Wetland and planting areas in Poraiti	Anthony Rewcastle		
Riparian planting - 10,000 plants every year as part of river protection planting.	Anthony Rewcastle	0.2	For edge protection and biodiversity within the rivers
Waitangi Regional Park Estuary - Planting, river management	Anthony Rewcastle	0.1	
Karamu River - Coastal and Lowland waterways - planting every 5km to allow corridors.	Anthony Rewcastle	0.1	
Lake Pokawa	Anthony Rewcastle		
Haumoana Lagoon	Anthony Rewcastle		Part of existing mainteance work
Catchment Management			
Erosion Control Scheme	Dean Evans		Environmental Services
Right Tree, Right Place	Michael Bassett-Foss	1	Catchment Management
Porongahau Estuary Planting	Dean Evans		Environmental Services, Science, Policy Implementation
Te Ikaterie (Aramonana)	Dean Evans		Environmental Services
Whakaki - Protection and Enhancement Project (FIF funding)	Thomas Petrie	0.25	Asset Management, Science, Environmental Services
Te Waiu o Tutira - Protection and Enhancement Project (FIF funding)	Thomas Petrie	0.5	Environmental Services, Science, Asset Management
Ahuriri Estuary - Protection and Enhancement Project	Thomas Petrie	0.5	Environmental Services, Science, Asset Management
Lake Whatuma - Protection and Enhancement Project	Thomas Petrie	0.25	Environmental Services

Project / Activity	Person Leading	Staff Time	Internal HBRC Stakeholders
Communications			
Biodiversity month	Rebecca Ashcroft	4 days /yr	Communications
Biosecurity month	Rebecca Ashcroft	4 days /yr	Communications
Pest Hub	Rebecca Ashcroft	60 hrs	Communications
General biodiversity communications	Rebecca Ashcroft	10 Hrs/ month	Communications
Strategy and Performance			
Developing, reviewing and reporting on 2020-2025 Strategic Plan biodiversity goals	Sarah Bell		Biodiversity, Science
Long Term Plan, Annual Plan and Annual Report input for biodiversity	Desiree Cull		Biodiversity
Quarterly Opal3 reporting advice for biodiversity team	Kelly Burkett		Biodiversity
Project management support	Julie-Anne MacPhee		Biodiversity
Strategic and process advice to develop, implement and review the HB Biodiversity Strategy and Implementation Plan.	Desiree Cull		Biodiversity
Policy and planning			
Regional policy managers group - Advocacy to Central government (including on biodiversity policy)	Gavin Ide	0.1 FTE	
Statutory Advocacy - for biodiversity related concerns	Ceri Edmonds		
Developing regional plans and policy statements, & subsequent reviews	Ceri Edmonds	5 FTE	
Submission on draft NPS for indigenous biodiversity - coordinate TLAs and HBRC joint submission	Gavin Ide	2 weeks	
Submission on National Policy Statement for Indigenous Biodiversity	Ceri Edmonds	2 weeks	
Submissions on TLA district plans (CHDC & NCC in 2021)	Ceri Edmonds	0. 5 FTE	

Project / Activity	Person Leading	Staff Time	Internal HBRC Stakeholders
Submissions / Review consent applications from TLA - promote and make aware of biodiversity opportunities	Ceri Edmonds	As requested	
Environmental Information			
Water Quality and Ecology Monitoring - Water chemistry, Periphyton, Invertebrate, Macrophytes.	Pete Davis	12 FTE	Science, Policy, Consents
Hydrology Monitoring - quantity, flow - Set minimum flows based on fish habitat requirements	Pete Davis	13 FTE	
Groundwater monitoring - Quantity and quality	Pete Davis	9 FTE	
Data management for biodiversity data	Pete Davis	0	Biodiversity Team
Climate and air quality monitoring - Including soil temp and soil moisture	Pete Davis	13 FTE	
Wetland monitoring - Water temp and water level	Pete Davis	0	Biodiversity Team
Consents			
Advice and recommendation for consent applications of mitigation measures to protect biodiversity or biodiversity enhancement as offsets to other impacts.	Malcolm Miller	once or twice a year only	
Compliance			
Monitoring of consents that would otherwise impact on biodiversity if not followed.	Rob Hogan	9 FTE	
Open Spaces			
Te Karamu Enhancement Project	Russ Engelke	0.6FTE	Asset Management
Regional Park Network- Maintenance	Russ Engelke	3FTE	Asset Management
Ecological Management Plans - implementation and review	Louise McPhail	0.5FTE	Asset Management

HBRC Biodiversity Partners and Relationship Links

The size and darkness of the shape reflects the level of current focus of that partner/ team to achieve biodiversity outcomes or level of involvement in biodiversity activities.



HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

10 November 2021

Subject: EROSION CONTROL - THE BIG PICTURE FOR OUR REGION

Reason for Report

1. This item provides the committee with an overview of cross-Council programmes of work that are contributing to the identification, control and monitoring of erosion across the Hawke's Bay region.

Executive Summary

2. Erosion control activity is integrally linked to priority focus areas in the 2021-2025 Strategic Plan with a key strategic goal relating to erosion mitigation "By 2050, all highly erodible land is under tree cover".
3. The significant challenges facing the region about the adverse impacts of erosive processes and corresponding sedimentation (estimated at an annual average of 5 million tonnes of soil loss across the region) alongside its response to climate change have been well traversed with Council.
4. Aside from regulatory processes such as Tukituki PC6, Council's preferred erosion control response is non-regulatory as this enables relationship building and helps to ensure buy in from landowners.
5. As a result, Council has responded with a range of interlinked non-regulatory initiatives:
    5.1. In the parts of the region where Farm Environmental Management Plans (FEMPs) are not regulated, and where landowners are being proactive in this space, FEMPs focus on good management practices to reduce environmental impacts on farms, including erosion mitigation.
    5.2. Right Tree Right Place (RTRP), after four years of important background work, Council has recently funded the RTRP project to pilot a partial farm afforestation model to address the significant problem with the most erodible land. It aims to provide evidence, education, tools and confidence for the farming and investment sector to stimulate planting on the marginal areas of pastoral farms.
    5.3. The Erosion Control Scheme (ECS) enables targeted erosion control to be delivered on highly erodible land through tree planting and other erosion control works on those areas of land that are not suitable for commercial planting purposes.
    5.4. Protection and Enhancement Programme (PEP) focusses on particular catchments or at identified high value sites to implement environmental good management practices on the ground.
    5.5. Environmental Monitoring consists of an automated sediment monitoring system to understand how the councils ECS is influencing erosion rates and sediment loads across the region.
6. The degree to which these initiatives are interlinked has evolved over time through good science and learning. The Catchment Delivery Team provides a pivotal relationship building function within Council for the extensive farm sector initiatives underway across Council. Examples of erosion control interlinked initiatives include:
    6.1. Farm Environmental Management Plans (FEMPs) enable a strategic and planned approach to addressing the erosion issues on farms; understanding the full extent of the required work/initiatives, and what resources (ECS, RTRP) would be needed over time to make it happen.

6.2. HBRC Environmental Monitoring programme will inform progress with the erosion control initiatives and be used as a basis to further build monitoring programmes for new initiatives such as RTRP outputs.

6.3. Erosion control activity enables Council to credibly partner with Government to leverage funding support for initiatives like the Hill Country Erosion Fund and RTRP.

Strategic Fit

7. Erosion control activities can be linked to three of the four priority focus areas in the 2020-2025 Strategic Plan. The core focus area for erosion is Climate-smart and sustainable land use but is also strongly linked to:

   7.1. Water quality, safety, and climate-resilience security

   7.2. Healthy, functioning and climate-resilient biodiversity.

8. The key strategic goal (outcome measure) relating to erosion mitigation is:

   8.1. By 2050, all highly erodible land is under tree cover.

Background

9. Hawke's Bay is prone to hill country erosion due to its soft rock geology and large-scale land use change over many decades. To quantify the extent of the erosion in the region the SedNetNZ model was used. SedNet modelling estimates that approximately 252,000 ha of land yields over 1000t/km2/yr. This equates to approximately 5 million tonnes of sediment per year entering our rivers and then into our estuaries. It is this area of land that has been used as the basis for prioritising areas for action through the council's erosion control activities.

Discussion

10. The Hawke's Bay region is extremely prone to erosion. The Council has invested in a great deal of resources in quantifying the scale of erosion in the region and the SedNetNZ model has been the main tool in doing this.

11. The SedNetNZ model is being used by HBRC to identify areas of erosion and quantify the amount of erosion and sediment loss in tonnes per year across the region. With the information supplied by this modelling we are able to plan where we will prioritise our erosion mitigation efforts and by how much our mitigation efforts will reduce erosion in the future. The majority of the 5 million tonnes of soil/sediment loss per year across the region is coming from the northern part of the region (approximately 5 million tonnes). Data supplied by science, plans and tools have been developed to support council address this issue.

12. Four of the key issues when addressing erosion across the region are:

   12.1. Most of the erosion is on private land and permission is needed to access it.

   12.2. Currently, implementing erosion control actions is mostly voluntary.

   12.3. Climate change, weather extremes such as drought and the impact on erosion plantings.

   12.4. Pest and weed control destroying new plantings (e.g. deer and goats).

13. There are two approaches available to council when highlighting and discussing erosion issues with rural landowners:

   13.1. Regulatory approach (Tukituki PC6 – farm plans)

   13.2. Non-regulatory approach (one on one with landowners and engagement through catchment groups).

14. The non-regulatory approach is the preferred option as this creates an enduring relationship with the landowner and helps to ensure ongoing buy in.

15. The significant challenges facing the region about the adverse impacts of erosive processes and corresponding sedimentation alongside its response to climate change have been well traversed with Council. Council has responded with a range of interlinked initiatives (listed below) that have evolved over time through good science and learning.

Farm Environmental Management Plans (regulatory approach)

16. Farm Environmental Management Plans (FEMPs) have been required in the Tukituki region since 2018 for all properties over 4 ha, that do not meet the low intensity criteria. FEMPs are required through the revised RMA 2020 (part 9A) and regionally under the Tukituki PC6. In the near future, FEMPs will become mandatory nationally under Fresh Water – Farm Plans (FW-FP) and Integrated Farm Planning (IFP).

17. In 2018 several pathways were provided and tested for farmers to prepare a FEMP. They could write the plan themselves, use an industry professional or attend a workshop to complete their plans. This got the process underway and enabled the initial completion of plans. To improve quality and consistency of Tukituki FEMPs, an approved provider must write the plan and submit summary information to Council. Tukituki FEMP providers give an outside view to farmers to help identify erosion and other issues on their land. In the nationally proposed FW-FPs, a certifier will have to sign off each plan as meeting the required standards (to be determined). FEMPs should address specific time-bound actions on property, focusing on good management practices and regulatory requirements to reduce environmental impacts from the farming operation.

18. FEMPs address erosion and erosion control by identifying and addressing Critical Source Areas (CSAs) for erosion, with appropriate targeted actions. CSAs are locations on a property where a source of pollution meets a transportation method. Runoff from CSAs carries sediment and other nutrients into waterways. In areas and catchments with erosion issues the FEMPs will identify and address these.

19. Catchment Advisors (C.A.) working in these target areas of high sediment loss will work with the farmer to develop an erosion control plan as a prerequisite for funding through the ECS. This is a plan which develops the detail of actions, costs and materials required on specified parts of the property over the next 2-5 years. Where a farm plan exists, the C.A. will be able to pick up the information in the plan to refine a more detailed agreement for action in the short term.

20. FEMPs have introduced a bottom-line requirement for everyone to be involved in identifying environmental risks on-farm and committing to actions in a time bound manner. Approximately 1000 properties in the Tukituki region meet either low intensity or FEMP requirements.

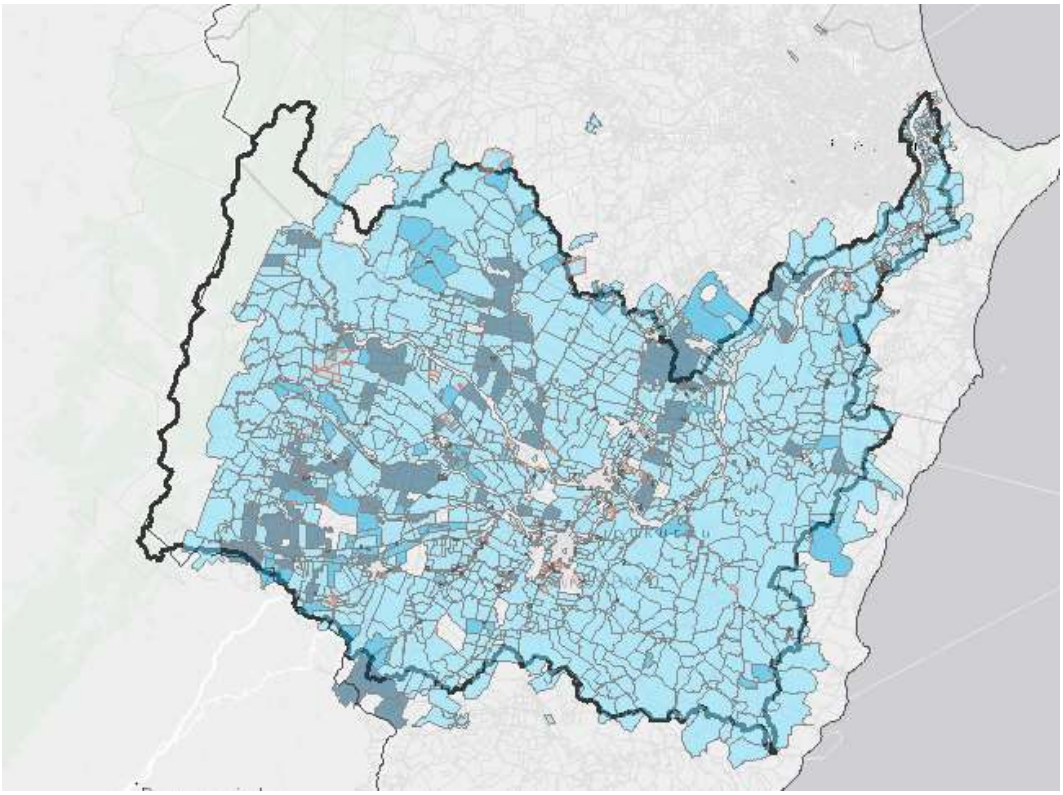


Figure 1: Coverage of FEMPs in 2018 submission cycle in the Tukituki

Right Tree, Right Place

21. In 2018, SedNet modelling identified 252,000ha of the region has land eroding at more than 1000 tonnes/km^2/yr. After more than a decade of experience relating to forest planting and management, and exploring options about potential with carbon farming, Council embarked on a two-year project investigating foundational research about diverse tree cover as a principal tool to address this challenge. The project was jointly funded by HBRC and TUR/1BT.

22. Based on this work, a RTRP project has been planned to pilot a partial farm afforestation model to address the significant problem with the most erodible and least productive land. Fundamentally, it aims to provide evidence, education, tools and confidence for the farming and investment sector to stimulate planting on the marginal areas of pastoral farms.

23. The RTRP project builds on the experience within the Catchment Delivery Team, offering another solution for erosion control alongside the ECS and related activity. Further, the FEMP framework will increasingly become an input into prioritisation and planting regimes required on-farm, and the HBRC Environmental Monitoring programme will inform progress and be used as a basis to build a monitoring programme for RTRP outputs.

24. Through a partnership with The Nature Conservancy, due diligence will be completed on the opportunity to scale the RTRP model through a market driven impact investment framework.

25. Initial pilot farms have been identified to undergo a pilot farm selection process before having farm/forestry plans completed and potential funding partnership for tree planting.

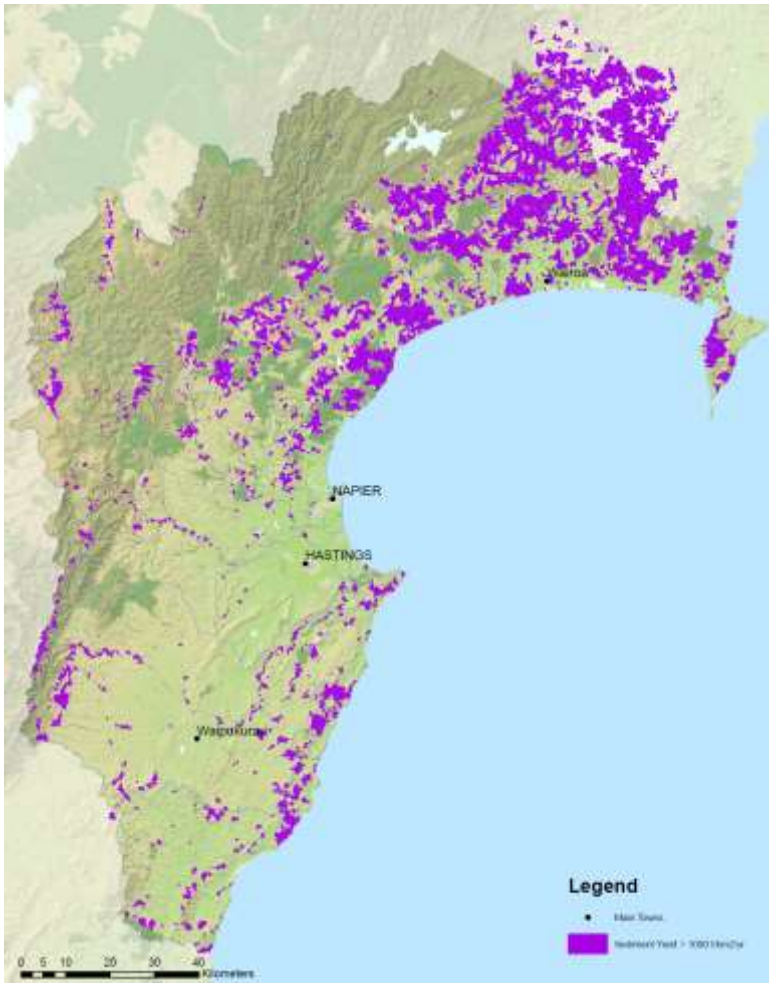


Figure 2: Sediment Yield >1000t/km^2/yr in Hawke's Bay

26. There is expected to be around 10,000 ha of the highest risk land planted over the next ten years by grant funding initiatives directly supported by Council such as through Council's investment of $30M in the Erosion Control Scheme. However, the scale of the regional context represents significant challenges, risks and opportunities, which the RTRP pilot is aimed to address.

27. After considering a Business Case and public consultation through the 2021-31 Long Term Plan process, Council agreed to fund $4.8M toward the pilot of the RTRP concept.

Erosion Control Scheme (ECS)

28. In 2018, Council established the Erosion Control Scheme. Its purpose is to enable tree planting and other erosion control work to occur on highly erodible land and enables this by providing significant financial support for these erosion control works.

29. The ECS enables targeted erosion control to be delivered on highly erodible land where other initiatives are not deemed appropriate e.g. RTRP, this work is agreed to in partnership with landowners. The ECS is a key tool for the Catchment Delivery Team to engage with and support landholders with land at high risk of erosion. The 2018 - 2028 LTP provided for $30 million over the 10-year term of the LTP to support this programme of work.

30. This scheme enables tree planting and other erosion control works to occur on those areas of land that are not suitable for commercial planting purposes. Examples of such land includes (but is not limited to) remote locations, infertile soil types, smaller erosion prone areas, and areas where commercial tree planting is inappropriate. Within such areas, the Erosion Control Scheme aims to:

    30.1. Reduce soil erosion

30.2. Improve water quality through the reduction of sedimentation into waterways

30.3. Improve terrestrial and aquatic biodiversity through habitat protection and creation

31. The introduction of FEMPs in the Tukituki through PC6 had the potential to enable a strategic and planned approach to addressing the erosion issues on those farms; understanding the full extent of the required works, and what resources would be needed over time to make it happen. Unfortunately, because the actions within the FEMPs are held by the landowner and not the council, this information is not available unless each individual landowner provides it. Information that is gathered through the consenting process will be used for FEMP auditing purposes in the future.

32. Discussions with the Policy Implementation team have begun to ensure the non-regulatory approach of the ECS, and other Catchment Delivery work streams are aligned and integrated to the best extent possible, for the regional introduction of FEMPs in the future.

33. Catchment Delivery staff through their work with farmers, are some of the key relationship builders within Council, and these relationships help enable improved and more efficient access to these farms for council staff from other sections. These relationships are key to Catchment Delivery staff being able to identify opportunities, provide advice, and make key connections to the councils RTRP programme.

34. The Hill Country Erosion Fund (approx. $5m over 4 years) is central government funding (MPI) that was applied for and secured to financially support the implementation of the councils Erosion Control Scheme. Examples of targeted support include: the funding of 4 staff, providing a range of events to educate and train staff and external groups to help facilitate erosion control actions, and works on the ground, including the space planting of poplar and willow and assisted reversion. This fund has also provided for a monitoring programme using ISCO sediment monitors (see Fig:3). These monitors record the change in sediment load over time in catchments where erosion control has taken place.

Figure 3: Automated sediment sampler (ISCO)

Protection and Enhancement Programme (PEP)

35. Formally the 'Hot Spots' programme, the Protection and Enhancement Programme focusses on particular catchments or at identified high value sites to implement environmental good management practices on the ground. This programme works alongside and in collaboration with Catchment Delivery staff, local communities, and key stakeholders to achieve agreed outcomes. Because of the natural alignment with the ECS when working in areas of highly erodible land, outputs from this programme also have a key part to play in meeting councils LOS for erosion and ensuring regional coverage.

Environmental Monitoring

36. To monitor how the councils Erosion Control Scheme (ECS) is influencing erosion rates and sediment loads across Hawke's Bay, an automated sediment monitoring system has been set up. This network (see Fig 4 attached) of 20 automated sediment samplers (called ISCOs) is programmed to only take samples at high flows. It is estimated that 90% of total sediment is transported during these high flows and is something we haven't regularly

monitored before. The ISCOs have been strategically located in areas that will have major tree planting carried out up stream allowing the ISCO to detect any reduction in sediment because of these plantings. This is a long-term monitoring programme with the effects of the ECS not expected to show a reduction in sediment for 10-20 years as the new plantings mature. However, the effects of other erosion mitigation measures such as riparian planting and/or increased riparian fencing / stock exclusion may show up much earlier in the monitoring.

37. Data is already being collected from the ISCO network and our oldest site at Red Bridge on the lower reaches of the Tukituki River (established in 2018) has already shown the large amounts of sediment that can be mobilised during a brief intense storm event. During a high flow event over a 3 day period in 2018 the ISCO sampling showed that nearly 400,000 tonnes of sediment moved past the Red Bridge site. As erosion mitigation measures are put in place including tree plantings through the ECS, we should see a decline in these loads over time.

Next Steps

38. Longer term we will need to consider what targeted erosion control programmes/tools follow once the ECS and RTRP have run their course and funding has ended.

39. To fully understand the impacts and opportunities of Farm Planning regulations on the ability to deliver effective and timely erosion control.

40. To fully understand and then plan for the future capacity and capability needs for council to deliver on their long-term strategic goals, and meeting annual levels of service measures for erosion control.

41. To ensure manageable leveraged external funding is sourced to support regional erosion control e.g. HCEF.

42. To ensure maximum value is added for landowners and the regions ratepayers when catchment delivery staff are on site providing advice and partnering with landowners.

Decision Making Process

43. 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 "*Erosion Control - The Big Picture for Our Region*" staff report.

Authored by:

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Marnie Mannering
FEMP PROJECT MANAGER

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Dr Jeff Smith
MANAGER SCIENCE

Approved by:

Iain Maxwell
GROUP MANAGER INTEGRATED CATCHMENT MANAGEMENT

Attachment/s

1⇩ Figure 4: Automated ISCO sampling locations across Hawke's Bay

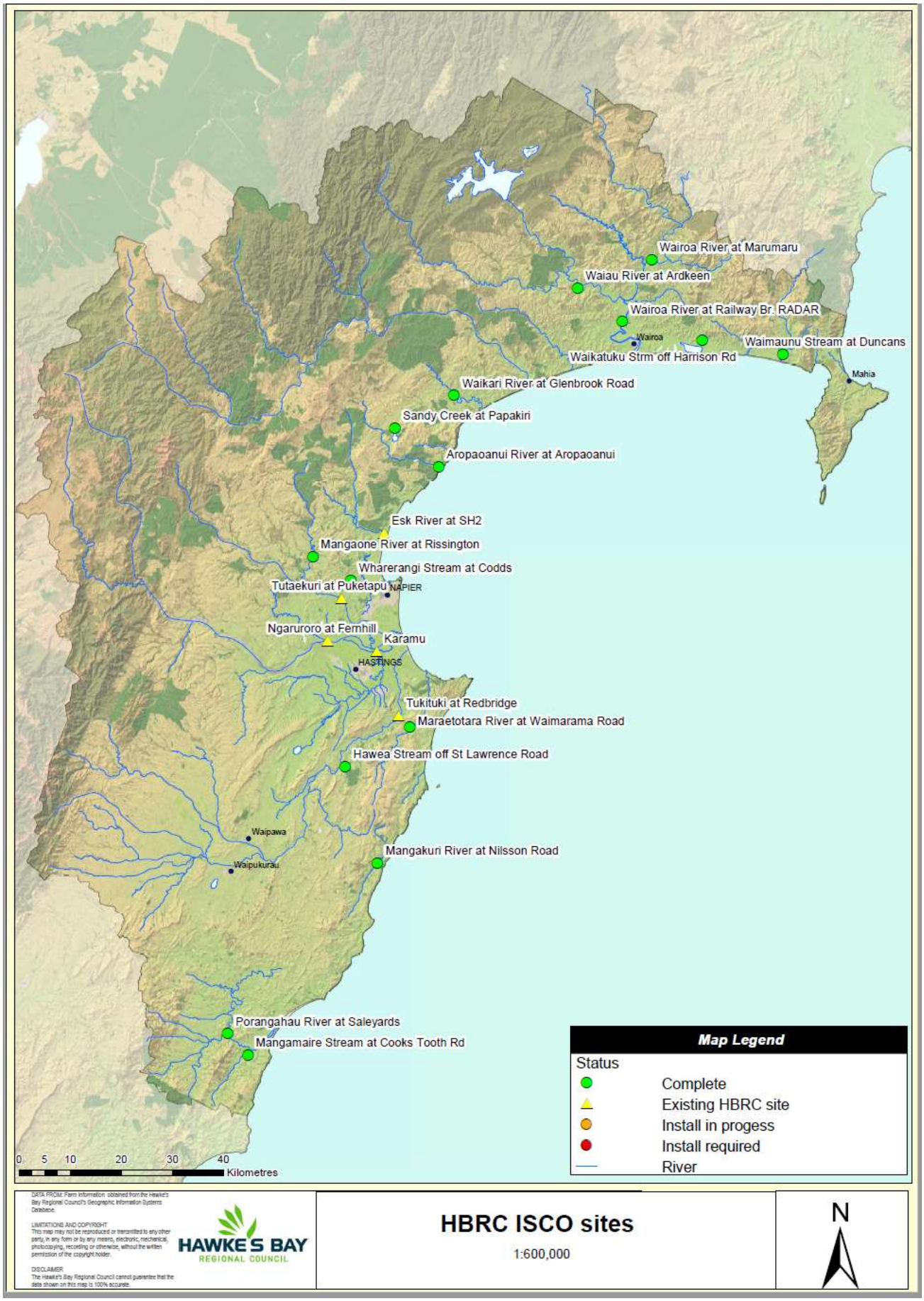


Figure 4: Automated ISCO sampling locations across Hawke's Bay.

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

10 November 2021

Subject: TUKIPO WETLAND

Reason for Report

1. This item provides an update on the successful delivery of the 1.6ha constructed wetland in Tukipo following Hawke's Bay Regional Council committing $100,000 of the Recovery Fund to this project in the 2020-21 financial year.

Background

2. Ambitious nitrogen targets have been set in the Tukituki Plan, and in some cases require instream Dissolved Inorganic Nitrogen (DIN) levels to be more than halved.

3. Fonterra included the Tukipo catchment to be part of their Sustainable Catchments programme, due in large part to proactive work from the Tukipo Catchment Care Group (TCCG). The Tukipo sub-catchment was sitting at 2.32 mg/l, which is almost 3 times over the 0.8 mg/l DIN target and indicated a 66% reduction in instream DIN levels would be required.

4. Ongoing research has proven the effectiveness of constructed wetlands at removing nitrogen from waterways via biological conversion (microbial denitrification) rather than plant uptake. This confirms that a strategic network of constructed wetlands, in combination with on farm improvements around nutrient management, may help achieve the ambitious nitrogen reduction targets.

5. The Council Tukituki implementation team believe that constructed wetlands may form a key part of the strategic Tukituki response, and are very supportive of the constructed wetland initiative. It is hoped that the outcomes from this project will provide a model that is transferable to other properties in Hawke's Bay. A well-designed constructed wetland that is sized to 1% of the catchment area can remove 20-30% of the nitrogen passing through it.

6. Fonterra provided HBRC and the TCCG funding to undertake a scoping exercise to identify willing landowners who had suitable sites to build a constructed wetland to achieve DIN reduction on a catchment scale ($30k). A further $226k was then provided to design and construct a wetland on the most promising site.

7. Over this same time period, NIWA obtained funding from MPI's Sustainable Land Management and Climate Change: Freshwater Mitigation Fund to comprehensively monitor 6 constructed wetlands to collect high quality data to refine our understanding on wetland performance and help improve the wetland modules available in Overseer or for use in other nutrient modelling approaches. The two projects aligned and so NIWA designed the Tukipo wetland so that it could be used in their national project.

8. Following completion of the scoping exercise a preferred location was selected that had full support from the landowner to construct a 1.6ha wetland to capture and treat water from a 180ha catchment. The wetland was designed larger than originally expected in order to meet requirements for inclusion in the national NIWA study.

9. To fit in with project timelines and due to COVID-19 lockdown in 2020 preventing site visits, the wetland design work had to be completed remotely and was based off LiDAR (remote sensing using pulse lasers to measure elevation) which gave the most accurate data set available at the time.

10. Prior to construction beginning the design was double checked with a surveyor building a 3D model for machinery to run off. However, this process revealed that the LiDAR data

underestimated the volume of earth that needed to be moved. This resulted in the construction costs increasing to exceed the available budget.

11. A decision was made to proceed with the construction to meet project timeframes. This meant the wetland earthworks would be completed within available budget, but the site could not have been planted with the correct wetland plants needed to ensure a highly functioning constructed wetland in time to be part of the NIWA monitoring project, unless additional funding as obtained.

12. To fill the budget gap, a paper was successfully presented to the Corporate and Strategic Committee on 3 March 2021 seeking $100k to be committed from Councils $1m Recovery Fund to allow for the complete delivery of this project to ensure the wetland could be created within the timeframes needed for inclusion into the NIWA national monitoring programme.

13. Prior to this decision the constructed wetland project had been exclusively funded by Fonterra (approx. $250k), with Council only committing a small amount of staff time. Councils' investment provided an opportunity to further collaborate with national organisations to lead and deliver an exciting research and development project. The results of which could provide a model that would add significant value to how we target nitrogen reduction throughout the region and provide a more holistic understanding of the water quality benefits derived from wetlands. It would also provide a local farm feature for the Tukituki community to consider.

Discussion

14. Construction of the wetland was completed in May 2021 which included the planting of approximately 24,000 native wetland plants. Further details on the development of the wetland will be presented during the Environment and Integrated Catchment Committee meeting.

15. A successful planting day was held involving Tukipo Catchment Care Group and a range of HBRC from Regulation, Consents/Compliance and Catchment Delivery.

16. HBRC Comms Team prepared a media release covering the successful delivery of the project that highlighted the collaborative approach between key organisations and landowners to investigate possible solutions to current water quality issues. This was covered by multiple radio and print media as well as TVNZ One News and included staff/landowner interviews. The landowner has welcomed multiple calls from other interested farmers based on his interview.

17. NIWA are committing their expertise and the equipment required to continuously monitor flow, nitrate, turbidity and floods, alongside covering the laboratory costs for monthly monitoring at the wetland inflow and outflow for three years with monitoring set to begin late summer. The expectation is that a well-designed wetland that is sized to 1% of the catchment area can remove 20-30% of the nitrogen passing through it.

18. The collaborative approach taken to deliver this project has helped build and strengthen relationships with rural landowners in the region, creating positive solution focused discussions about how to improve water quality.

19. Hawke's Bay region has a paucity of functioning wetlands and the establishment of this new wetland will also be of significant value to the region for biodiversity through increased habitat.

Next Steps

20. Regional Councils and NIWA are exploring how best to provide nitrogen credits to farmers who are using constructed wetlands to help meet their nitrogen reduction targets.

21. Fonterra are interested in committing further funding for projects targeting water quality improvement in the Tukituki catchment. We are currently in discussions around funding a scoping exercise for the entire Ruataniwha Plains, using Lidar and land use layers to

identify optimum areas for locating catchment scale constructed wetlands for Nitrogen stripping. This approach will seek to identify the best locations for a strategic network of constructed wetlands of various sizes on both private and HBRC owned land.

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 "Tukipo Wetland" staff report.

Authored by:

Dr Andy Hicks
TEAM LEADER/PRINCIPAL SCIENTIST
WATER QUALITY AND ECOLOGY

Thomas Petrie
PROGRAMME MANAGER PROTECTION & ENHANCEMENT PROJECTS

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

10 November 2021

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 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, to increase flood protection across the scheme to a 1 in 500-year event.
5. This project is programmed over a three-year with IRG funding but will carry on after this period and will build upon existing river modelling, condition assessment and property analysis undertaken as part of the Heretaunga Plains Flood Control Scheme level of service review.
6. HBRC co-funding of $7.2 million is required to match IRG funds of $12.8 million.
7. Prioritisation of 39 stop bank sites is being established by Asset Management based on freeboard levels, risk of overtopping, consequence of failure and value of assets protected. Sites are being assessed in order of priority and at least 8 sites will be upgraded through the course of this project. Assessment and upgrade of remaining sites will continue beyond the 3-year programme.
8. Physical works at Taradale stop bank are due to commence early November. Early contractor involvement has allowed planning and methodology of these works to be fast tracked in order to meet the summer 2021/22 construction window. Cycle trail detours have been implemented and enabling works, including tree removal, cycle trail upgrades and specimen tree relocation have been completed. Targeted completion for stop bank strengthening May 2022.
9. Investigations are complete for Ngatarawa and Roy's Hill, design optioneering is underway for both sites. East Clive and Moteo field investigations complete, analysis is underway and design optioneering due December 2021.
10. To date, works completed are:

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	Increase height of stopbank for overtopping, increased width of stopbank,
Moteo Stopbank Strengthening (XS 43b - 47 RHS)	Tūtaekurī	Archaeology assessment, geophysical testing, Geotechnical investigation scoping, Topographical survey, field investigations	TBC pending output from geotechnical testing and ground model. Native planting programme
Omaranui (XS 23-41 RHS)	Tūtaekurī	Archaeology assessment, Topographical survey	Increase height of stopbank for overtopping
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	Increase height of stopbank for overtopping
Pakowhai Park (XS 15-20 RHS)	Ngaruroro	Geophysical testing, Topographical survey	TBC pending output from geophysical testing
Raupare Lower (XS 20-27 RHS)	Ngaruroro	Geophysical testing, Topographical survey	TBC pending output from geophysical testing
Ngatarawa (XS 49 - 51 RHS)	Ngaruroro	Archaeology assessment, Geotechnical investigation underway, Topographical survey, field investigations	TBC pending output from geotechnical testing and ground model. Extensive native planting programme
Roy's Hill (XS 41 - 44 RHS)	Ngaruroro	Archaeology assessment, Geotechnical investigation underway, Topographical survey, field investigations	TBC pending output from geotechnical testing and ground model. Extensive native planting programme
Meeanee d/s motorway (XS 13-17 LHS)	Tūtaekurī	Topographical survey	TBC pending output from geotechnical testing
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*

11. Request for Tender will be sought for significant native planting programme to support environmental outcomes at Moteo, Ngatarawa, Roy's Hill and East Clive berms. This package of works shall increase biodiversity through support from community engagement and align with proposed Public Use of Rivers (PUR) projects.

12. HBRC have 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 Stop Bank (earthworks, stop bank upgrade, PUR)
2	Moteo Stop Bank (berm improvement – groynes or strategic planting; earthwork requirement being assessed as part of design)
2	East Clive (stop bank upgrade required following overtopping assessments; landfill on riverside presented additional challenges)
2	Ngatarawa – Berm improvements (Native planting programme)
2	Roys Hill – Berm improvements (Native planting programme)
2/3	Clive River @ Farndon Road (erosion protection - potentially sheet piling)
2/3	Omarunui (stop bank upgrade required & archaeological complications being worked through)
3	Haumoana (stop bank upgrade required & archaeological complications being worked through)
3	Pakowhai Park (earthworks, stop bank upgrade, PUR)
3	Haumoana upstream of Blackbridge (earthworks, stop bank upgrade)

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

14. The estimated value of FY 2021-22, 2022-23 and 2023-24 planned works is $10.68 million, $4.62 million and $3.9 million respectively. In 2021-22 this includes stop bank strengthening construction works on two sites (Taradale and East Clive), detailed design of five sites (based on results from geotechnical investigations), commencement of investigative work on further six sites.

15. FY 2022-23 planned works includes stop bank 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.

16. FY 2023-24 planned works includes stop bank 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

17. The Upper Tukituki (UTT) Gravel Extraction project will seek opportunities to subsidise 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.

18. As part of the procurement process, Registrations of Interest (ROI) were sought through GETS in order to pre-qualify gravel extraction contractors. A request for extension of time was received from the Chief Executive of the Aggregate and Quarry Association on behalf of their members, this was subsequently awarded delaying the deadline to 22nd October. A total of 24 submissions were received through the ROI process.

19. A Request for Tender (RfT) has been drafted to invite pre-qualified tenderers to submit on Tranche 1 sites. It is anticipated IRG contracts for Tranche 1 shall be awarded early December 2021 with a total volume of 120,300m^3 gravel available for extraction. Tranche 1 sites (reaches) shall be "auctioned" at $4/$m^3$ in order to encourage local contractors to extract.

20. HBRC shall provide UTT ratepayers with a project update on 30 November 2021, this was due to take place in September but was postponed due to COVID restrictions.

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 – Determined on the following criteria: Freeboard (related to 100 year flood risk), Average annual flood risk (related to availability), 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, upon 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 was attended by small and medium sized local businesses as well as larger businesses from out of the region. HBRC 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 out with this programme and external funding is being considered to achieve successful outcomes.

    21.9. Met with both Heretaunga Taiwhenua and NKII and discussed a full time HBRC "Kaitiaki" role for supervision of the works for the duration of the programme.

    21.10. Met with Pam Kupa (CHBDC Pou Whātuia - Māori Relationships Manager) to further explore opportunities for Kaitiaki role

22. FY 2020-21 expenditure was $298,000 and FY 2021-22 costs are estimated at $2.99 million.

23. In FY 2022-23 costs for gravel extraction are estimated at $4.712 million.

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

24. This one-year project provided engineered erosion protection works on the right and left bank of the Waipawa river, immediately upstream of SH50 bridge.

25. To complete the project, HBRC Works Group installed 75 precast concrete akmon units on the left bank of the Waipawa river, carried out earthworks to cut and fill gravel to form the new river channel, including excavation, carting and shaping approximately 70,000m^3 of gravel, and installed 3,166 lineal metres of rail irons and 8,100 lineal metres of wire rope to form permeable groynes on the left and right banks.

26. An independent ecological impact assessment undertaken at the site concluded that the completed project has resulted in an overall net positive effect on biodiversity.

27. The planting of 4,700 pole trees in the berm area and a further 1,000 native trees was undertaken in partnership between Kaitiaki Rangers (Waiohiki Marae) and Works Group. Training and upskilling was provided to the Kaitiaki Rangers on this collaborative project

which has received positive feedback from Kānoa due to HBRC fulfilling its social procurement outcomes to engage and upskill Māori/Pasifika businesses.

28. Project completion was completed at a total value of $1.25 million.

29. HBRC collaborated with stakeholders and community to prepare a short video highlighting the project, its challenges and successes. This has been endorsed by Kānoa and has received fantastic feedback through River Managers SIG. (Full length video to be played during EICC meeting)

30. A closedown report for this project shall be prepared for IRG next month. Following receipt of this, no further reporting shall be provided to Council for this project.

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

31. This one-year project programme will provide steel sheet piled erosion protection works on left bank of the Wairoa River.

32. Geotechnical investigations, design optioneering and preliminary design and detailed of the proposed sheet pile wall have been completed and the physical works contractor has procured the necessary steel sheet piles. Unfortunately, the COVID Delta outbreak has postponed the start date from mid-September to early November 2021.

33. The relocation of the Wairoa District Council watermain has been completed in collaboration with Wairoa District Council

34. The proposed steel sheet piled wall is 73 lineal metres with 12 metre screw anchors which are drilled below the existing River Parade Road.

35. The local civil engineering contracting company Lattey's Civil and Precast have been appointed to as main contractor with Wairoa based QRS providing sub-contracting services relating to civil works.

36. Planting of the upstream riverbank with the appropriate trees and bush will provide stability to the rivers edge whilst also contributing to the biodiversity of the river. This will allow safe access for the public to the river's edge and popular whitebating (Inanga) area.

37. HBRC have 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. HBRC are in the process of undertaking a cultural impact assessment of the local Iwi groups, as well as an assessment of environmental impacts on the fish, birds and plants of the river and surrounding area.

38. FY 2020-21 expenditure was $98k, and FY 2021-22 costs are estimated at $902k.

Decision Making Process

39. 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:	**Approved by:**
David Keracher **MANAGER REGIONAL PROJECTS**	**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

10 November 2021

Subject: WORKS GROUP 2020-21 PERFORMANCE UPDATE

Reason for Report

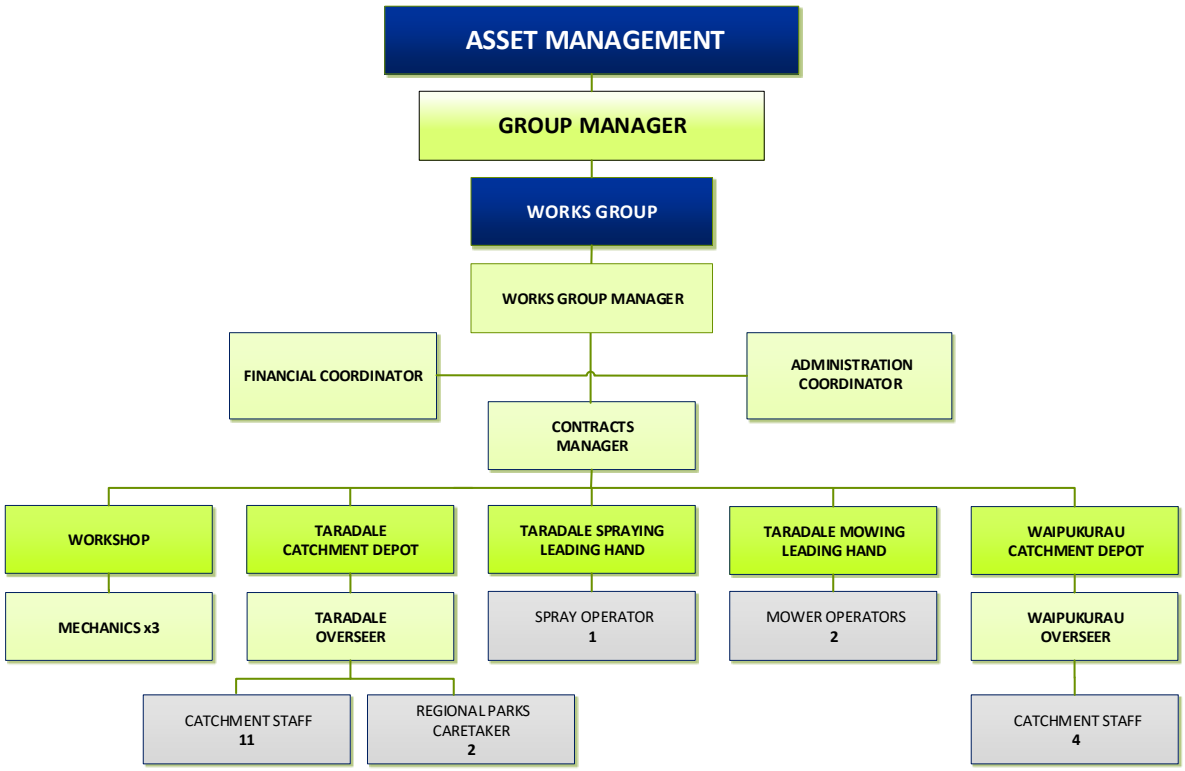
1. This item provides the Committee with an update on the overall performance of the Works Group for the 2020-21 financial year.

Background

2. Hamish Fraser (Works Group Manager) will attend the meeting to provide a presentation of an overview of Works Group structure, focusing on financial performance for the year ended 30 June 2021, along with an update on Health & Safety, environmental management, and a snapshot of projects completed throughout the year.

Overview

3. The Works Group sits in the organisational structure under the Asset Management Group of Activities. There are 31 staff in total, based out of both the Taradale and Waipukurau depots as follows.



4. Works Group is the service delivery arm of Council. The majority of work (approximately 80%) is performed for Council, and the remaining 20% is for external clients, performing a variety of functions within the civil construction sector, focusing on non-profit organisations such as other TLAs.

5. Works Group has a strong emphasis on specialised plant, with staff who are highly skilled and trained in their relevant fields.

6. Works Group holds a TQS1 standard in Quality and also holds a strong Health & Safety standard, being SiteWise accredited to a score of 100%.

7. The presentation at today's meeting will display the financial performance of the group, will look at Health & Safety, quality, and environmental performance, and will focus on some key projects that Works Group has completed throughout the year.

Decision Making Process

8. 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 *Works Group 2020-21 Performance Update* and presentation.

Authored by:

Hamish Fraser
WORKS GROUP MANAGER

Approved by:

Chris Dolley
GROUP MANAGER ASSET MANAGEMENT

Attachment/s

1⇩ Works Group Presentation

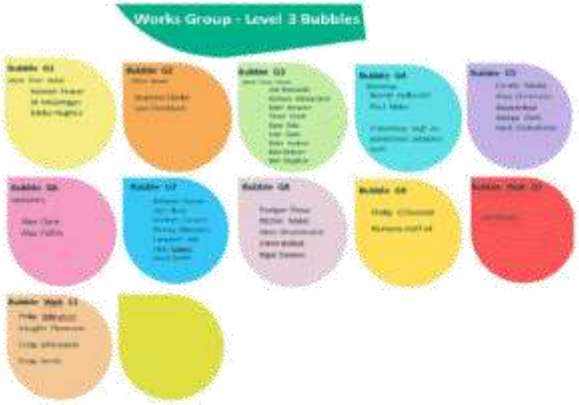
WORKS GROUP ANNUAL UPDATE 2020-21

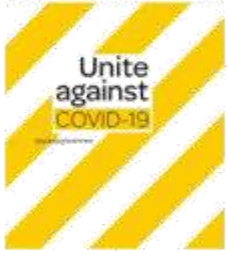
HAWKE'S BAY REGIONAL COUNCIL

THE YEAR IN SUMMARY 2020/21

COVID and its challenges

- Strict protocols to ensure a solid BCP
- Supply chain issues – a crystal ball.





HAWKE'S BAY REGIONAL COUNCIL

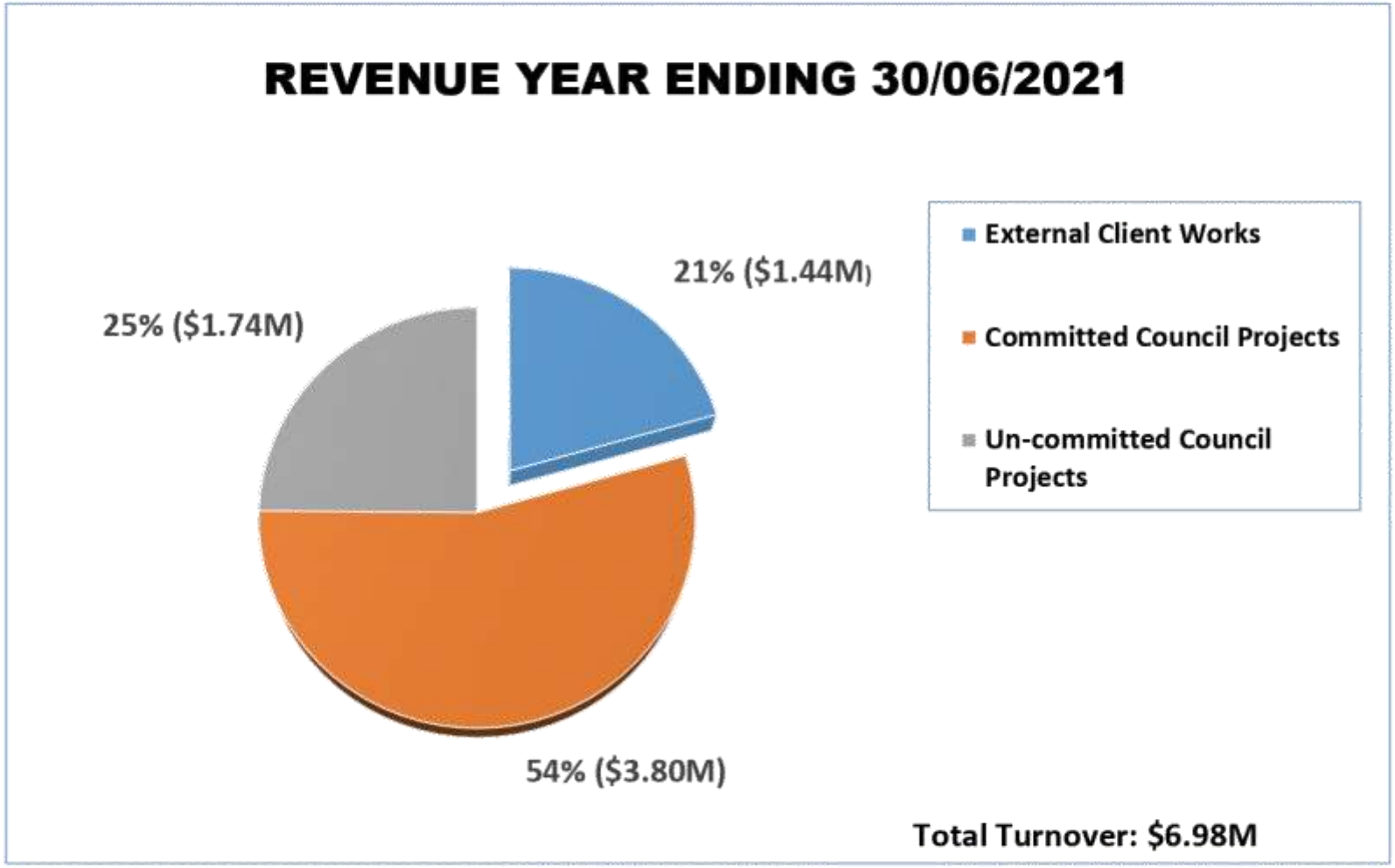
- No significant flood events…we can't be complacent
- The network is in good shape…preventative maintenance must continue.

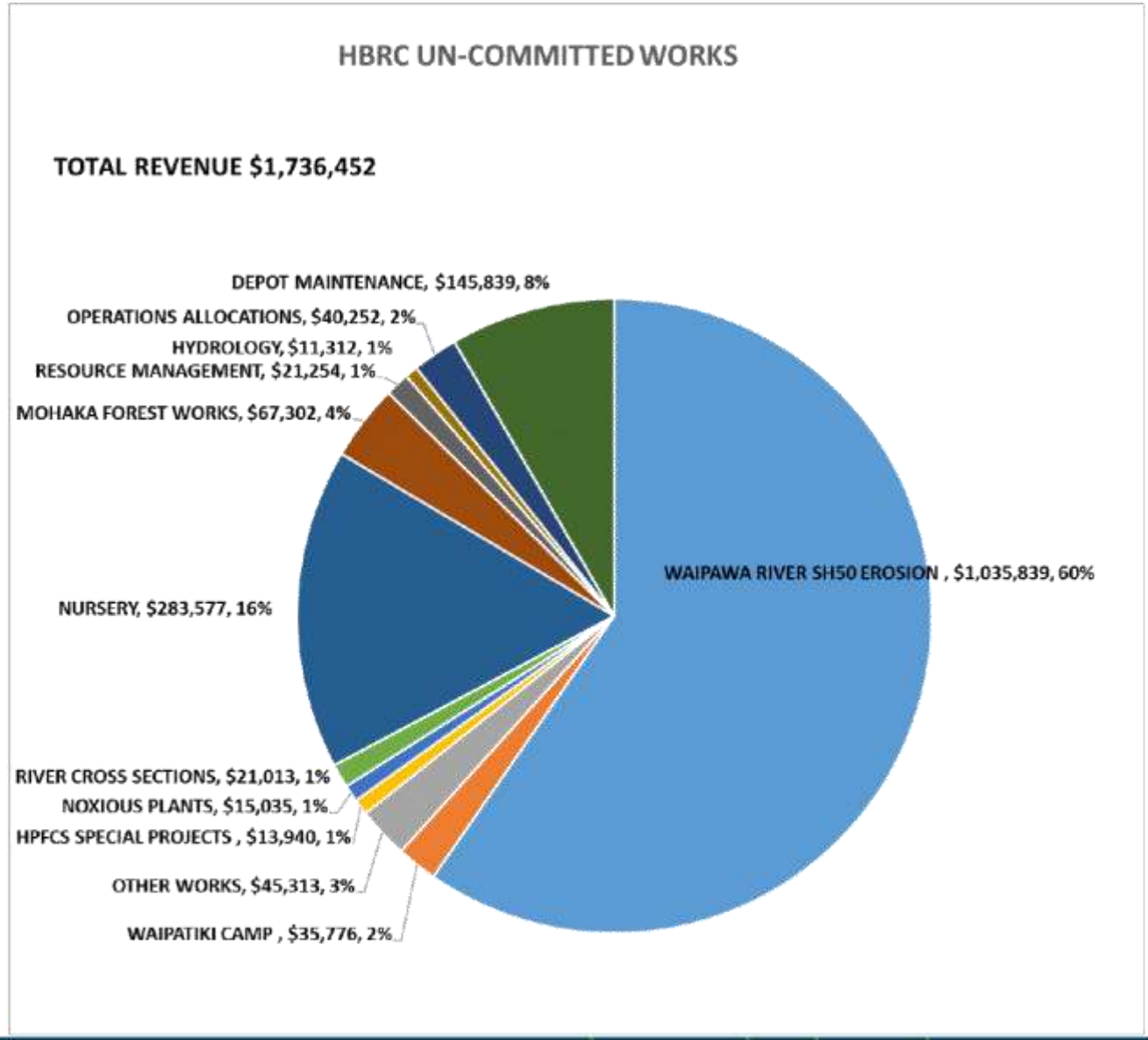
- Napier floods – support given to NCC

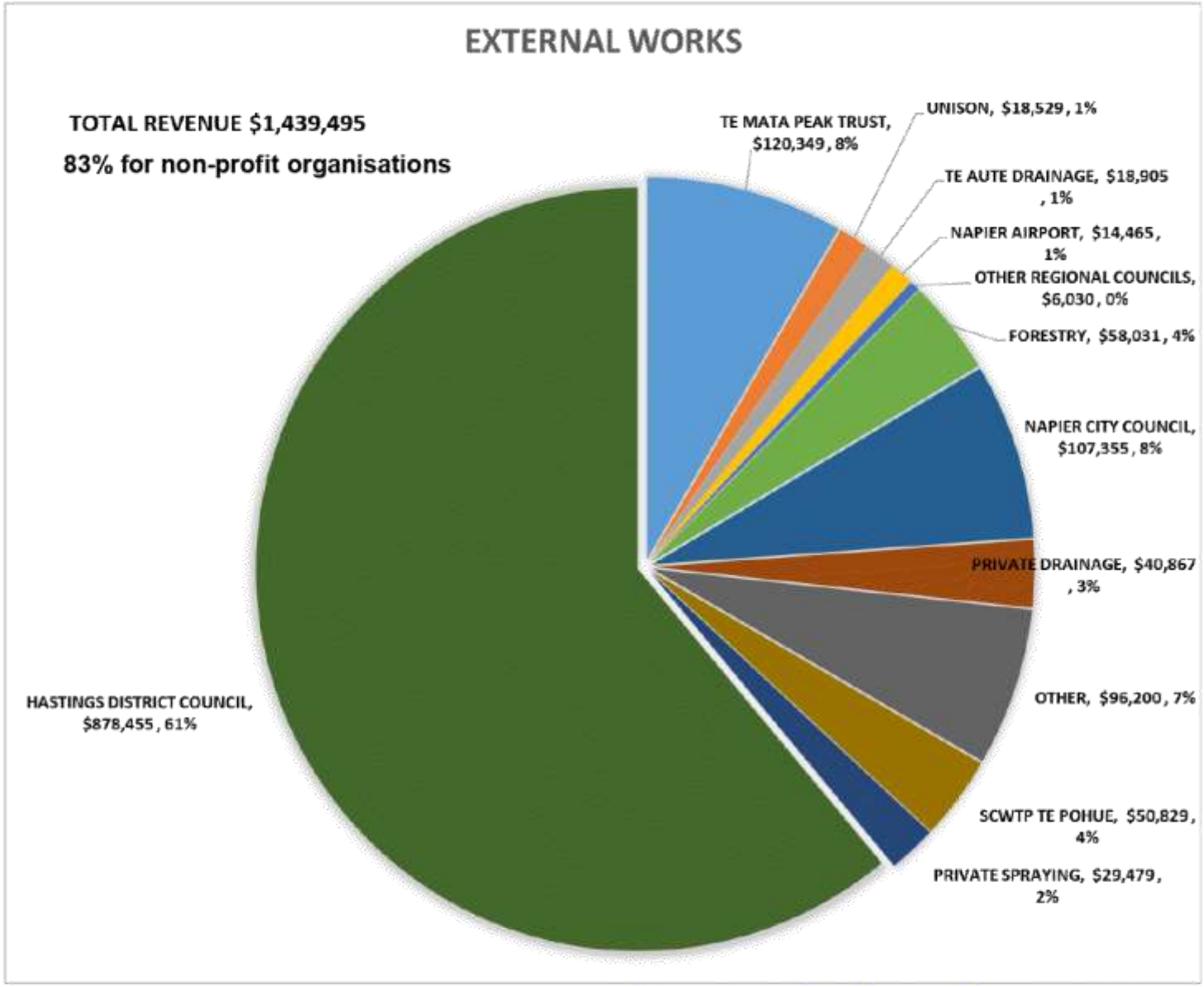
HAWKE'S BAY REGIONAL COUNCIL

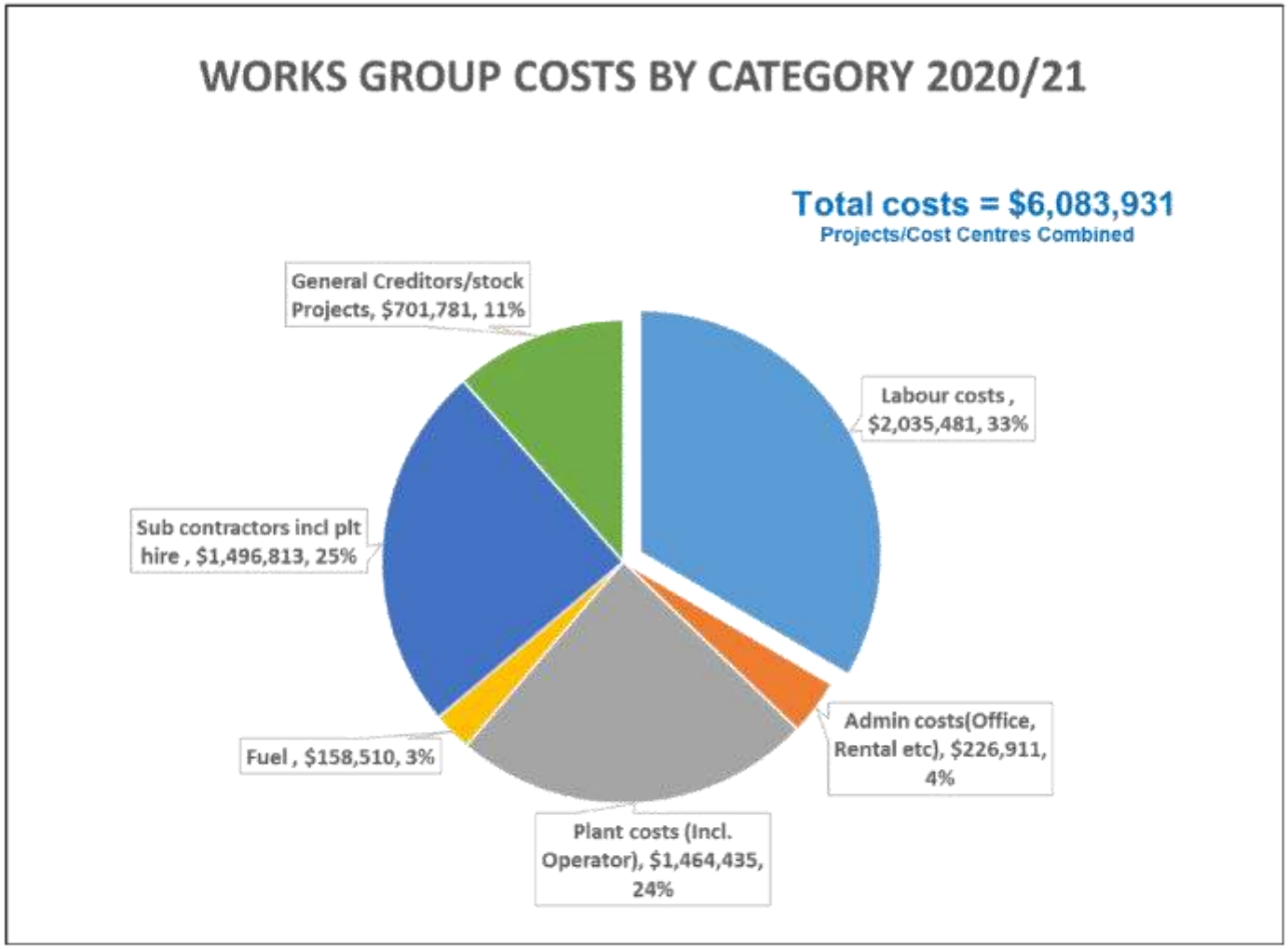
- Staff turnover and the challenges of recruitment.

FINANCIAL OVERVIEW FOR 2020/21


REVENUE YEAR ENDING 30/06/2021
21% ($1.44M)
25% ($1.74M)
54% ($3.80M)
External Client Works
Committed Council Projects
Un-committed Council Projects
Total Turnover: $6.98M


HBRC UN-COMMITTED WORKS
TOTAL REVENUE $1,736,452
DEPOT MAINTENANCE, $145,839, 8%
OPERATIONS ALLOCATIONS, $40,252, 2%
HYDROLOGY, $11,312, 1%
RESOURCE MANAGEMENT, $21,254, 1%
MOHAKA FOREST WORKS, $67,302, 4%
NURSERY, $283,577, 16%
WAIPAWA RIVER SH50 EROSION , $1,035,839, 60%
RIVER CROSS SECTIONS, $21,013, 1%
NOXIOUS PLANTS, $15,035, 1%
HPFCS SPECIAL PROJECTS , $13,940, 1%
OTHER WORKS, $45,313, 3%
WAIPATIKI CAMP , $35,776, 2%


EXTERNAL WORKS
TOTAL REVENUE $1,439,495
83% for non-profit organisations
TE MATA PEAK TRUST, $120,349, 8%
UNISON, $18,529, 1%
TE AUTE DRAINAGE, $18,905, 1%
NAPIER AIRPORT, $14,465, 1%
OTHER REGIONAL COUNCILS, $6,030, 0%
FORESTRY, $58,031, 4%
NAPIER CITY COUNCIL, $107,355, 8%
PRIVATE DRAINAGE, $40,867, 3%
OTHER, $96,200, 7%
SCWTP TE POHUE, $50,829, 4%
PRIVATE SPRAYING, $29,479, 2%
HASTINGS DISTRICT COUNCIL, $878,455, 61%


WORKS GROUP COSTS BY CATEGORY 2020/21
Total costs = $6,083,931
Projects/Cost Centres Combined
General Creditors/stock Projects, $701,781, 11%
Labour costs , $2,035,481, 33%
Sub contractors incl plt hire , $1,496,813, 25%
Admin costs(Office, Rental etc), $226,911, 4%
Fuel , $158,510, 3%
Plant costs (Incl. Operator), $1,464,435, 24%

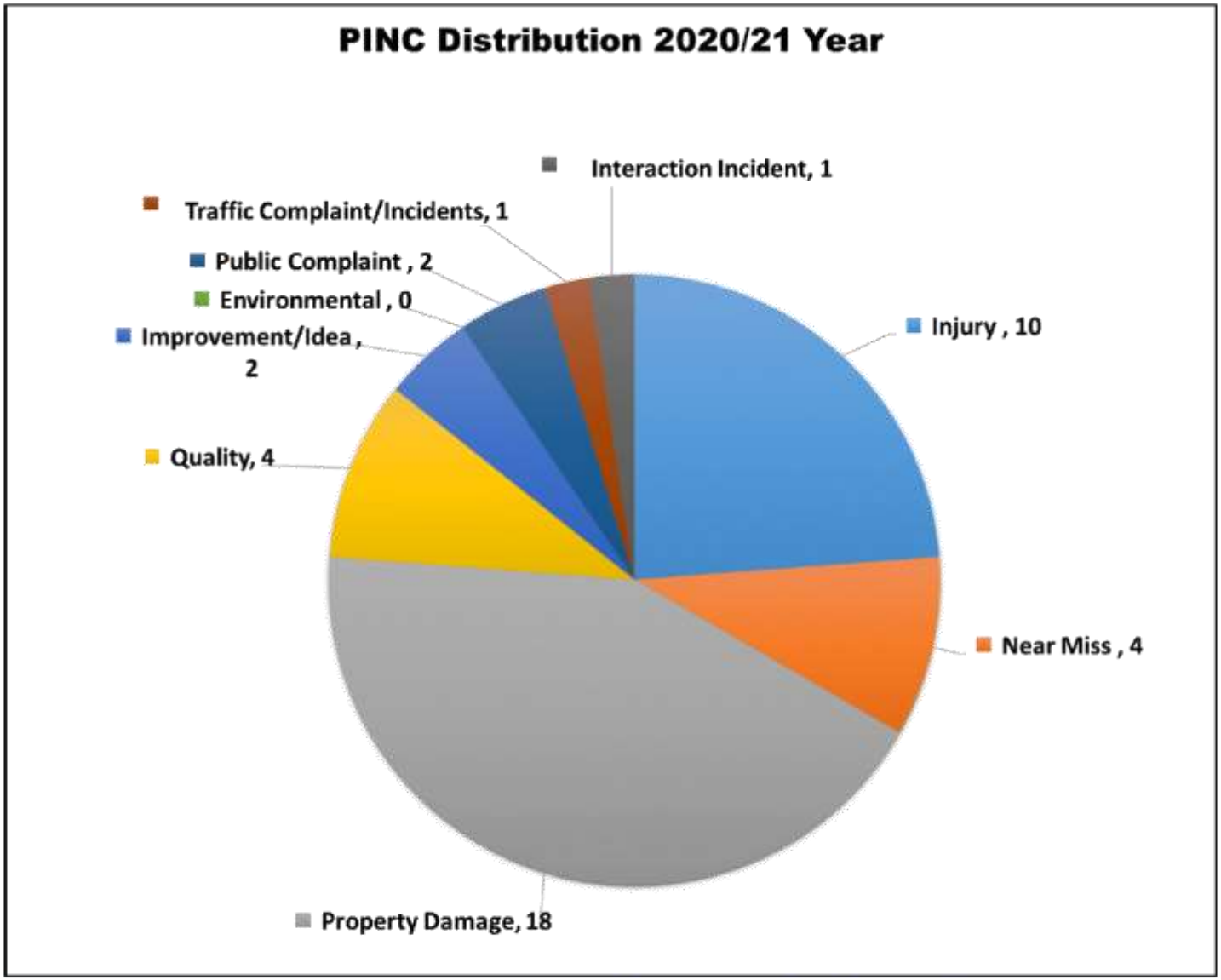
HEALTH & SAFETY

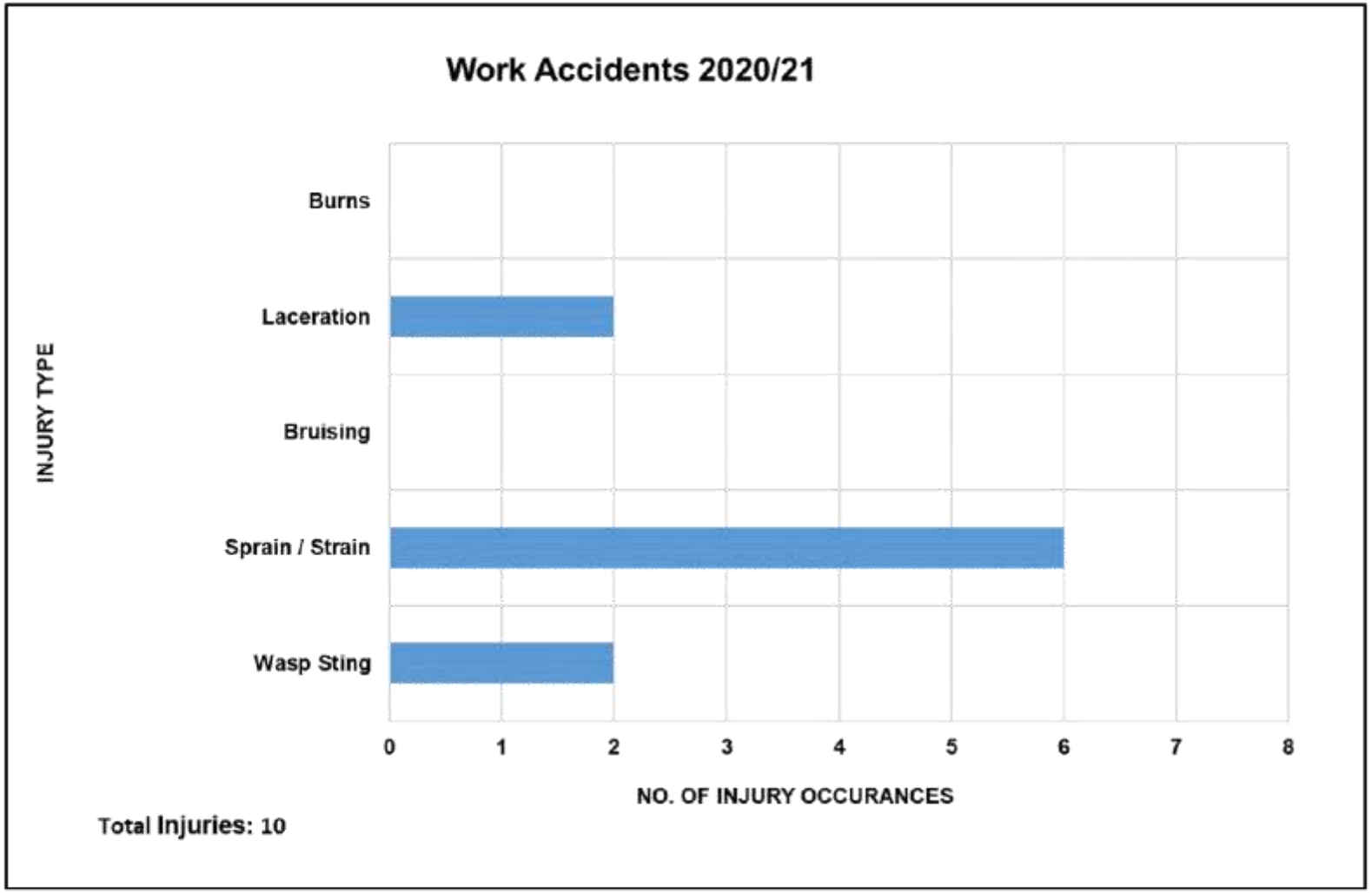
- SiteWise 'GOLD' certification

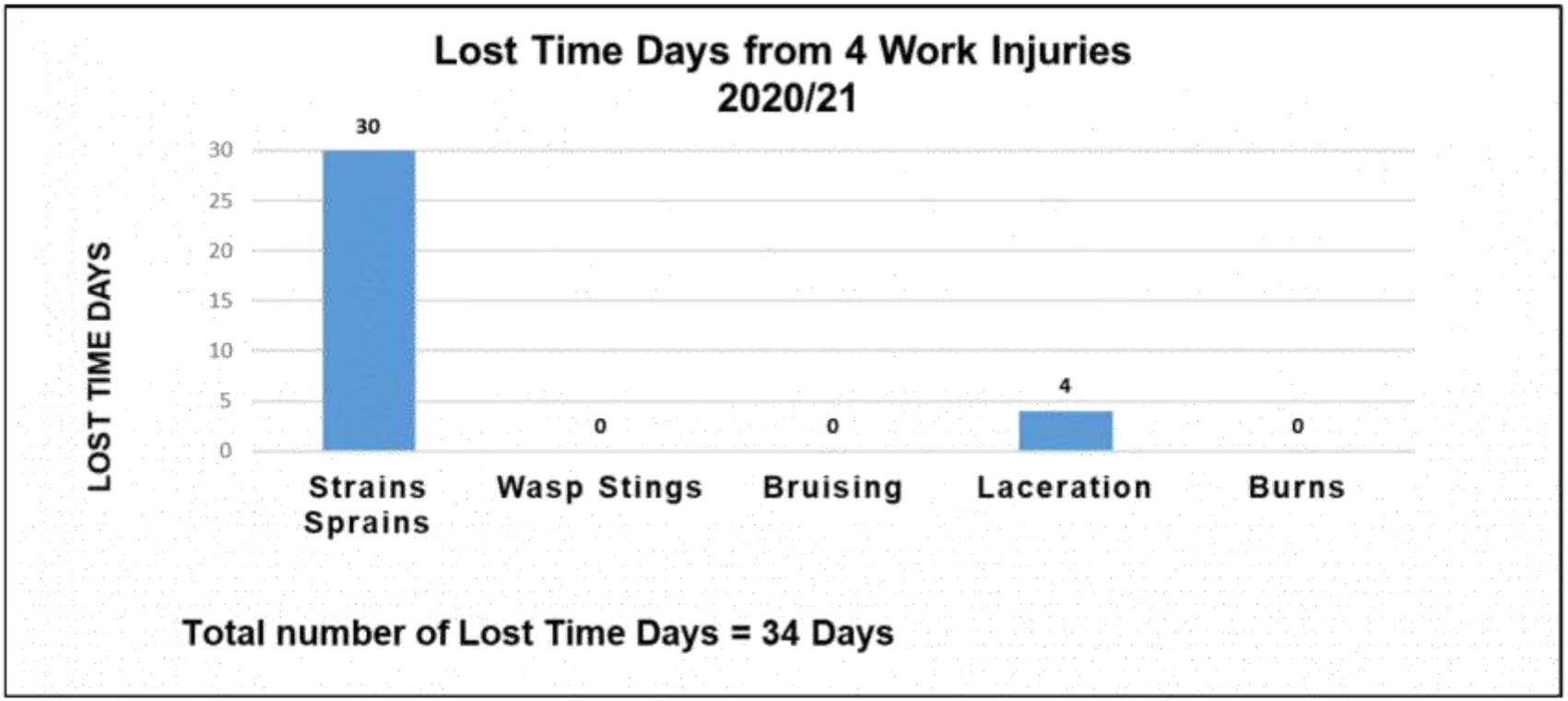
HAWKE'S BAY REGIONAL COUNCIL

Health & Safety
PINC Review
(Full Year Incidents 2020/21)

Injury (10)
Near Miss (4)
Property Damage (18)
Quality (4)
Environmental (0)
Public Complaint (2)
Traffic Complaint/Incidents (1)
Interaction Incident (1)
Improvement / Idea (2)
Total PINCs = 42


PINC Distribution 2020/21 Year
Interaction Incident, 1
Traffic Complaint/Incidents, 1
Public Complaint , 2
Environmental , 0
Improvement/Idea , 2
Injury , 10
Quality, 4
Near Miss , 4
Property Damage, 18


Work Accidents 2020/21
Burns
Laceration
Bruising
Sprain / Strain
Wasp Sting
INJURY TYPE
0
1
2
3
4
5
6
7
8
NO. OF INJURY OCCURANCES
Total Injuries: 10


Lost Time Days from 4 Work Injuries
2020/21
LOST TIME DAYS
30
25
20
15
10
5
0
30
0
0
4
0
Strains Sprains
Wasp Stings
Bruising
Laceration
Burns
Total number of Lost Time Days = 34 Days

ENVIRONMENTAL

The Works Group are committed to reducing environmental impacts.

- All work in strict compliance with the Environmental Code of Practice.
- All work programmed to adhere to the ecological management & enhancement plans
- Take no shortcuts and lead by example.

HAWKE'S BAY REGIONAL COUNCIL

Climate Change – How to reduce our Carbon footprint

- Improved efficiencies – team coordination
- Tier 4 emissions standards tractors and side x side.
- Battery powered tools - loppers and chainsaws for Nursery
- Reduction in burning

HAWKE'S BAY REGIONAL COUNCIL

QUALITY CERTIFICATION

- Quality Assurance System to TQS1 audited and re-certified to May 2022
- Transition to ISO 9001


GCS
global compliance solutions

Hawkes Bay Regional Council
Works Group

TQS1:2005

Scope of Certification

Civil Construction, Asset and Infrastructure Management

HAWKE'S BAY REGIONAL COUNCIL

PLANT & MACHINERY

- Purpose built 4WD water truck
- Upgrade all utes to 5 Star ANCAP Safety rating over 2 years

ANCAP SAFETY
TESTED 2019 ★★★★★

HAWKE'S BAY REGIONAL COUNCIL

KEY CHALLENGES

- Excavation of waterways - fish recovery

HAWKE'S BAY REGIONAL COUNCIL

- Ecological Management and Enhancement Plans – No work on river beaches Sept to Feb

Beach Raking

Banded Dotterel

PROJECT SNAPSHOT 20/21

HDC Small Community Water Treatment Plants

CLIENT: HASTINGS DISTRICT COUNCIL
CONTRACT VALUE: $700k
SCOPE: Civil works including drainage, construction of reservoir and container foundations.

- Haumoana
- Esk
- Te Pohue
- Clive
- Waipatiki

Esk SCWTP

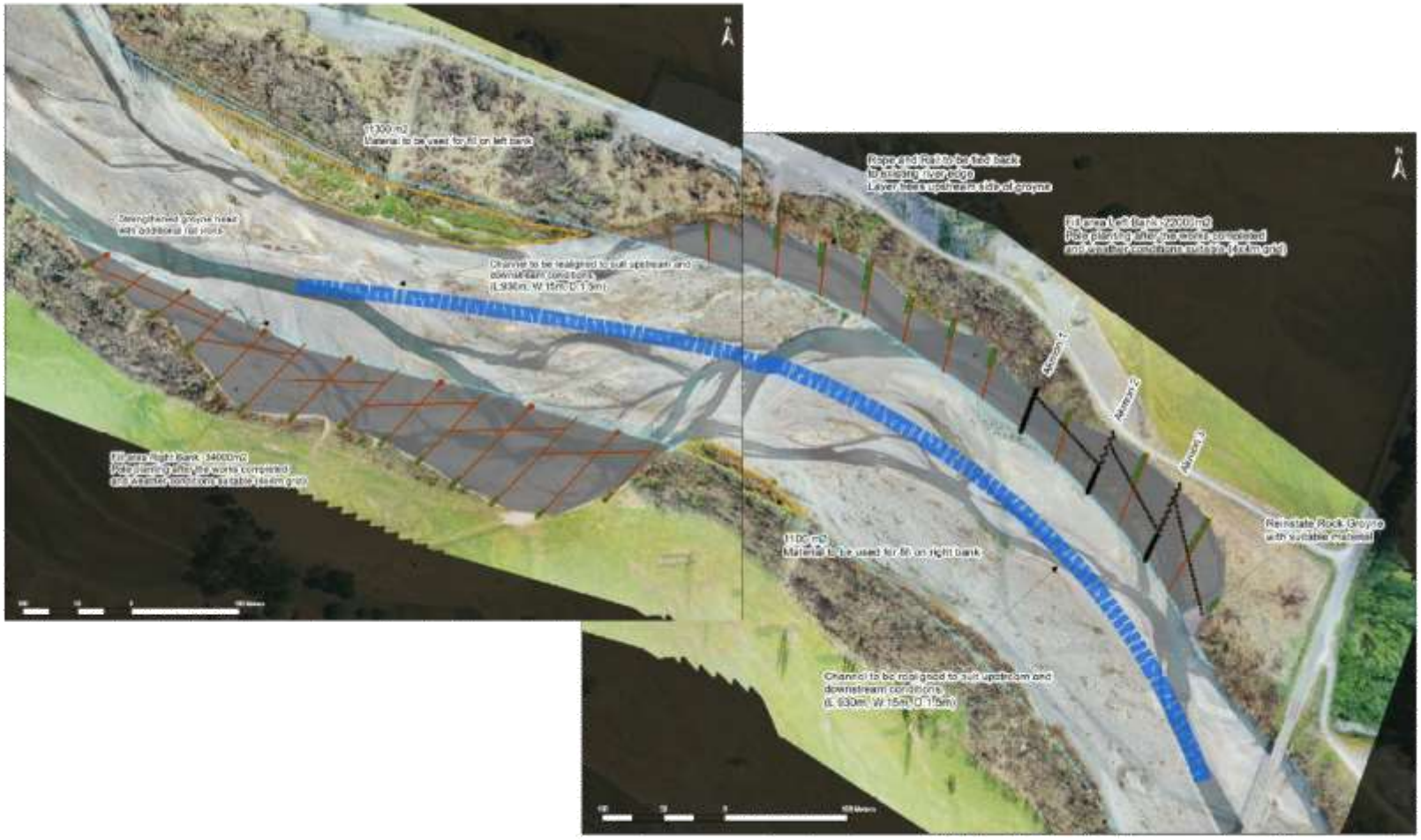
Clive SCWTP

Waipatiki SCWTP

Waipawa River SH50 Erosion Repair

CLIENT: HBRC
CONTRACT VALUE: $1.2M
SCOPE: River re-alignment, Akmon groyne construction, rope & Rail groynes, willow pole planting, native enhancement.

- IRG funded project
- Minimal lead time to commission contractors and commence physical works – Works Group able to resource accordingly.
- Weather dependant – high environmental risk.
- Social procurement requirements


1300 m2
Material to be used for fill on left bank
Strengthened groyne head with additional rip rock
Channel to be realigned to suit upstream and downstream conditions
(L930m, W 15m, D 1.5m)
Fill area Right Bank ~3400m2
Plant trees after the works completed
Rope and fail to be tied back to existing river edge
Layer trees upstream side of groyne
Fill area Left Bank ~2000 m2
Plant planting after the work is completed
Section 1
Section 2
Section 3
Reinstate Rock Groyne with suitable material
1100 m2
Material to be used for fill on right bank
Channel to be realigned to suit upstream and downstream conditions
(L 930m, W 15m, D 1.5m)


FOR
HIRE

HAWKE'S BAY
REGIONAL COUNCIL


HAWKE'S BAY
REGIONAL COUNCIL


HAWKE'S BAY
REGIONAL COUNCIL

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

10 November 2021

Subject: CHILEAN NEEDLE GRASS CONTROL PROGRAMME REVIEW UPDATE

Reason for Report

1. This item updates the Committee on the review of Council's Chilean Needle Grass (CNG) programme. This more detailed review of the programme was initiated by a Local Government Act 2002 S17a effectiveness and efficiency review which was presented to Council in September 2020.

Executive Summary

2. The recommendations from the S17a review presented to Council in September 2020 outlined that Hawke's Bay Regional Council (HBRC) should be spending more on biosecurity. How much more and on which programmes required a business case analysis through the Long Term Plan (LTP) and/or Annual Plan process to examine staffing and budget needs based on the finding in the report.
3. As part of the S17a review process a number of biosecurity programmes will be going through a more detailed assessment of their funding and delivery. The Possum Control Area (PCA) programme was the first of these programmes and is now in a partial plan review process. Council's Chilean Needle Grass (CNG) programme is also undergoing a more detailed review.
4. A number of issues from the S17a review raised about the CNG programme have had solutions put in place to improve programme effectiveness and efficiency. These include resourcing for infield delivery and IT/data management. Some of these such as resourcing are interim solutions to provide time to support longer term decision making.

Background/Discussion

5. In September 2020 a S17a effectiveness and efficiency review was carried out of biosecurity programmes. This review meets the requirements of S17a of the Local Government Act 2002 that requires, that a local authority must review the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory functions.
6. An independent reviewer Kevin Collins from the Waikato was engaged by the Group Manager ICM. Kevin has a Master of Environmental Science and Policy degree from John Hopkins University in the United States. Prior to his consulting career, Kevin managed biosecurity and biodiversity programmes for Waikato Regional Council. His skills and experience have been shaped by more than 30 years of practical experience.
7. Kevin has also undertaken the more detail review of Council's CNG programme. His report on the programme is attached and Kevin will present to Councilors on the key context and findings of that report.
8. While the Biosecurity Act gives councils wide ranging powers to carry out pest management activities, it does not require any particular level of pest control or that any pest control occur at all. The Act stipulates what must be included in a regional pest management plan if a council chooses to have one, but it does not stipulate outcomes or performance levels.

9. In line with the point noted above, acceptable levels of "efficiency and effectiveness" in pest management are left to the discretion of councils. Councils themselves decide what constitutes "efficient and effective" pest management in the context of their region and their community expectations. In practice, this means that the approach taken by councils often differs widely.

S17a Review findings on the Chilean Needle Grass programme

10 More staff are needed, at least during the busy summer season, if the Chilean needle grass programme is to have a greater chance of delivering

10.1 *Staff response - An internal reprioritization of resources from staff on parental leave or from the predator free Hawkes Bay programme has taken place. This has seen an additional 2.5 FTEs made available to the pest plants team from October 2021 to June 2022 (the key pest plants control season).*

11 A more complete business case analysis is needed to examine whether the programme could be delivered more effectively in other ways, including different control methods and the use of contractors rather than landowner responsibility. Land use change options should also be actively considered.

11.1 *Staff response - The more detailed report presented to the committee today provides the foundation for a more complete business case analysis. This work will take some time to develop and will be brought back to council in the 2022-2023 financial year with a view that resourcing any changes could be made as part of the 2024 LTP*.

12 The Chilean needle grass surveillance programme should be reviewed to determine if it can confidently determine the current level of infestation and reliably detect spread

12.1 *Staff response - The detailed report discusses the CNG programme objectives and provides initial guidance. More detailed work will take some time to develop and will take some more time to develop and will be brought back to council in the 2022-2023 financial year with a view that resourcing any changes could be made as part of the 2024 LTP*.

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.

Recommendations

That the Environment and Integrated Catchments Committee receives and notes the "*Chilean Needle Grass Control Programme Review Update*" staff report.

Authored by:

Campbell Leckie
MANAGER CATCHMENT SERVICES

Approved by:

Iain Maxwell
GROUP MANAGER INTEGRATED CATCHMENT MANAGEMENT

Attachment/s

1⇩ Chilean Needle Grass Control Programme Review Report
2⇩ Chilean Needle Grass Presentation for EICC

Review of the Hawke's Bay Chilean Needle Grass Control Programme

Collins Consulting

OCTOBER 2021

Contents

Executive Summary

An "efficiency and effectiveness" review of Hawke's Bay Regional Council's (HBRC) biosecurity programmes was conducted in August 2020. This report builds on that analysis by looking more closely at the Chilean needle grass programme.

HBRC's programme meets current best practice for CNG control, nevertheless in its current form it is unlikely to achieve its literal objective of "stopping the spread." That is due primarily to no baseline

from which to measure success (or failure), leaky pathways and the strong likelihood that the region has more CNG-infected properties than the council is aware of.

HBRC staff have implemented the programme effectively with limited resources. For three to four months of the year they work long hours and dedicate themselves almost entirely to Chilean needle grass. Staff have identified a need for more resources and this report concurs. Additional resources will reduce staff stress and help the programme be more effective (e.g., HBRC could inspect more properties or machinery) but are unlikely to be enough to "stop the spread."

Despite HBRC's best efforts, "new" CNG sites continue to be found every year. Those sites could be simply previously unknown sites, i.e., not new spread, but without a credible baseline it is impossible to know for sure. Developing a credible baseline from which to assess if the CNG programme is achieving its objectives is not simple. It will require innovation and a reliance on modelling that has some inherent uncertainty. It is important, therefore, for HBRC to determine what level of uncertainty it is comfortable with versus the cost of pursuing a more accurate baseline. Some options are noted later in this report.

The biology of CNG makes it extremely hard to fully eradicate, however, the RPMP objective of controlling its spread is reasonable and may be achievable with considerable effort. Most movement of CNG comes from human activity (machinery and animals)[1], which is, at least theoretically, easier to manage under the Biosecurity Act than natural vectors such as birds or the wind. Adoption of more aggressive pathway management tools could realistically reduce the risk of CNG spreading from known infected properties.

Adopting and enforcing more stringent pathway management, however, would require public support, especially from the farming industry. Views are mixed, but anecdotal evidence and HBRC staff comments suggest that CNG is not an especially high priority for farmers. Several years ago, the council supported development of a Hawke's Bay Chilean needle grass farming group, with the caveat that it needed to be led by farmers themselves. There is currently no active Hawke's Bay CNG group, which implies a lack of motivation among local farmers.

Unfortunately, Chilean needle grass also is relatively low priority for the Ministry for Primary Industries. Their contribution to, and support of, a national coordinating group has waxed and waned over the years. Publicly, MPI is quite clear that it is up to councils to manage Chilean needle grass.

CNG management also is hindered by the Biosecurity Act's emphasis on species-specific and region-specific approaches. CNG is just one of many pests that would be better managed by a collective, inter-regional approach. The concept of national pathway management plans was meant to fill this need but it has not been adopted. Regional councils that are officially free from CNG, such as Horizons, should be highly motivated to support collaborative efforts to keep it out. One example of a collaborative approach would be for at-risk regions to share the costs of research into practical surveillance and proof of absence methodologies. If such a tool was developed, regions could share the implementation costs and undertake baseline surveillance on a rotating schedule. This would be a useful approach for multiple pest plants in councils' RPMPs.

Current control tools for CNG are limited and need to be applied over the very long term. As HBRC staff noted, it is hard to tell landowners: "Do good control for 10 or even 20 years and you'll still

[1] River spread is a separate consideration.

have the same size infestation." This is especially true when the RPMP makes CNG control the landowner's responsibility.

The ideal approach to managing Chilean needle grass is finding an alternative land use that removes human activity from the infested area and eventually shades out the CNG. Historically, it has been difficult for farmers to make those changes and still earn money from the land.

However, carbon farming and its associated credits have created new opportunities. Planting a permanent "carbon sink" forest (or at least timber with very long rotations, such as natives or redwoods) could control the spread of CNG and generate an economic return. When carbon credits are coupled with the growing public and regulatory pressure to stop the decline of New Zealand's native biodiversity, this option could be very viable for some properties.

Permanent native forests would certainly not work for all CNG properties, but they are likely to be more attractive than existing options for some. HBRC is already subsidising landowners to continually spray CNG infestations; a philosophical shift to incentivising the retirement of CNG infested land and the facilitation of native restoration is well worth exploring.

There is no question that Chilean needle grass can cause considerable losses to pasture-based farming, particularly sheep farming and associated industries. The primary beneficiary of CNG control is the agricultural sector, which also pays the majority of costs through a targeted rate, although this is not weighted toward the sheep farming industry.

The council's decision to included CNG as a pest in the RPMP is reasonable and justified. Chilean needle grass is currently a "sustained control" pest and the management objective is to ensure that current infestations levels do not increase and spread to other properties is prevented.

This is an appropriate objective. Chilean needle grass would be unlikely to meet the Progressive Containment requirements at this point due to its current distribution, the difficulty in identifying it and limited control tools. Eradication would be an impossible objective for similar reasons.

In practice, however, HBRC cannot be sure if CNG is spreading or not because of incomplete knowledge about how widespread it currently is. HBRC staff believe there is more CNG in the region than they are aware of and that it is almost certainly spreading from those unidentified properties. This view was echoed by Federated Farmers in their submission to the last RPMP review: "The control in the past has limited success, and it is far from eradication and is not even achieving containment. CNG is still spreading."

HBRC's efforts will be slowing the CNG infestation curve to some degree because of its active management of the properties it knows about. The difficulty, of course, is the absence of information on the rate of spread from the unknown properties.

The CBA analysis for the current RPMP concluded: "The objective of preventing the spread of Chilean needle grass is going to be difficult to achieve but it would be irresponsible for Council to select the option of no regional intervention."

It also could be argued that it is irresponsible for the council to continue a programme if it cannot accurately measure success or failure. Very few environmental monitoring programmes will ever produce 100% perfect information. For example, many councils have very robust water quality monitoring programmes that nevertheless do not sample every body of water. Regional council biodiversity monitoring is generally much less comprehensive but frameworks exist to do it effectively and councils are moving in this direction. For CNG and similar pests, it is currently unclear

how to practically and cost-effectively implement regionally robust outcome monitoring. This challenging question needs to be addressed as part of HBRC's effort to reduce uncertainty in the CNG programme.

Without more robust data, it will always be difficult for the council to judge if the success in reducing spread from managed properties is sufficient in the larger regional picture to continue the programme in its current form. **The recommendations in this report are primarily about increasing confidence – not providing absolute certainty -- that the CNG programme is achieving its objectives and reducing the burden on HBRC staff.**

The alternatives are to either accept that council will never have high confidence that it is significantly "stopping the spread" and proceed anyway, or to drop CNG as a pest under the Biosecurity Act and allow individual farmers to manage CNG (or not) part of their normal operations.

Why Chilean Needle Grass is a Pest

The HBRC Regional Pest Management Plan has a succinct and accurate description of why Chilean needle grass is considered a pest species:

> *Agricultural productivity can be severely reduced by the replacement of palatable vegetation, injury to stock, reduction of produce quality and increased management costs. Seeds can cause pelt damage, and painful wounds both externally and internally when they move through skin into muscles. Carcasses are downgraded, blindness can occur and seeds can get into ears. Farm dogs can be similarly affected. Some sheep graziers in eastern Australia have been forced to switch to beef production.*
>
> *Chilean needle grass is likely to invade native grasslands, where it can replace native plants, and alter invertebrate community composition.*

This assessment aligns with all the published literature reviewed for this report. For example, in Australia, CNG is a Weed of National Significance and regarded as one of the worst because of its invasiveness, potential for spread, and economic and environmental impacts.

The Biology of Chilean Needle Grass

Chilean needle grass has several attributes that make it extremely difficult to control successfully, and almost impossible to eradicate from large areas using typical control methods.

CNG is unusual in that in addition to normal flower seeds, it produces hidden seeds which are formed in the nodes and bases of the flowering stems. These 'stem seeds' are self-fertilised and account for about one-quarter of total seed production. They enable the plant to reproduce despite grazing, slashing and fire.

The seedlings grow quite slowly but have a very high survival rate and can produce flowers in their first season. The adult plant is long-lived and very hardy.

Depending on the availability of moisture, Chilean needle grass can produce more than 20,000 seeds per square metre. The resulting seedbank can persist for many years even if further seed input is prevented.

CNG also is notoriously difficult to identify when it is not in flower; essentially, it closely resembles many other grasses.

Finally, CNG seeds attach easily to farm machinery, clothing or livestock. This means that although CNG is not wind or bird spread, it can still travel relatively long distances (e.g., via roadside mowing) and appear in unexpected places (e.g., Auckland urban parks). In addition, as HBRC is well aware, floodwaters can move seed downstream where it can be further spread by gravel extraction.

Nevertheless, CNG has a relatively slow rate of spread when it is not moved by human vectors. The original plants that established at Blind River in Marlborough in about 1930, had spread only 8 km to the north and south by 1989, a period of 60 years. At Waipawa in Hawke's Bay, a similarly slow rate of spread is apparent. After arriving there in about 1962 (apparently on Mr Hornblow's farm in grass seed from Marlborough), it spread about 3.5 km to the west and 1.5 km to the east across adjacent pastoral land during the 30 years until 1992.[2]

Current HBRC Chilean Needle Grass Control Programme

Chilean needle grass is currently a "sustained control" pest in the regional pest management plan.[3] The management objective is to ensure that current infestations levels do not increase and spread to other properties is prevented. Minimising adverse effects on production values is cited as the main reason for the control programme.

There are two RPMP rules associated with CNG. The first makes land occupier responsible for destroying all Chilean needle grass on their property.[4] The second rule says no person shall make hay/silage during the months from November to March from a paddock that has, or has had, Chilean needle grass present. No person shall move any goods contaminated with Chilean needle grass seed beyond their property boundary. The highest risk for transport of seed is in hay/silage making machinery during the panicle seeding period which is November through to March.

The indicator of success in the RPMP is the extent of Chilean needle grass in the region, informed by monitoring known sites and "surveillance of areas vulnerable to invasion."

HBRC staff also do more than 100 machinery inspections every year. However, this process relies mostly on contractors telling the council when they have been to a CNG-infested property. It is unknown how comprehensive this reporting is. The staff assumption is that for larger jobs that extend over a period of time, e.g., big subdivisions, the inspection compliance is reasonably good. In contrast, it is harder to get a handle on the reporting for properties where there are 'one off' jobs.

Similar to the HBRC possum control programme, the council financially supports land occupiers who either use herbicide to control CNG themselves or hire a contractor to do the work.

When occupiers hire contractors, HBRC will pay 50% of the cost up to a maximum of $3,000 per property. The Taskforce herbicide is not sold through retail outlets. It is purchased from an importer and then distributed to contractors and any landowners who are spraying themselves. HBRC pays for the total cost of the Taskforce.

Last year, approximately $61,000 was spent on the CNG related subsidies -- $50,000 for contractors, plus $10,000 on Taskforce and about $1,000 on Roundup.

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[2] "Chilean needle grass (Nassella neesiana) – a review of the scientific and technical literature," Graeme Bourdôt, August 2010

[3] CNG had been in the "Total Control" category under the previous RPMP. The current programme is largely the same but the title has been aligned with the National Policy Direction, being Sustained Control. ECAN and MDC took the same steps.

[4] Except where an occupier of land has entered into a Written Management Agreement approved by HBRC

HBRC spending on contractors has risen steadily for the last five years from around $20,000 up to the current $50,000. This is mainly for two reasons. First, HBRC has strongly encouraged landowners to use contractors. Second, HBRC has found CNG infested properties due to increased surveillance and outreach programmes, which means more work for contractors.[5]

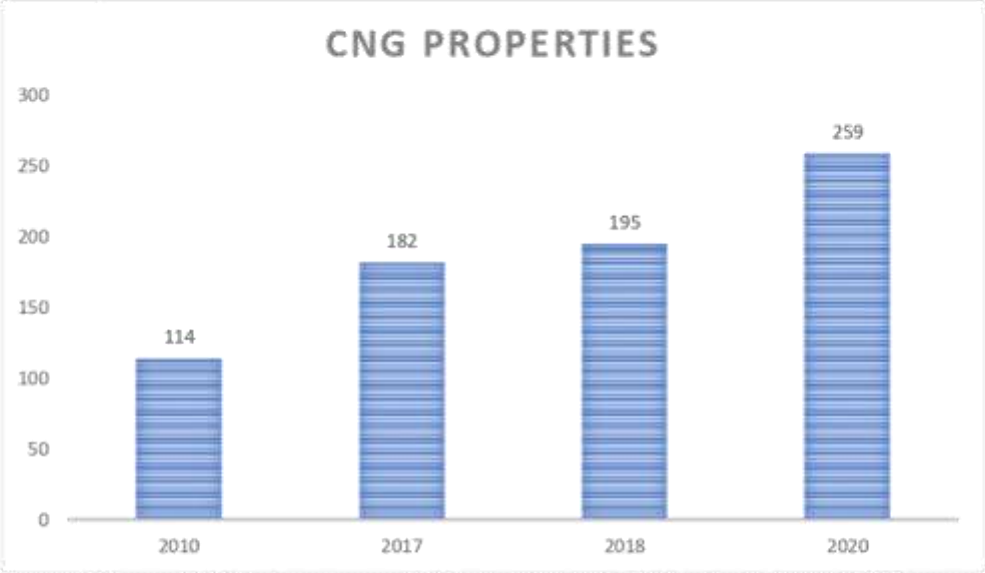
The current CNG budget also includes the need for three full time staff from September to December. Staff estimate that last year they spent about 1104 hours managing CNG in the field. Office hours spent on CNG are not recorded but a rough estimate is around 500 hours, particularly with extra work related to gravel extraction.

Staff note that the majority of their time is spent dealing with people and developing a rapport with new property owners when CNG is found on their property.

Monitoring

Pest management programmes obviously depend on appropriate monitoring to help determine how well they are working. Most regional councils have a very limited ability to accurately measure the spread (or reduction) of pest plants, especially ones that are reasonably widespread. Hawke's Bay and CNG is no exception.

In Hawke's Bay, "new" infestations of CNG are found every year. The table below shows the trend in properties with CNG in the Hawke's Bay. However, these may be genuinely new or they may just be newly discovered.



HBRC staff confirmed that there is no structured surveillance programme for CNG. Areas are targeted by staff based on what they know, but it is largely an unstructured approach. Further, there is no reliable baseline figure that progress can be measured against with a high level of confidence. In short, the true amount of CNG in the Hawke's Bay region is largely unknown.

[5] Contractors' prices have also increased over this period.

When a new CNG property is found, GPS points are taken to show its location.[6] Staff do not attempt to analyse where newly found infestations have come from. Their feeling is that this would be mostly speculation, except where there is a very obvious pathway.

Community satisfaction with CNG Control

Testing the level of community satisfaction with the current CNG programme was outside the scope of this report. However, the 2020 Section 17 biosecurity review did include Chilean needle grass, although it was not a major topic. In that report, "community respondents were asked "On a scale of 1-10, how efficient is HBRC's Chilean needle grass control programme?[7]

The average score from that survey was low -- 32 out of 100 -- three of seven scores were very low, below 10.

For this review, one Federated Farmers representative was interviewed. The spokesperson was unable to say if CNG is a significant financial problem for the industry because they had not talked to specific, affected farmers.

The spokesperson said they did want more attention put on weeds generally. For example, they feel HBRC gave up on yellow bristle grass and that the council's plant programme has been weakened by a focus on animal pests.

Federated Farmers realises that CNG is very hard for farmers to control, but equally most farmers would not want HBRC staff on their property to locate CNG or control it. The spokesperson cited a loss of trust from the Tukituki farm consents process and a concern that the council is just a regulatory body.[8]

If staff go on farms to manage CNG (or undertake surveillance), the representative said farmers would want certainty they would not get cited for anything else.

The spokesperson agreed that farmers have a responsibility to get rid of pests such as CNG, "but the RMA regulatory function is really off-putting." There was a suggestion that some independent entity such as Assure Quality, could be the surveillance arm. A focus on unusual risk factors, such as vehicle wash pads, was another suggestion.

There also was a desire for better information on CNG, such as identification tools, specimen photos etc. "More than just the ute guide!" was the comment. Some "systemic problems" also were noted, such as hay coming in from outside the region, a lack of national coordination, no national database and standard communication materials.

In their formal submission to the last RPMP review, Federated Farmers said CNG poses "a significant threat to the sustainability of farming in the Hawke's Bay Region. [we support] intensified efforts to ensure it remains on the current infested properties and does not spread further."

Chilean Needle Grass Landowner Survey

Manaaki Whenua Landcare Research is currently doing research into "sleeper pests" that may be exacerbated by climate change. CNG is one of these pests and surveys of affected landowners were done as part of that research. The researchers surveyed farmers in Marlborough, Canterbury and

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[6] Staff indicated that this may not have been done for all properties due to limited or time-consuming GPS data collection tools. This is being addressed through a new infield application.

[7] Instructions were to skip this question if not relevant to their area

[8] One HBRC staffer disputed this view: "In the 12 years I have been involved in the CNG programme, very few farmers have declined me permission to look over their land for CNG."

Hawke's Bay on their beliefs about how easy CNG is to identify and control, and the damage it causes. Also included were their thoughts about monitoring for CNG, and controlling CNG using sprays and excluding livestock from pasture infested with CNG.

The results below are preliminary and need to be read as part of MWLR's final report. They are noted here only for additional context on community attitudes to CNG.

There were 28 CNG respondents from Hawke's Bay.[9]

Respondents believed that:

- CNG could spread rapidly (74%) and a small infestation could rapidly become a problem (87%),
- CNG was difficult (74%) and costly to control (60%),
- CNG damaged pasture (74%), harmed livestock (75%) and could inflict severe financial losses (75%)
- CNG was easy to identify (71%)
- Approximately 93% had a favourable attitude towards monitoring for CNG. Approximately 79% indicated that they sprayed or excluded stock to control CNG.
- Approximately 61% indicated they were satisfied or very satisfied with the HBRC CNG programme.
- Approximately 87% indicated they were satisfied or very satisfied with HBRC CNG programme staff.
- About 43% indicated they got value for money from the HBRC CNG programme.

Approximately 96% indicated they supported the HBRC CNG programme but about half of these had reservations about the programme.

Encouragingly, nearly everyone (>90%) thought stopping the spread of CNG was the right thing to do, that they had some responsibility to stop it spreading and were prepared to take action and make sacrifices to prevent it spreading. Interestingly, however, only 50% of respondents believed that everyone else felt the same way.

The costs and benefits of CNG control in the Hawke's Bay Region

As required by the Biosecurity Act, HBRC commissioned a cost/benefit analysis for Chilean Needle Grass as part of its Regional Pest Management Strategy[10]. This analysis concluded that the benefits of a sustained control programme would outweigh the costs.[11] As with all CBAs, the report made a number of assumptions, including that the current infested area is approximately 665 ha, which would grow to 145,000 ha over 70 years. It further assumed that the impact on the sheep and beef industry if CNG spread significantly would be high, a 10–50% reduction in annual economic value per hectare.

[9] Nearly 100 responses were received from Marlborough where the council posted a paper survey which farmers then had to mail back. Hawke's Bay farmers completed the survey online.
[10] 2018-2038
[11] A net benefit of approximately $1.7 million over 10 years and $450 million over 50 years.

The CBA noted that the primary beneficiary of CNG control is the agricultural sector and work should be funded through a 70% targeted rate and 30% general rate. The proposed an annual expenditure by HBRC in the 2018 CBA was $160,000[12], which would be just below the $175,000 annual average benefit cited for the 10-year duration of the RPMP.[13] (See Figure 1 below.)

Figure 1

10 year assessment

The cost-benefit analysis indicates that the benefits of the proposed management programme over the next 10 years will be of net benefit to the region.

SCENARIO	PEST IMPACTS*	PEST VALUES°	BENEFIT	COUNCIL COSTS†	LANDOWNERS COMPLIANCE COSTS‡	AGENCY COMPLIANCE COSTS‡	NET BENEFIT
No intervention	$3,041,431	$0		$0	$0	$0	
	min: 696,987						
	max: 6,796,569						
Sustained Control	$103,169	$0	$2,938,262	$759,180	$421,767	$0	$1,757,315
	min: 16,205		min: 680,782		min: 421,767		min: -500,165
	max: 282,289		max: 6,514,280		max: 421,767		max: 5,333,333

* Includes economic, environmental and social costs.

° The estimated economic benefit provided by the pest.

† Administration and implementation costs incurred by the Council through the programme.

‡ Costs of control imposed on landowners through the programme, over and above the costs already being paid by landowners, as estimated by the Council. They are applied for the 10 years of the Plan.

As required by the Biosecurity Act National Policy Direction, the CBA also considered the risks that could contribute to the overall programme not achieving its objectives. (See Figure 2 below.) For example, it concluded that the "operational risk" was low, presumably because CNG plants can be killed once identified, even though identification is often difficult and the seed bank is long lived.

Figure 2

Risks of the programme being unsuccessful in achieving objectives

RISK	LEVEL OF RISK	EXPLANATION
Technical risk	Medium	
Operational risk	Low	
Legal risk	Medium	
Socio-political risk	Low	
Other risks	Low	

The CBA did not make a specific assessment of the overall risk that the programme might not be successful. The CBA report concluded: "The objective of preventing the spread of Chilean needle grass is going to be difficult to achieve but it would be irresponsible for Council to select the option of no regional intervention."

[12] The current CNG budget is roughly $90,000 for the herbicide subsidy and contractor costs, plus labour costs for three full time equivalents.

[13] 2018-2038 HBRC Cost Benefit Analysis, Page 172

Given the challenges faced by the CNG programme, a cumulative risk assessment of "medium to high" seems appropriate. That does not mean CNG should not be included in the RPMP. However, mitigating that serious risk as much as possible should be a priority for council.

Other Councils' CNG Control Programmes

Environment Canterbury

Chilean needle grass was found in Canterbury in 2008. ECAN staff believe it came probably came in hay shipped from Hawke's Bay and some farmers then gave hay away free at saleyards.

Canterbury currently has 23 properties where CNG has or does occur. The total infested area is approximately 330 hectares. All properties except one are located in a relatively confined area north of the Waimakariri. However, the region has a very large area of potential infestation.

Like HBRC, ECAN treats Chilean needle grass as a land occupier responsibility and lists it as a sustained control pest. The RPMP rules are very similar. Occupiers must have a CNG management plan and not move any contaminated goods off the property. ECAN also has a boundary control rule; occupiers must eliminate all plants within five metres of an adjoining property.

The RPMP says monitoring will be "As reported by occupiers or any other persons"[14] and ECAN staff confirm they are not doing any special CNG surveillance. However, they do delimiting surveys and believe they can identify where the outer edges of known infestations are. "We publicise CNG and ask people to self-report," staff said.

Staff acknowledged that the council is worried about finding big new infestations that it can't afford to manage. "We suspect there is a hell of a lot more out there that we know about. There was stock movement and machine movement from decades before we were focused on CNG…"

ECAN is very keen to keep shifting its programme to greater landowner responsibility and an increased focus on prevention. Staff there believe vectors and pathways are the key, and that CNG should be part of managing farm biosecurity at the gate.

"The opportunity for spread is enormous. Only education and farmers taking responsibility will work. Behaviour change is needed," staff said.

Staff admitted, however, that if there is little or no economic impact from a pest, people care less and are less motivated to manage it. In Canterbury, landowners seem more concerned about nassella tussock, which is easier to control and has more economic impact.

Marlborough District Council

Marlborough District Council[15] also lists CNG as a sustained control pest. However, its management objective is more specific than either HBRC or ECAN, specifically: "control Chilean needle grass … to less than or equal to baseline levels…"

MDC also has similar rules but spells out in much greater detail what is not permitted. For example, there is one rule for sheep movement and another for cattle and a third for "other".

[14] Canterbury Regional Pest Management Plan 2018-2038
[15] A unitary authority

The cattle rule says:

> *No person shall move cattle from a property with a known infestation of Chilean needle grass, unless:*
>
> *1. The cattle are being transported directly to slaughter, or*
>
> *2. The cattle were solely grazed in an unaffected area of the property, as agreed to by Council, or*
>
> *3. The movement is taking place between 1 April and 30 September, and*
>
> *4. The movement is taking place when ground conditions are dry, and*
>
> *5. The cattle are stood down (to empty out), for 12 hours prior to movement.*
>
> *A record that details the steps taken to meet the rule requirement must be kept for a minimum period of 5 years from the date of movement.*

There also are movement-related rules:

> *No person shall move any machinery off a property containing a known infestation of Chilean needle grass, unless:*
>
> *1. The machinery has been cleaned on the originating property to a standard where there is no visible soil or organic matter; and*
>
> *2. The machinery has been inspected by a person approved by Council to inspect machinery for the purposes of this rule; or*
>
> *3. The machinery has been operating within an unaffected area of the property, as agreed to by Council.*

As well as:

> *No person shall move any hay or other stock feed/arable crop product off a property containing a known infestation of Chilean needle grass, unless the hay or any other stock feed/arable crop has originated from an unaffected area of the property, as agreed to by Council.*
>
> *No person shall spread or cause to spread plant parts of Chilean needle grass including seed or soil likely to contain seed from an infested property.*

In terms of surveillance:

> *Occupiers are required to notify Council of any new infestation[16] of Chilean needle grass on land that they occupy within 5 working days of the initial observation.*

MDC staff said CNG has probably been in the region for 70 years and they have the largest infestation in New Zealand. Approximately 2,500 ha are infested with CNG over 194 total sites. Historic sites with heavy infestations get little resourcing from the council, but most sites are controlled through direct service delivery by the council or contractors. Some 80% of MDC's

[16] Distribution data is able to be viewed online via Council's Smart Maps service.

programme is service delivery, with very little enforcement This is significantly different than HBRC or ECAN.

MDC staff agreed that because it is an agricultural pest, landowners should manage it, but said people started to give in, feeling "it's just too hard." This led to MDC putting more effort into direct control at outlier sites. Staff described it as "less regulatory, more team effort."

"This is what we need to do; landowner obligation does not work."

Other aspects of the management programme include MDC paying contractors to go out and inspect machines that have been on properties with CNG. The council has about $150,000 in operating costs, plus three staff full time, plus 4-5 contractors with their own staff. In the most recent season, 3,000 hours of field time was dedicated to CNG.

Staff said they a lot of "passive surveillance" looking for CNG around the region, which they acknowledge does not work well for private property. They do not have a surveillance programme specially designed for CNG. They have tried aerial imaging as a more cost-effective approach but it did not work well.[17]

Auckland

Auckland Council had two historic CNG sites, each just a few square meters. One is considered "eradicated" after 10 years. At the other site, CNG was spotted in 2006 and plants were plants last seen in 2015. That site is not considered "eradicated" yet because ongoing monitoring is required to watch for seedbank resurgence. Staff said, "Just because plants don't appear in one year doesn't mean the seeds are all gone. Land disturbance or environmental change could trigger seeds."

Auckland staff said the second site is in park land and they do not know how it got there. Their control regime has included cutting seed heads off, digging up plants and regular use of Roundup. Obviously, some of those methods are not practical at large sites.

The Role of MPI

There is a "national coordination" group for Chilean needle grass but all parties agree it has not been very active recently.

MDC staff said regional councils had previously collectively asked the Ministry for Primary Industries for more national involvement and coordination, but that MPI did a "token" cost benefit analysis and decided CNG was a regional responsibility. Now there is little direct interest from MPI except to encourage councils to apply for funding. "But resourcing is not really the problem; it's a strategic coordinated approach that's needed," MDC staff said.

MPI staff interviewed for this report said CNG is "just at the margin" of something MPI would get more involved with. They noted that MPI staff get dragged into urgent crises and something like CNG never rises high enough on the priority list. "Maybe we could do more but it is always a struggle to find the resources…"

Staff said that MPI tends to be more involved when there are multiple benefits across private and public land. The suggestion being that CNG control is largely a private benefit to farmers. In contrast, MPI has been much more involved with the more recent velvet leaf incursion, but staff said this was because there are more active players, more regions involved and more uncertainty about

[17] AgResearch confirmed that remote sensing trials for CNG have not been successful so far.

its impacts and management.[18] MPI said there is now a need to reassess who should lead the ongoing response.

Nevertheless, MPI's response to velvet leaf has been much more hands-on:

> *"We're continuing to work with partner organisations to manage velvetleaf. This is done through the Velvetleaf Programme – it's a partnership aimed at containing velvetleaf and reducing its impact over time. It includes MPI, regional councils and industry groups (like Federated Farmers, Rural Contractors New Zealand, the Foundation for Arable Research, Beef + Lamb New Zealand, and DairyNZ).*
>
> *In particular, we have worked with farmers who planted risk seed, to help develop management plans for those properties. The aim is to find the weed, contain it, and safely remove it. We've also used detector dogs to help locate it."*[19]

The MPI staff stressed that the biosecurity system assumes that if a pest is a serious issue for an industry, that industry will have enough incentive to act and undertake control. For the agency, this raises the question of why industry groups like Beef+Lamb are not more active.

In contrast, MPI is leading the national wallaby eradication programme because it has "multiple beneficiaries."

"If we went to the minister to lead a CNG programme, the minister would say "Why doesn't industry pay for it?"[20]

MPI staff reiterated that there is a systematic funding and prioritisation problem in that they always struggle to get operational research funding or funding for better tools. There is some hope that these sorts of issues will be addressed as part of the current amendments to the Biosecurity Act.

"We know there is a gap in the system."

MPI staff also noted that it is hard to understand why councils are all managing CNG differently. "Innovation is good, but such different approaches make it hard to compare and coordinate across regions.

Finally, they wondered what "national coordination" regions would exactly want; and would they help pay for that work?

Discussion

There is no evidence that HBRC's Chilean needle grass programme is out of step with other councils that manage this pest. However, the HBRC programme suffers from weaknesses and does face a number of serious risks. There are also opportunities that should be pursued to improve the programme's chances of success.

Risk of Staff Burnout

One serious risk is staff capacity. In brief, the CNG programme is extremely stressful for staff, partly because their CNG work is concentrated and intense over a short period of time. Staff are also

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[18] In fact, the MPI staffer leading the velvet leaf response is also meant to coordinate the CNG group, but only as time allows.

[19] https://www.mpi.govt.nz/biosecurity/long-term-biosecurity-management-programmes/velvetleaf/#being-done

[20] It is worth noting that regional councils lobbied for years in favour of a national approach wallabies.

concerned because the CNG programme is consuming more and more of their time, to the detriment of other important work, with little sign of overall progress.

There are three HBRC staff who work essentially 100% of the time on Chilean needle grass from October to December. When interviewed for this report, they reiterated comments they had made during the larger Section 17 biosecurity review. Essentially, staff feel extremely stressed by the workload associated with the CNG programme and how hard it is to see any progress being made.

Typical comments were, "We are all shattered by Christmas," and "We feel like we are drowning."

In the larger Section 17 report, management of Chilean needle grass was seen as "going backwards" in one staff comment.

Another comment noted how the intrinsic difficulties identifying and controlling Chilean needle grass made the programme very hard to deliver with current resources. "If our manpower stays the same, and the trend [of finding new properties every year] continues, we simply won't be able to do our best with that programme … the last two seasons have been difficult enough."

Staff also noted that Chilean needle grass is difficult for landowners to control effectively, which increases the need for active surveillance: "With the present amount of staff, we struggle to implement an effective surveillance programme around current infestations."

Are Additional HBRC Resources Needed?

In conversations for this report, HBRC staff identified the additional resources they feel the CNG programme needs. First and foremost, they see a need for three additional FTEs (Biosecurity Advisor roles). These figures are outlined below. Conversations with staff and managers indicate that the near term (one to two years) needs have a solid business case and that additional resources should be allocated to address immediate challenges. This would largely be to increase CNG surveillance capacity and engagement with landowners. The longer-term projections (five to 10 years) will need additional analysis.

- 1 extra FTE – start July 2021
- 1 extra FTE – start July 2023
- 1 extra FTE – start July 2031

Staff believe that the resourcing for a student during the high work period of October to the end of January is an important part of the overall resourcing mix.

Staff also believe the contractor budget should be increased by:

- $20,000 in July 2021
- $10,000 ($30,000 total) June 2023
- $10,000 ($40,000 total) June 2027

This money would primarily go toward surveillance. Contractors charge $50-60 per hour, which means $10,000 equates to about 180 hours.

Staff also suggest an increase in the subsidy budget. The current CNG budget is $50,000; in the next three years staff recommend this amount increase by $50,000 (so the total for CNG subsidy would be $100,000), in the next 10 years this would increase by a further $30,000 (the total for CNG subsidy would be $130,000). The suggestion to increase the subsidy budget is assuming the number of properties will increase over time due to better surveillance and extra resources in this

programme. Currently, staff take funds from the contracting budget to cover a shortfall in subsidies that are requested by landowners.[21]

I concur with the need for additional FTEs. In addition, because staff spend most of their time dealing with people, they would benefit from more training in how to handle "difficult conversations," the process for engaging new landowners and guidelines on what to do when those engagements become contentious.

Do HBRC Subsidies Deliver Value for Money?

The case for the current subsidy programmes is less clear. Some HBRC staff said their feeling is that the farming sector is not too concerned about CNG because the "cost" only comes if HBRC puts restrictions on their property.

As a result, "the subsidy scheme is the only thing that motivates landowners, basically we are buying their engagement," was one staff comment.

The subsidies do make it easier for HBRC staff to do their jobs because they have something to offer landowners who are faced with responsibility for controlling a very difficult pest. The conversation with landowners becomes less about compliance, which reduces stress on staff and potentially council's costs. Landowners are also probably more likely to report CNG if they know the council will help with control costs. Subsidising landowners to use contractors provides confidence that the work is done properly and reduces the need for monitoring by HBRC.

These are valid arguments, but it still suggests that without the subsidies, many landowners, particularly lifestyle block owners, would not see CNG as a serious pest and might not be sufficiently motivated to do control work.[22] It also raises the question of why, if the use of professional contractors is such a highly desirable outcome, HBRC allows CNG to be controlled by landowners at all. It could well be more effective for HBRC to pursue a contractor-based approach, as it is considering for possum control.

Staff from ECAN and Marlborough District echoed views about the lack of motivation and engagement from landowners. Even the Federated Farmers representative interviewed for this report did not have a strong sense that CNG seriously affected farmers' bottom line. It is true that relatively few farms have Chilean needle grass and it is not a high-profile issue like bovine Tb. Nevertheless, if CNG was a major operational risk, I would expect a higher level of concern from farmers. MPI's rhetorical question about why the farming industry is not more concerned about Chilean needle grass is clearly relevant.

The Hawke's Bay RPMP directly says that that the objective of the Chilean needle grass programme is "to minimise adverse effects on production values." And to be clear, there is ample evidence that CNG can affect farmers' bottom line in some circumstances. The question is whether farmers should be subsidised by other ratepayers for complying with a regulatory requirement designed to benefit their industry?

[21] Staff report that the subsidy budget of $50,000 is for all pest plants. To ensure that all requests for subsidies can be met, staff take an additional $40,000 out of contracting budget. By increasing the subsidy budget, staff are acknowledging what they spend on subsidies in actuality.
[22] Staff report that over 50% of known CNG properties lifestyle blocks.

A counter point would be that farmers controlling CNG are not just doing it for themselves, but for all the landowners who do not have it. The argument would be that the subsidy spreads the cost of control so it is not carried solely by the affected landowner.

Marlborough District has taken a different approach by making CNG control a service provided by the council, removing the need to financially incentivise farmers to participate in the programme.[23]

Today, the Chilean needle grass subsidy is insignificant in terms of its impact on the overall HBRC rates demand. However, new infestations are always being found and there will be increasing pressure to expand that budget. As the CNG line item gets bigger, the subsidy from other ratepayers is likely to come under greater scrutiny.

Risk of not Meeting Council Objectives

In a literal sense, the fact that new infestations of CNG are found every year suggests that HBRC is failing to meet the RPMP objective of containing the spread of this plant. However, without a reasonably reliable baseline, it is impossible to know if these are truly "new" infestations. I note that other councils face the same challenge for CNG and many other pest plants.[24]

Despite the very real challenges, however, the unfortunate truth is that the only meaningful way to measure success of a region-wide "stop the spread" objective is to have a reasonably credible baseline to work from. You cannot know how much anything – crime, COVID cases or local government rates – has genuinely increased without knowing where it started from.

More work needs to be done on how to implement such a system for pest plant distribution that would be operationally useful to biosecurity professionals. This is not something that one council or agency should commission on its own; the investigation should be done collectively between regional councils, central government and researchers. Such a system would rely on effective modelling; biosecurity officers cannot realistically walk across every meter of a region.

It is out of scope for this report to explore modelling options for developing baselines, or credible estimates, of pest numbers. It is enough to note that useful research in this area is being done in New Zealand (e.g., for Predator Free 2050) and abroad. For example, the Centre of Excellence for Biosecurity Risk Analysis in Australia has recently done some creative work looking at the three major barriers to pest establishment: a measure of pathway pressure (i.e., How can it get there, and how likely is it?); climate suitability and; the suitability of the receiving environment (e.g., host presence/availability, habitat requirements). The combination of all three gives an estimate of the establishment potential of a threat, and hence where to look for it most cost effectively.[25]

This is not the only potentially useful model and researchers in New Zealand will have similar tools. The main point is that such a system would have tremendous use well beyond Chilean needle grass.

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[23] In Marlborough, biosecurity programmes are funded by the General Rate in Marlborough, no targeted rates are used. However, the collection of the total general rate demand can be loaded differently across the various rating districts in Marlborough. According to MDC staff, if a Council function is funded evenly across the rating districts, a weighting of 100 is applied across them all. If a function serves or benefits parts of the community differently, the weightings can reflect that.

[24] When Marlborough District drafted its RPMP, the intention was to develop and undertake a quantitative assessment and monitoring protocol to create that baseline information and monitor progress. That task has proven difficult and MDC uses the list of sites they were managing in 2018/19 as a baseline.

[25] Pers comm Dr. James Camac, Senior Research Fellow and Chief Investigator within the Centre of Excellence for Biosecurity Risk Analysis (CEBRA)

Pathways are the Key

CNG is a pest that is almost entirely spread by humans or their machinery or animals. It is the classic case of biosecurity being about managing people, not the actual pests themselves. In that sense, management programmes have more in common with the responses we have adopted for COVID-19. In the first instance, stopping the spread is all about movement controls; it is really much less about killing the organism.

CNG is moved around regions and between regions through human pathways. Pathway management is the key to achieving a "no spread" objective. Regional pest staff teams will be well aware of this. Nevertheless, it is not obvious that enough effort has been made to implement creative pathway management tools. For example, Regional Pathway Management Plans are special tools to manage pathways within a region. National pathway management plans are an alternative mechanism that can be used to manage a national pathway, such as movement of fouled equipment around the country.

I am not aware of any pathway plans for pest plants, however there is a Fiordland Marine Regional Pathway Management Plan designed to reduce the risk of marine pests, including plants, being carried in on vessels. National coordination of appropriate pathway management for CNG would be useful, and could very likely benefit other pest plants.

In another area, COVID-19 has highlighted the need for effective, electronic contact tracing. Machinery on farms, such as diggers, hay balers, mowers, etc., is a prime pathway for CNG. Knowing when those machines have been on an infected property, and where they then moved to, is absolutely essential. Contractors and landowners may inform the council of these movements, but equally they may not. Rules requiring these machines to have GPS loggers would be extremely useful. These could be similar to the MDC record keeping rule mentioned above. The movement of livestock from infected properties might be coordinated with the National Animal Identification and Tracing (NAIT) programme.

These suggestions are not offered as ideal solutions; the point is that creative pathway management tools should be explored more aggressively than they have been.

Rivers and Gravel Extraction as Pathways

Council will be well aware of the presence of Chilean needle grass along the Waipawa and Tukituki rivers. The discovery that seed is clearly being spread by the river downstream adds a significant complication to what is already a very challenging management programme. HBRC has wisely prohibited gravel extraction in the area to reduce the risk of CNG spreading through that pathway. However, this has a financial impact on the extractors, with a blanket ban on removal on large stretches of the Waipawa and Tukituki rivers.

The gravel extraction issue is being addressed separately by HBRC and is largely outside the scope of this report. However, it does emphasise the critical importance of pathway management approaches.

The Case for a Coordinated National Approach

The Biosecurity Act allows regions to manage pests (or not) as their circumstances and communities allow. This works fine for some pest, but very badly for others.

Chilean needle grass seems to be a natural candidate for a more coordinated approach to management, although this does not necessarily mean it should be funded and led by central government.

A more coordinated approach to pest plant management generally in New Zealand is being discussed as part of several initiatives. For example, the current Biosecurity Act review is considering systemic pest management issues and regional councils are involved in that process.

Perhaps most significantly, the Parliamentary Commissioner for the Environment is undertaking a review of the management of invasive plants in New Zealand. Essentially the review is asking *how well we are doing and what we might be able to do better*, and its recommendations are likely to be quite wide. The focus is on the risk that invasive plants pose to the resilience of New Zealand's ecosystems and production landscapes are apparently out of scope. However, the PCE team will have discussed the pros and cons of a national coordinated approach and many of those findings will almost certainly be applicable to pests like Chilean needle grass. The report is due to be released soon.

Emphasising a Better Long-Term Solution

As noted above, eradication of Chilean needle grass is complicated, expensive and takes a very long time. For example, broad spectrum herbicides such as glyphosate have to be used year after year and they kill other plants in the area. The herbicide Taskforce is marketed for CNG control but HBRC staff say they have been disappointed with its effectiveness.[26] Biocontrol is a possibility that is being actively pursued, but historically biocontrol agents have been less effective against grasses.[27]

As HBRC staff noted, it is hard to tell to landowners: "Do good control for 10 or even 20 years and you'll still have the same size infestation."

A better approach would be to promote a move away from trying to maintain a grass-based pasture farming practices wherever possible. A sensible transition plan could help some farmers avoid the costs associated with CNG and its management, while continuing to get a return from the land. Traditionally, options such as replanting lucerne and then spraying to kill only grasses have been available.

However, carbon farming and its associated credits have created new economic opportunities. In brief, Chilean needle grass can be effectively "shaded out" if the cover is dense enough and maintained for long enough. Planting a permanent forest for carbon credits could therefore effectively control the spread of CNG and generate an economic return. A permanent forest would avoid the risks around planting and harvesting pine for pulp or timber.

Native forest plantings could have obvious additional biodiversity benefits in addition to carbon sequestration.

The potential to manage CNG in this way will obviously depend on site specifics such as climate and rainfall. Nevertheless, a philosophical shift away from promoting predominantly chemical-based control could have real benefits. In both cases, the control needs to continue for an extremely long time to achieve eradication. Research by Graeme Bourdôt, NZ's leading CNG expert, found that the factor most influencing the time required to attain specified re-infestation potentials is the rate of decline of the seed bank. Effective eradication requires 35 years of annual mowing, 20 years of annual spraying with glyphosate or 12 years of cultivation six times per year.[28]

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[26] It is also very slow to show results and expensive -- $900-$1,000 for 20 litres.

[27] Pers comm Graeme Bourdôt

[28] G. W. Bourdôt & G. A. Hurrell (1992) Aspects of the ecology of Stipa neesiana Trin. & Rupr. seeds, New Zealand Journal of Agricultural Research, 35:1, 101-108

Native forest growth is often dismissed as "too slow" for economic purposes such as timber harvest. In the case of CNG, "too slow" may not be an issue if the other control options are just as lengthy and have other downsides. If a CNG area was fenced a few meters from the outer edge of the infestation, heavily planted and human access restricted, then the highest risk pathways would be eliminated.[29]

HBRC staff confirmed that one area of badly CNG infested land had been subdivided and made into a farm park about 17-18 years ago and now there is no CNG visible in the area that was planted in natives. Staff put this down to shade and competition from other rank vegetation. If an area were to be planted up, it would need to retain its canopy for a long time (longer than a pine rotation) or preferably forever.

"Carbon farming" has matured significantly in the last few years and is now recognised as a viable way to generate revenue on many farms. In addition, the Biological Heritage National Science Challenge recently released a report on several types of "biodiversity instruments" through which win-win land use change could be incentivised.[30] Similarly, the New Zealand Climate Change Commission has proposed planting 300,000 more hectares of native forest by 2035. There is clearly some momentum for these kinds of changes.

None of these devices would be a magic bullet for Chilean needle grass, but in some cases, they may well be better than existing options. Given that HBRC is currently subsidising landowners to continually spray CNG infestations, it is worth considering other options that could incentivise the retirement of CNG infested land and the facilitation of native restoration.

These sorts of novel approaches are being developed in other areas. For example, Waikato Regional Council has proposed a "Sustainable Homes" initiative in which the council would loan money to ratepayers to help them make sustainable improvements to their homes. In the case of CNG, such loans (perhaps for fencing or planting) could potentially be repaid through the carbon payments received.[31]

Further work would obviously be required to develop a final scheme, but some relevant research apparently already exists in Hawke's Bay. A booklet published by HBRC in 2002 references an experiment in which "2500 trees per ha have been planted and left unpruned … to shade out Chilean needle grass."[32] Staff report that for about 12-15 years the CNG was shaded out within these areas, but once the trees were harvested the CNG returned. This reflects the long life of the seedbank and the need for permanent (or very long term) coverage.[33]

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[29] Some risk would remain from wild animal movement until the CNG was shaded out, but that would be minimal.

[30] https://data.bioheritage.nz/dataset/biodiversity-instruments

[31] See this link for a discussion of the economics of carbon farming: https://www.stuff.co.nz/business/farming/112416878/carbon-farming-can-provide-better-returns-than-sheep-and-beef

32 Pers comm. Graeme Bourdôt, see Slay, M. (2002) "Chilean needle grass - a guide to identification and management in Hawke's Bay."

[33] Even if CNG persists in forested areas, for example in light gaps where trees blew over, if human activity and stock were excluded, the risk of CNG spread would be significantly minimised.

Conclusions

HBRC's programme meets current best practice for CNG control, nevertheless in its current form it is unlikely to be achieving its literal objective of "stopping the spread." That is due primarily to no baseline, leaky pathways and the strong likelihood that the region has more CNG-infected properties than the council is managing.

However, it is important to distinguish between failure of the programme to meet RPMP objectives and failure of the people implementing the programme for HBRC.

Staff have implemented the programme effectively with limited resources. For three to four months of the year they work long hours and dedicate themselves almost entirely to Chilean needle grass. Despite these efforts, no CNG sites have been declared eradicated and "new" sites continue to be found. Those sites may well be simply previously unknown sites, i.e., not new spread, but without a credible baseline it is impossible to know for sure.

It is clear that more resources are needed to safeguard staff well-being. Those additional resources also will help the programme be more effective (e.g., HBRC could inspect more properties or machinery) but will probably not be enough to stop the spread. Or at least, without a meaningful baseline and well-designed surveillance programme, Council will never really know how well the programme is doing. It is important, therefore, for HBRC to determine what level of uncertainty it is comfortable with in terms of determining if the CNG programme is achieving its objectives.

The biology of CNG on the one hand makes it extremely hard to eradicate (double seeding, long life, etc), however, the RPMP objective of controlling its spread should be achievable. CNG is not wind or bird spread; most distribution comes from human activity (machinery and animals) [34], which is, at least theoretically, easier to manage under the Biosecurity Act. Human pathways are the key and they are currently too porous. More aggressive pathway management tools could realistically reduce the risk of CNG spreading from known infected properties.

Adopting and enforcing more stringent pathway management, however, would require public support, especially from the farming industry. Anecdotal evidence from this report suggests that CNG is not an especially high priority for farmers, certainly not when compared to other farm biosecurity issues.

A newsletter from the Marlborough Chilean Needle Grass Action Group acknowledged this issue:

"The farming community has taken important steps to reduce the potential impact of Mycoplasma Bovis …. These steps have been consistent with the principles of effective pathway management. ….

Plant pest incursions don't register the same level of concern or reaction that disease outbreaks do. Plants usually spread slowly, grow slowly and don't get a lot of media attention. Yet pest plants have the potential to have just as much economic impact on the farming industry as diseases, and once established, they are almost impossible to eradicate."[35]

Hawke's Bay Regional Council previously supported the establishment of a Hawke's Bay Chilean needle grass farming group. This included funding two Hawke's Bay landowners to travel to Blenheim to attend the CNG steering group meeting to foster the development of a local initiative.

[34] River spread is a separate consideration.
[35] Marlborough Chilean Needle Grass Action Group's October 2019 newsletter

This was announced in 2017 but there is currently no active Hawke's Bay CNG group, which implies that there was not enough motivation among local farmers.

The reality is that Chilean needle grass also is relatively low priority for the Ministry for Primary Industries. This was confirmed through interviews for this report and by the MPI website, which says quite bluntly: "It's up to councils to manage Chilean needle grass – they're in charge of control, regulations and informing farm owners." In contrast, MPI is leading a national eradication programme for wallabies, another pest with limited national distribution. The two pests are quite different, of course, but unlike wallabies, there is no mention of any "partnership" approach between Government, councils and the farming industry to control CNG.

Unfortunately, CNG management also is hindered by the Biosecurity Act's emphasis on species-specific and region-specific solutions to pest management. CNG is just one of many pests that would be better managed by a collective, inter-regional approach. The concept of national pathway management plans was meant to fill this need but it has not been adopted.

As long as stock, hay, machinery, gravel, etc. continue to be moved within and among regions, effectively controlling CNG will really require a multi-region, long-term strategy supported by multiple parties, including industry. Regional councils that are officially free from CNG, such as Horizons, should be highly motivated to support collaborative efforts to keep it out. One example of a collaborative approach would be for at-risk regions to share the costs of research into practical surveillance and proof of absence methodologies. If such a tool was developed, regions could share the implementation costs and undertake baseline surveillance on a rotating schedule.

Even once CNG has been located on a property, current control tools are quite limited. Broad spectrum herbicides such as glyphosate must be applied regularly for many years and they kill other desirable plants. The herbicide Taskforce is marketed for CNG control but has not been as effective as hoped. Biocontrol is a possibility, but has generally been unsuccessful against grasses.

In their submission to the last RPMP review, Federated Farmers acknowledged that historical control methods, such as spot spraying and spraying boundaries, are labour intensive and expensive.

What can be successful, is an alternative land use that removes human activity from the infested area and eventually shades out the CNG. Historically, it has been difficult for farmers to make those changes and still earn money from the land.

However, carbon farming and its associated credits have created new opportunities. Planting a permanent "carbon sink" forest could control the spread of CNG and generate an economic return. When carbon credits are coupled with the growing public and regulatory pressure to stop the decline of New Zealand's native biodiversity, this option could be very viable for some properties.

Permanent native forests would certainly not work for all CNG properties, but they are likely to be more attractive than existing options for some. HBRC is already subsidising landowners to continually spray CNG infestations, so it would be worth exploring how it could incentivise the retirement of CNG infested land and the facilitation of native restoration.

This report has primarily looked at how HBRC might more effectively control Chilean needle. However, there are other fundamental questions to consider.

Should HBRC be controlling CNG?

There is little question that Chilean needle grass can cause considerable losses to pasture-based farming, particularly sheep farming and associated industries. The council's RPMP notes that some

sheep graziers in eastern Australia have been forced to switch to beef production. Chilean needle grass also can invade native grasslands, although this is probably more of a risk in the South Island, as opposed to Hawke's Bay.

CNG is less of a problem on other agricultural land or other ecosystem types.[36] This would have all been considered as part of the cost benefit analysis for the RPMP. It correctly noted that the primary beneficiary of CNG control is the agricultural sector, which also pays the majority of costs through a targeted rate, although this is not weighted toward the sheep farming industry.

Based on all of the above, it seems appropriate to include CNG as an RPMP pest. At the same time, there needs to be enough support and participation from the sheep farming industry to deliver a truly effective management programme.

Is the objective correct for the CNG programme?

Chilean needle grass is currently a "sustained control" pest in the regional pest management plan. The management objective is to ensure that current infestations levels do not increase and spread to other properties is prevented.

This is an appropriate objective, given the nature of this pest. Chilean needle grass would be unlikely to meet the Progressive Containment requirements at this point due to its current distribution, the difficulty in identifying it and limited control tools. Eradication would be an impossible objective for similar reasons.

In practice, however, HBRC cannot be sure if CNG is spreading or not because of incomplete knowledge about how widespread it currently is. In 2018, HBRC was aware of 195 CNG properties, by 2020 that had increased to 259. HBRC staff believe there is more CNG in the region and that it is almost certainly spreading from those unidentified properties. This view was echoed by Federated Farmers in their submission to the last RPMP review: "The control in the past has limited success, and it is far from eradication and is not even achieving containment. CNG is still spreading."

Is the council making a difference?

HBRC's efforts will be slowing the CNG infestation curve to some degree because of its active management of the properties it knows about. The difficulty, of course, is the absence of information on the rate of spread from the unknown properties.

The CBA analysis for the current RPMP concluded: "The objective of preventing the spread of Chilean needle grass is going to be difficult to achieve but it would be irresponsible for Council to select the option of no regional intervention."

It also could be argued that it is irresponsible for the council to continue a programme where it is impossible to measure success or failure with reasonable confidence.

Without more robust data, it will always be difficult for the council to judge if the success in reducing spread from managed properties is sufficient in the larger regional picture to continue the programme in its current form. The recommendations below are primarily about increasing certainty that the CNG programme is achieving its objectives and reducing the burden on HBRC staff.

If uncertainty cannot eventually be reduced to a level that satisfies the council, then the alternatives are to either accept that council will never have high confidence that it is significantly "stopping the

[36] The impact on river systems is a newer consideration.

spread," or to drop CNG as a pest under the Biosecurity Act and allow individual farmers to manage CNG part of their normal operations.

Recommendations

The recommendations in this report are primarily about increasing confidence – not absolute certainty -- that the CNG programme is achieving its objectives and reducing the burden on HBRC staff. There is no justification for immediately stopping the CNG programme; but equally, permanent status quo is not an acceptable option for this programme.

There is strong justification for immediately increasing the resources in this programme. This is primarily because staff are burning out and feel that time spent on CNG is undercutting other important programmes, such as marine biosecurity. Additionally, more resources, particularly if put into surveillance and monitoring, will go some way toward increasing the level of confidence that outcomes are being achieved.

At the same time, council should explore other ways to reduce uncertainty and increase effectiveness. "Explore" means do due diligence around the pros and cons of some key issues; very much as is being done with the possum control programme. For example:

- How could HBRC reduce/confirm/assess the almost-certain reservoir of "dark" properties that may be spreading CNG?
- Is long-term land use change feasible at enough CNG properties to make it worthwhile to pursue? What policy tools or incentives would help move in that direction?
- How can pathway management be done better and collectively with other councils?

Specific actions related to these key issues are outlined below.

To create greater confidence that the Chilean needle grass programme is achieving its objectives, HBRC should:

- Join with other councils on an Envirolink application to develop a practical baseline (or proof-of-absence) modelling tool that can inform CNG surveillance at the property level. This is a relatively low risk/low-cost step.
- Explore the implementation of pathway management options under the Biosecurity Act that can be applied to intra- and inter-regional spread of CNG (and other pests). The BSA review provides a good opportunity to do this.
- Open discussions with other councils, MPI and farmers to enhance cross-boundary coordination and funding. Initial conversations might focus on the priority actions the group could take and what that would cost. This is a relatively low risk/low-cost first step.
- Work with national and regional farming groups to promote land use change as the preferred option for CNG management where practical. This would be the start of a larger initiative, but one that could potentially have considerable long-term benefits.

To improve the efficiency and effectiveness of the current programme, HBRC should:

- Increase staff capacity and resources for the CNG programme
- Give staff more training in how to handle "difficult conversations;" the process for engaging new landowners and guidelines on what to do when those engagements become contentious

- Explore how to enable infringement notices[37] as a regulatory tool for councils under the Biosecurity Act; the current initiative to review the act is a perfect opportunity to explore this option
- Re-evaluate whether the CNG programme should become contractor-based, either by requiring landowners to engage contractors or by council providing that service funded by rates. This would involve a discussion with affected farmers, similar to what is being done for the possum programme.

Ultimately, the council only needs to be satisfied that the Chilean needle grass programme is successfully "holding the line" by preventing spread to new properties in a cost-effective way.[38] If it does not have sufficient confidence, then the admittedly unattractive option would be to end the council's programme and redirect those resources.

ENDS

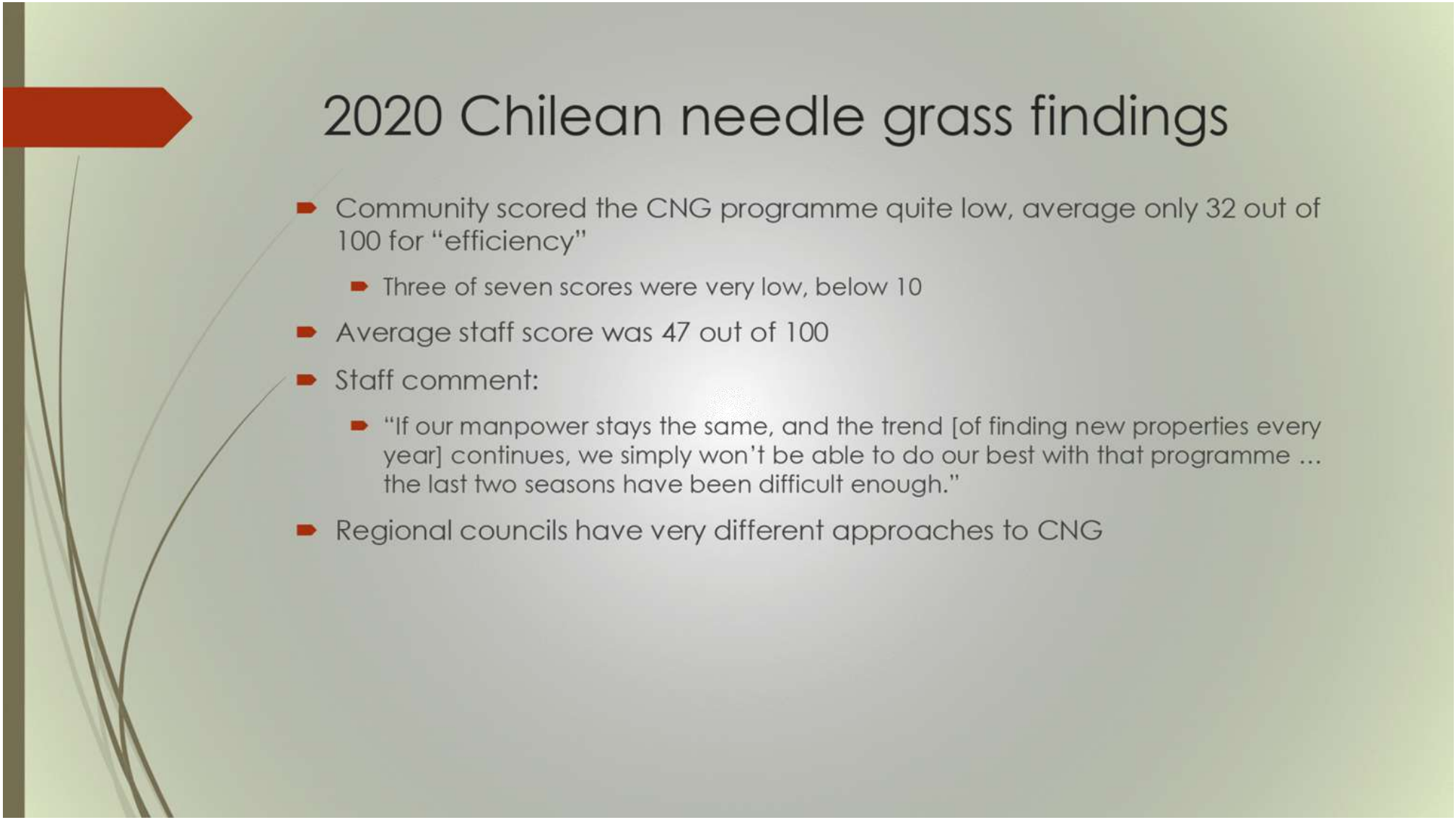
[37] These are similar to the "instant fines" that can be levied on travellers who enter New Zealand with undeclared fruit or other food. There is provision for this in the Act, but the appropriate regulations need to be in place first. As with travellers coming through Customs, the risk of an immediate fine is likely to make people, such as mowing contractors, focus more on compliance than they otherwise might.

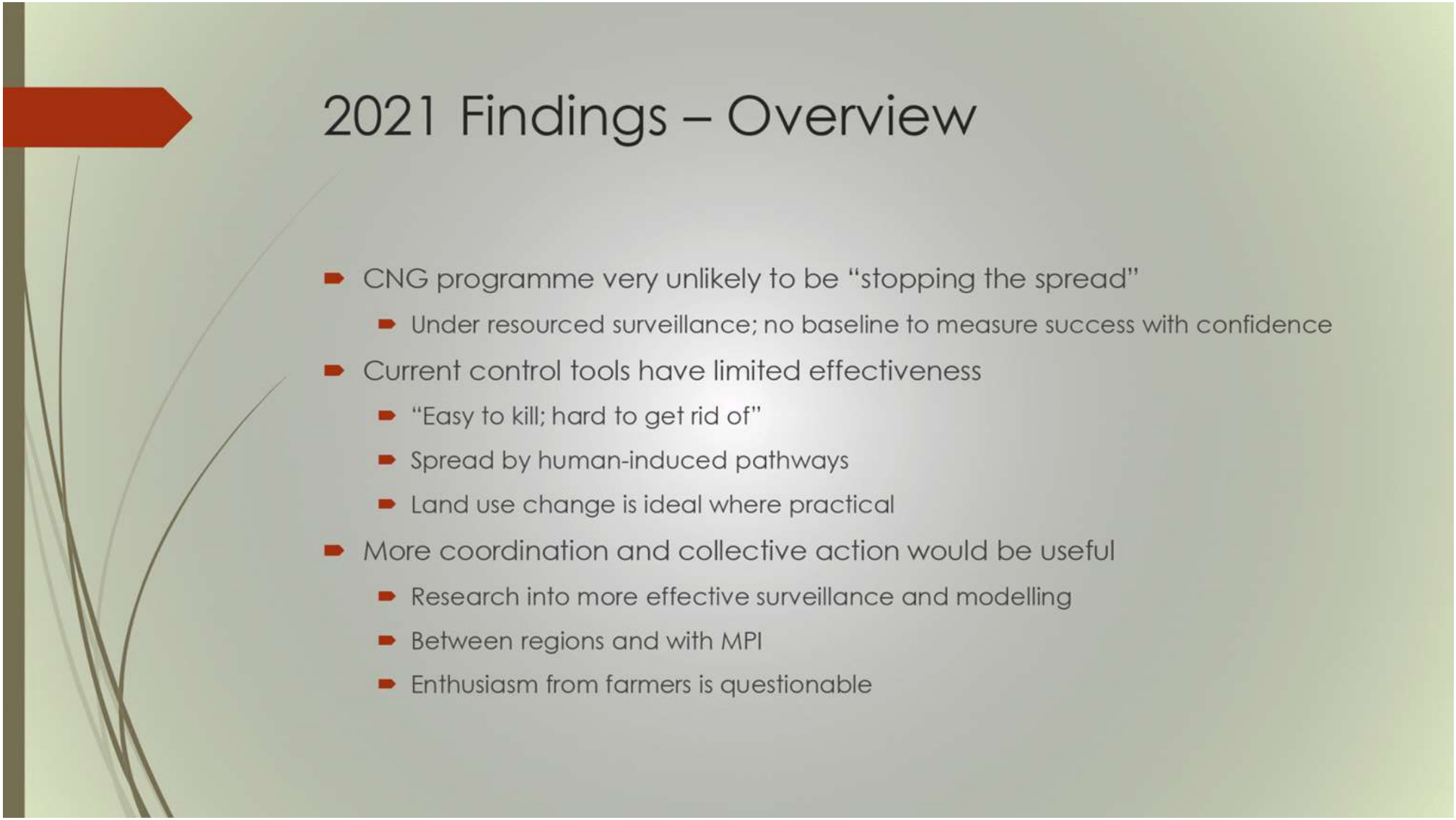
[38] This wording is deliberately the same as Part 5 of the Biosecurity Act, i.e., council is not required to have absolute certainty, it just needs enough information to be "satisfied" that the programme can achieve its objectives.

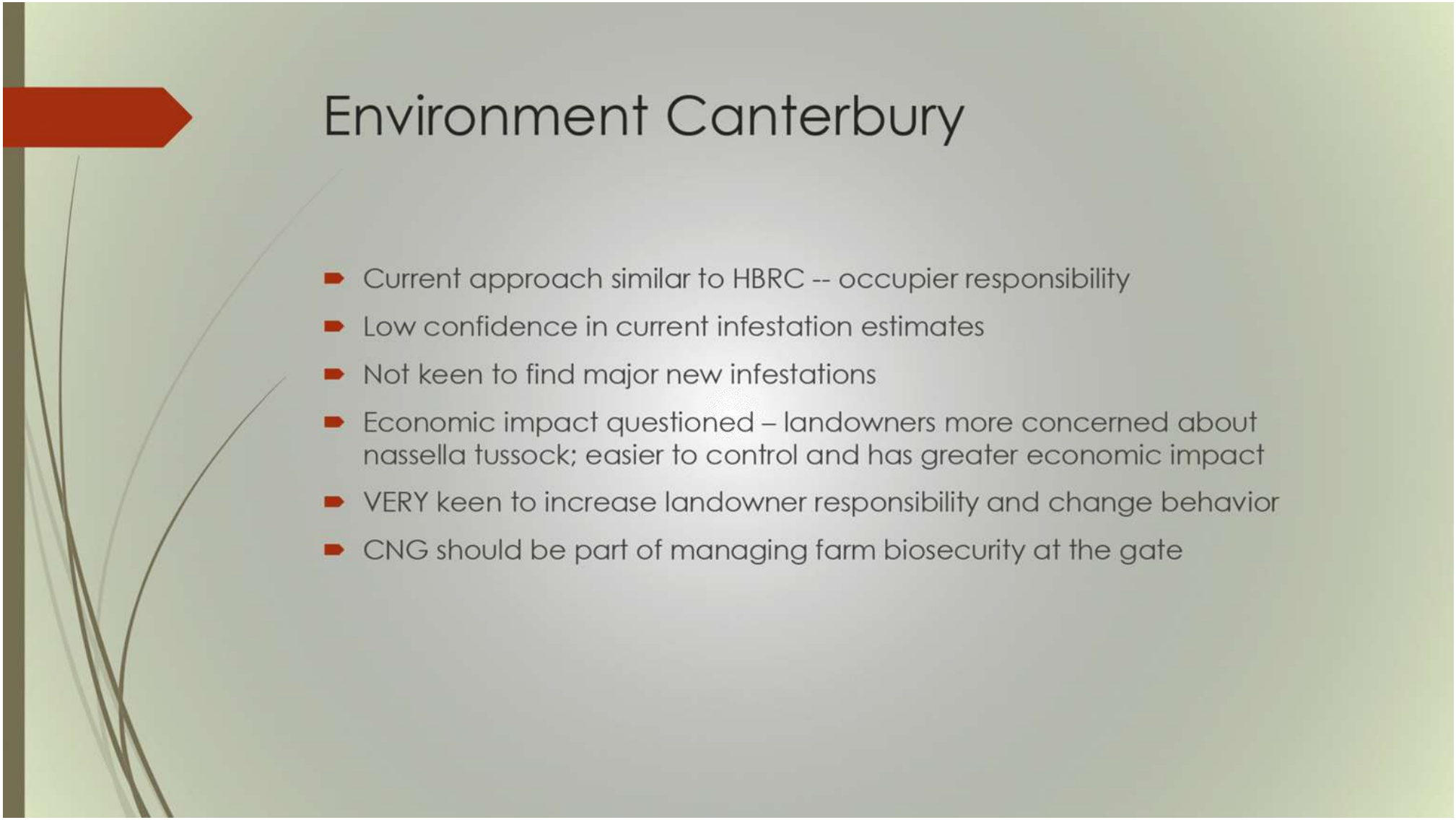

Chilean needle grass--
Efficiency and Effectiveness
Review
Collins Consulting – November 10, 2021

Introduction

- Follow up from 2020 "Biosecurity Efficiency and Effectiveness Review"
- Methodology
  - Interview
    - HBRC staff
    - Scientists/experts
    - Other councils
    - MPI
    - Fed Farmers
  - Out of scope – wide community consultation


2020 Chilean needle grass findings
Community scored the CNG programme quite low, average only 32 out of 100 for "efficiency"
Three of seven scores were very low, below 10
Average staff score was 47 out of 100
Staff comment:
"If our manpower stays the same, and the trend [of finding new properties every year] continues, we simply won't be able to do our best with that programme ... the last two seasons have been difficult enough."
Regional councils have very different approaches to CNG


2021 Findings – Overview
CNG programme very unlikely to be "stopping the spread"
Under resourced surveillance; no baseline to measure success with confidence
Current control tools have limited effectiveness
"Easy to kill; hard to get rid of"
Spread by human-induced pathways
Land use change is ideal where practical
More coordination and collective action would be useful
Research into more effective surveillance and modelling
Between regions and with MPI
Enthusiasm from farmers is questionable


Environment Canterbury
Current approach similar to HBRC -- occupier responsibility
Low confidence in current infestation estimates
Not keen to find major new infestations
Economic impact questioned – landowners more concerned about nassella tussock; easier to control and has greater economic impact
VERY keen to increase landowner responsibility and change behavior
CNG should be part of managing farm biosecurity at the gate

Marlborough District

- Largest infestation in NZ, approx. 2,500 ha
- Significantly different approach than HBRC or ECAN
- 80% of programme is service delivery by the council or contractors
- Very little enforcement on land occupiers but…
- Strong movement controls and record-keeping requirements
- "Landowner obligation does not work"


Auckland and MPI
Auckland – Two historic sites, each just a few square meters
One "eradicated" after 10 years
The other found 2006 and plants last seen in 2015. Not considered "eradicated."
Both in parkland; source unknown but probably mowers or people
MPI – Low priority
System assumes industry will be motivated to act if a pest is truly a serious issue
MPI more involved when there are multiple affected parties and multiple benefits across private and public land
Prioritises national response to incursions (e.g., velvet leaf)…UNTIL
Pressure to act reaches some critical point (e.g., wilding pines and wallabies)

Recommendations

1. Increase staff capacity and resources for the CNG programme
2. Re-evaluate "land occupier" responsibility for CNG; contractors are already the preferred option in practice
3. Joint council research into a practical baseline (or proof-of-absence) modelling tool useful at the property level
4. Use the BSA review to develop better pathway management options and enable infringement notices (benefits would apply to many pests)
5. Discuss what would boost collective action with councils, MPI and farmers
6. Work with national and regional farming groups to promote land use change as the preferred option where practical

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

10 November 2021

Subject: YOUTH ENVIRONMENT COUNCIL UPDATE

Reason for Report

1. This item provides the opportunity for representatives of the Regional Council's Youth Environment Council (YEC) to give an update on their activities during 2021 and provide their perspectives on working with youth around climate change.

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 "Youth Environment Council Update" staff report.

Authored by:

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Jessica Ellerm
GROUP MANAGER CORPORATE SERVICES

Attachment/s

There are no attachments for this report.

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

10 November 2021

Subject: SOCIAL ECOLOGY TECHNICAL REPORT FROM EDGAR BURNS, WAIKATO UNIVERSITY PROFESSORIAL CHAIR

Reason for Report

1. This item updates the Committee on the work of the Associate Professor in Integrated Catchment Management (AP-ICM) that the Regional Council is partially funding.

Executive Summary

2. Council has partnered with the University of Waikato (UoW) to create an Associate Professor in Integrated Catchment Management.
3. Dr Edgar Burns was appointed to the role in 2019. Dr Burns has spent the past 18 months gathering information and intelligence relating to a variety of environmental sociology issues relevant to Council's interests.
4. Dr Burns has a series of technical papers he is preparing and will be bring these at regular intervals to Council.
5. Dr Burns will present his initial technical paper on communication as it relates to our work.

Strategic Fit

6. This work touches on all aspects of our Strategic Plan and directly connects to our purpose statement that states we work with our community.

Background & Discussion

7. Council entered into a Memorandum of Understanding with the UoW in 2018 that supported the creation of the AP-ICM.
8. Through the MoU and Councils LTP, funding has been committed until at least 2023 and this has allowed us to embark on a new direction and are investing significantly in changing outcomes in catchments within its region. There is an acknowledgement that this will require new ways of working and a greater connection of catchment communities to their land and freshwater. Council is, for the first time, investing in environmental sociology.
9. The creation of the AP-ICM role is a step in the journey of that investment and signals an understanding that managing environmental issues is more than a biophysical challenge, it is a social challenge also.
10. Investing in understanding the social processes that are operating as they relate to our work acknowledges that Council is typically not 'managing the environment' but working to understand and then manage the impacts of human activities on our environment.
11. Council staff are not typically trained in environmental sociology practice or theory and so a partnership with a university has proven to be a cost effective way to access the academic knowledge. The role of the AP-ICM is to translate that academic knowledge into practical ways of working for our staff. It is recognised that this will take some time to 'trickle down' and be operationalised.
12. As part of the process of capturing and transferring knowledge the AP-ICM will be producing a series of technical papers that will be disseminated to staff as they are produced. The attached paper is the first in this series and will be presented by Dr Burns.

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 "What Forms of Communication Work for HBRC, *Technical Report from Dr Edgar Burns, Waikato University Associate Professorial Chair*".

Authored and Approved by:

Iain Maxwell
GROUP MANAGER INTEGRATED
CATCHMENT MANAGEMENT

Attachment/s

1	What Forms of Communication Work for HBRC? Technical Report	Under Separate Cover

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

10 November 2021

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