Meeting of the Environment and Integrated Catchments Committee

Date: Wednesday 4 November 2020

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

Wednesday 04 November 2020

SUBJECT: FOLLOW-UPS FROM PREVIOUS ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE MEETINGS

Reason for Report

1. **Attachment 1** lists items raised at previous meetings that require follow-ups. All items indicate who is responsible for each, when it is expected to be completed and a brief status comment. Once the items have been completed and 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 Services Committee receives and notes the *Follow-up Items from Previous Environment & Services Committee Meetings* staff report.

Authored by:

Annelie Roets
GOVERNANCE ADMINISTRATION ASSISTANT

Approved by:

James Palmer
CHIEF EXECUTIVE

Attachment/s

⇩**1** Follow-ups from Previous EICC Meetings

Follow-ups from Previous Environment & Integrated Catchments Committee Meetings

16 September 2020

	Agenda item	Follow-up item	Responsible	Status/Comment
1.	Regional Water Security - Community Engagement Options via the Regional Water Assessment	Procedural motion referred decision to 30 September 2020 Regional Council meeting to allow adequate time to consider the options to better inform decision making, however an alternative engagement model was put forward as a topic for discussion at the Water Security workshop scheduled following the Council meeting so there were no recommendations the 30 September Regional Council meeting to consider in this regard.	T Skerman	Staff proposed an alternative engagement model at a Water Security workshop on 30 September, to have broader conversation with all stakeholders through the regional water assessment process, then bring together the Regional Water Assessment's interim findings to Council so that an appropriate community engagement plan can be developed and finalised for Council's consideration.

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

Wednesday 04 November 2020

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 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

3. That the Environment and Integrated Catchments Committee accepts the following "Minor Items Not on the Agenda" for discussion as Item 16.

Topic	Raised by

Leeanne Hooper
GOVERNANCE LEAD

James Palmer
CHIEF EXECUTIVE

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

Wednesday 04 November 2020

Subject: TŪTIRA REGIONAL PARK AND TANGOIO SOIL CONSERVATION RESERVE FOREST HARVEST UPDATE

Reason for Report

1. This item provides an update on forest harvest in the Tangoio Soil Conservation Reserve and Tūtira Regional Park.

Executive Summary

2. Environment and Services Committee 19 June 2019 authorised the appointment of Pan Pac Forest Products ltd to manage the harvest and sales of forest in the Tangoio Soil Conservation Reserve (TSCR) and Tūtira Regional Park.
3. Harvest in the Tangoio Soil Conservation Reserve will have begun by the time this paper is presented to the Committee. In January, trees will be removed from roadlines and processing sites in the Tūtira Regional Park Pine Forest and the roads and skids will then be constructed for harvesting proper over the 2021-2022 summer.
4. Log prices are currently within price thresholds recommended by independent advice as acceptable, however, direct and indirect costs of traffic control in the Tangoio units will impact significantly on net returns.
5. Following harvest approximately 45 hectares of the TSCR forest will be retired permanently to native due to the high risks and costs of harvesting. Following a lengthy consultation process with tangata whenua (Maungaharuru Tangitū Trust) and the Tūtira community, a recommended replanting plan for the Tūtira Regional Park Forest will be submitted to Council for decision in the 3 February EICC Meeting.

Strategic Fit

6. This paper is relevant to HBRC's strategic goals in various ways. There is a strong sustainable infrastructure component through HBRC carrying out its statutory requirement to manage the Tangoio Soil Conservation Reserve for the purpose of protecting State Highway Two. Harvest and replanting of the Tūtira Forest in particular provides an opportunity for HBRC to demonstrate smart, sustainable land use, and has significant biodiversity and water quality implications.

Discussion

Tangoio Soil Conservation Reserve

7. The Tangoio Soil Conservation Reserve is Crown land managed by HBRC under the provisions of the Soil Conservation and Rivers Control Act (1941). Approximately 59% of the Reserve is in second rotation commercial forest and the remainder in native vegetation. Proceeds from commercial forestry in the Reserve are held in the Reserve Fund. The Reserve Fund entirely and without contribution from rates funds the ongoing management costs of the Reserve and annual payments to a 'Catchments Fund' created by the Maungaharuru Tangitū Hapū Claims Settlement Act (2014) for the purpose of soil conservation projects led in partnership between HBRC and Maungaharuru Tangitū Trust in the Esk, Te Ngārue, Aropaoanui and Waipātiki Catchments.
8. 90ha of pine forest in the Reserve will be harvested over the period 2020 – 2027. A crew is scheduled to begin in the first 20 hectare unit 2 November 2020 and finish around May. The Tangoio Walkway traverses the land and has been closed for the duration of the harvest.

9. All units harvested in this contract border State Highway Two and the risks to traffic will need to be managed carefully. Traffic control costs will have a significant impact on net returns, both through direct cost (estimated at $35,000 in the first unit alone) and through slowing production thereby increasing the logging rate (Table 1 below).

Production Rate (t/day)	150	180	200
Logging Rate ($/t)	$ 65.04	$ 54.20	$ 48.78
Stumpage Return ($/t)	$ 23.14	$ 33.98	$ 39.40
Stumpage Return ($)	$ 381,175	$ 559,725	$ 649,000
Estimated Deductible Costs ($ total)	$ (153,274)	$ (153,274)	$ (153,274)
Net return ($)	**$ 227,901**	**$ 406,451**	**$ 495,726**
Net return ($/ha)	**$ 11,177**	**$ 19,934**	**$ 24,312**

Table 1: Sensitivity to Logging Rates (September Log Prices)

10. Following harvest, approximately 45 hectares of the highest risk land will be reverted to permanent native retirement and the remaining area will be replanted in radiata pine.

11. Radiata pine has been selected as the commercial species for several reasons.

    11.1. To ensure the ongoing ability of the Reserve Fund to pay the ongoing Reserve management costs and Catchments Fund payments, it is important to maintain the productivity of the 48% that will then remain in commercial use after this harvest. No other commercial species currently consistently achieves the level of financial returns of radiata pine

    11.2. Because markets exist for even small grades of radiata pine (export grades down to 10cm small end diameter (SED), more wood can be removed from the slopes above the Highway than other commercial species

    11.3. Pruned stands of radiata pine provide good conditions for native understorey species and will allow the native seedbank to develop further for more retirement to native following future harvests.

Tūtira Regional Park

12. The land that is now Tūtira Regional Park was purchased by Hawke's Bay Regional Council in 1998 and gazetted as a soil conservation reserve under the 1941 Act for the principle objective of soil conservation to maintain and improve the water quality in Lake Tūtira and Waikopiro. The secondary objective of purchase was to provide a quality outdoor recreation environment for the people of Hawke's Bay.

13. 114ha of pine forest were established on the Park between 1991 and 1998 to provide rapid and effective erosion control, and eventually a financial return on investment.

14. In 2016 as the forest neared harvest age, feedback from Maungaharuru Tangitū Trust confirmed removing logs (approximately 2,000 truck and trailer loads) via the existing Park access would be culturally unacceptable as it would involve traversing an important waahi tapu site. Environment and Services Committee 15 March 2017 authorised the construction of access roading to the forest via easement over neighbouring land. This access is now complete, pending the construction of a bridge over the Kahikanui Stream to be completed this summer.

15. A further access road is required to harvest the trees from the north of the forest. The road has to pass over neighbouring land at some points in order to achieve a road grade suitable for log trucks. A Memorandum of Agreement is being negotiated with the neighbouring landowner which will see his affected land acquired by HBRC at no cost in exchange for an easement for the use of the road to remove his trees in the future and for general access when reasonably required.

16. Significant interest from tangata whenua (Maungaharuru Tangitū Trust) and the Tūtira Community in the replanting plan for the Tūtira pine forest led to the establishment of a working group responsible for submitting a replanting recommendation to Council for approval. The Working Group has recently agreed the replanting recommendation and this will be submitted to the 3 February EICC Meeting.

Stems Harvesting

17. A key factor in awarding the contract for harvest and sales management to Pan Pac was their ability to remove whole stems from the forests for processing at their Whirinaki Mill, thereby requiring less earthworks and leaving less processing waste (slash) on site. This was a critical factor in particular above the 'Devil's Elbow' where there is very little flat area available.

18. Pan Pac usually only processes stems from their own forests at their mill and no effort is made to record the volumes of different log grades from different forests. It is not possible therefore to track the volumes of different log grades cut from HBRC stems in the mill. A process has therefore been established whereby the log grade mix within each harvest unit is estimated using sample inventory measurements and industry yield prediction software and combined with current prices for each grade to form a composite price per tonne of logs. This composite price is then applied per tonne of logs trucked over the Pan Pac weighbridge.

Log prices

19. Staff have accepted independent advice on a range of log thresholds within which prices are acceptable for harvesting and are using 5% either side of the 5 year averages for the main grades as a guide.

20. After the significant initial impacts of Covid-19, log prices have climbed back and are currently within the agreed range. Domestic prices are fixed for three months whereas export prices only for one and are therefore subject to greater volatility. The ongoing impacts of Covid-19 and pressures existing prior make it impossible to predict future trends.

	5 year average	**-5%**	**+5%**	**Current price**
Pruned 35	$185	$176	$194	$184
Domestic A	$121	$115	$127	$120
Export A	$131	$124	$138	$125

Table 2: HBRC Price Thresholds for Logging

21. The harvest contract allows HBRC to delay harvest if prices fall outside what are deemed to be favourable, however this will need to be carefully assessed. Delaying harvest at Tūtira would reduce the time a logged area had to reestablish in trees and therefore erosion protection prior to the adjoining area being harvested. Trees above the Highway at Tangoio cannot be allowed to get too big and heavy due to the greater risk of them toppling. They are not close to that point yet.

Next Steps

22. Staff will present the Committee with a further update and a recommendation for the Tūtira Regional Park Pine Forest replanting in EICC Meeting 3 February 2021.

Decision Making Process

making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the *"Tūtira Regional Park and Tangoio Soil Conservation Reserve Forest Harvest Update"* staff report.

Authored by:

Ben Douglas
FOREST MANAGEMENT ADVISOR

Approved by:

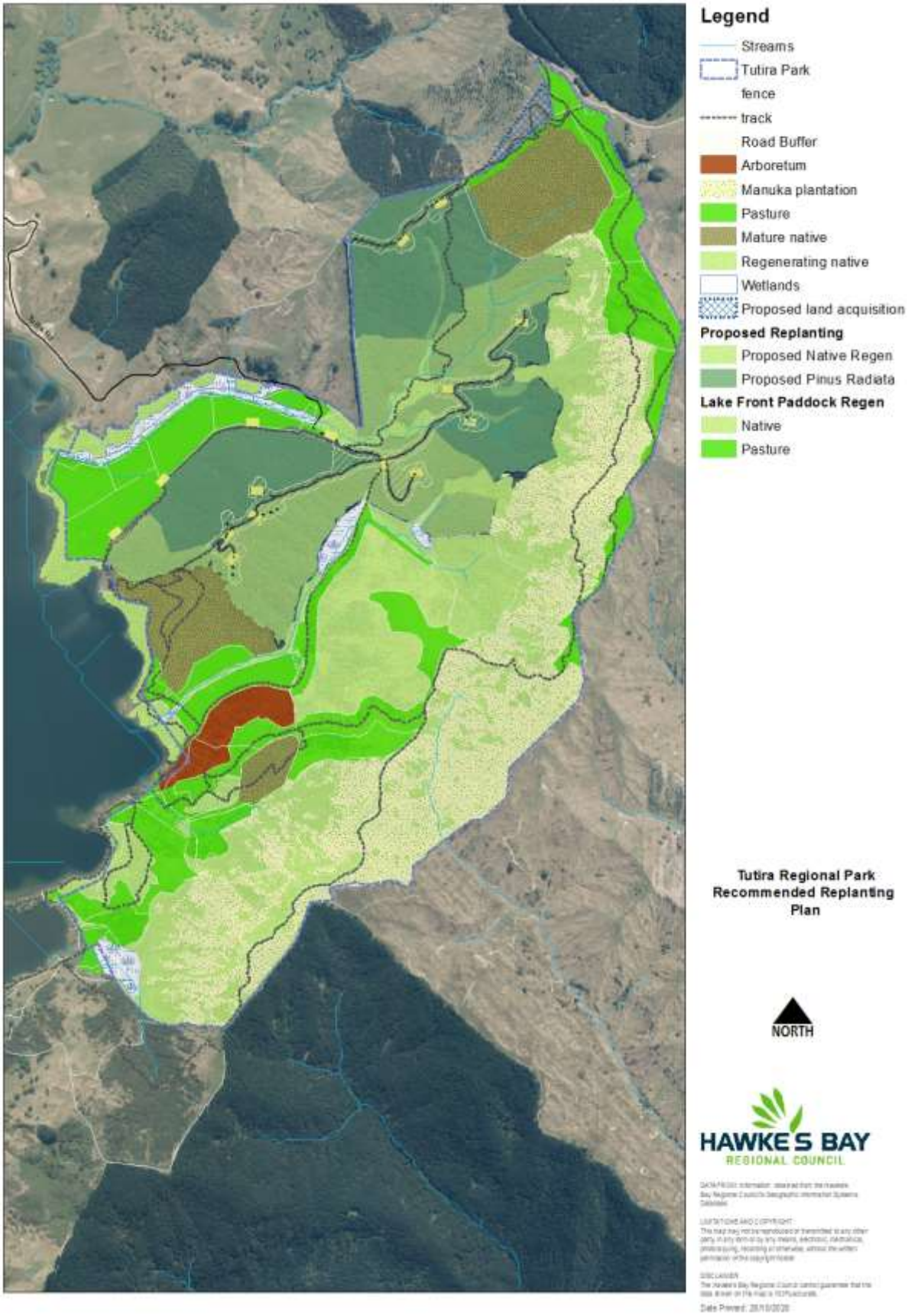
Chris Dolley
GROUP MANAGER ASSET MANAGEMENT

Attachment/s

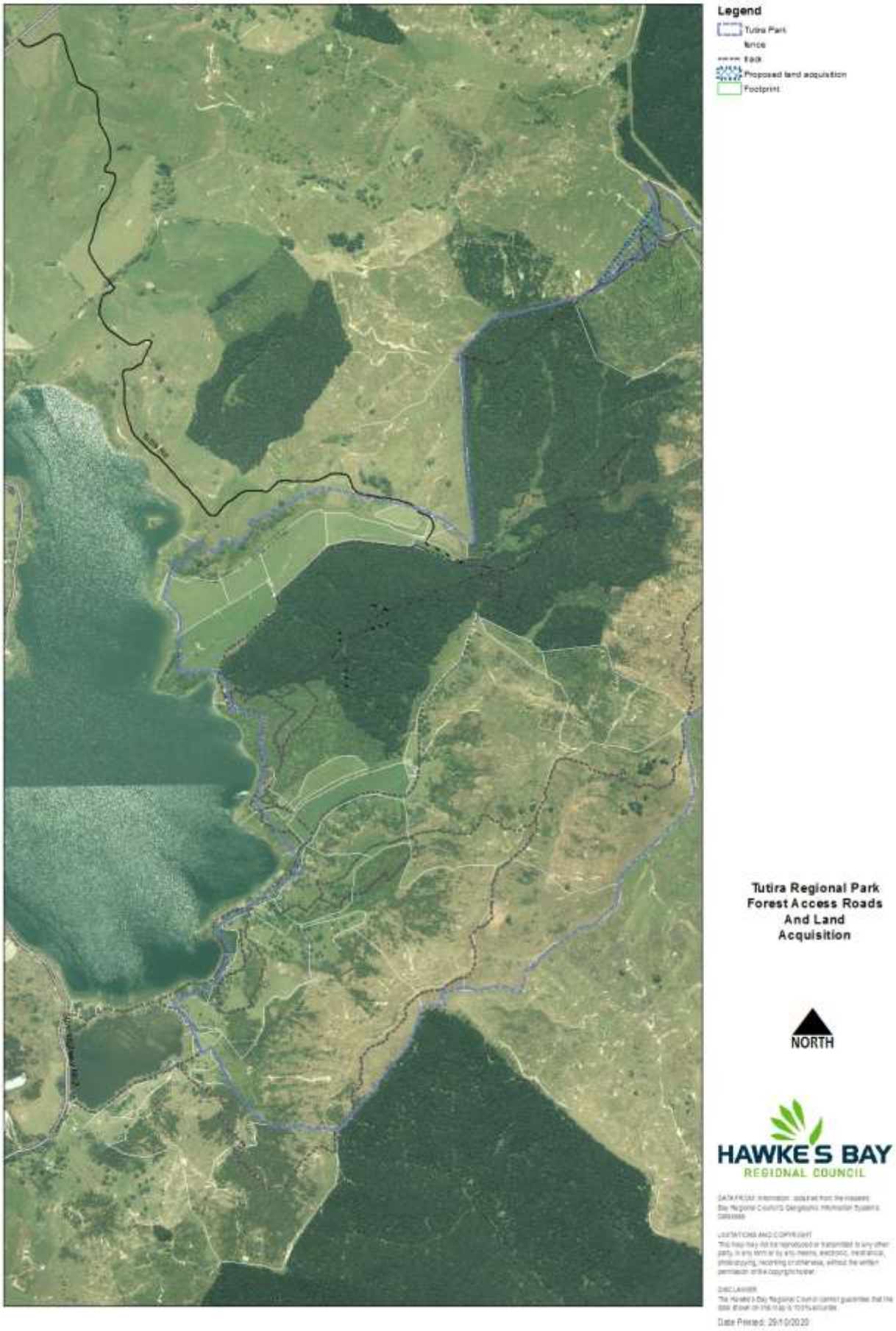
⇩**1** Tūtira Regional Park and Tangoio Soil Conservation Reserve Location Map

⇩**2** Tūtira Roads and Land Acquisition

Tūtira Regional Park Long-Term Vegetation Plan



Tutira Roads and Land Acquisition



HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

Wednesday 04 November 2020

Subject: HAWKE'S BAY MARINE & COAST GROUP AND SUSTAINABLE SEAS NATIONAL SCIENCE CHALLENGE COLLABORATION

Reason for Report

1. This report provides an update on the organisational activities associated with Hawke's Bay Regional Council's collaboration with the Hawke's Bay Marine and Coast Group (HBMaC) and the Sustainable Seas National Science Challenge.

Executive Summary

2. Hawke's Bay Marine and Coast Group is a collaborative group convened to identify research needs and recommend research objectives to fill knowledge gaps to assist in the ongoing sustainable management of the Hawke's Bay Coastal Marine Area.
3. Since 2018, the group has been working with the Sustainable Seas National Science Challenge in a regional case study aimed at implementing the principals of Ecosystem Based Management on the ground.
4. In 2019, stage one of the case study was undertaken which looked at two stressors; land based sediment and changes to the seafloor from bottom contact, using a socio-ecological tool called a systems map.
5. The project is currently waiting for confirmation of funding for stage two which will model potential management scenarios, looking at the impact of these scenarios on the values we hold for the coastal marine area.

Strategic Fit

6. This activity assists Council to meet its strategic goal of 'Healthy, functioning and climate-resilient biodiversity', specifically to:
    6.1. Develop a Coastal Marine Monitoring and Management Plan, supported by the stakeholder-led Coastal Marine research strategy.
7. This project aligns with Marine and Coast science activities assessing land-based impacts on the coastal marine area.

Background

8. Management of the coastal marine area in Hawke's Bay is undertaken by a number of agencies and entities, covering a number of legislative documents. These include the Resource Management Act 1991, Biosecurity Act 1993, Conservation Act 1987, Fisheries Act 1996, Māori Fisheries Act 2004, Maritime Transport Act 1994, Marine and Coastal Area (Takutai Moana) Act 2011, and the Marine Mammals Protection Act 1978, as well as a number of other non-statutory documents.
9. In 2016, local concern around the perceived depletion of inshore fisheries and fish habitat in Hawke's Bay marked a Council initiative to begin a collaboration between Hawke's Bay Regional Council and others with interests in the Hawke's Bay coastal marine area.
10. The Hawke's Bay Marine and Coast Group (HBMaC) is comprised of representatives from recreational and commercial fishers, LegaSea, Department of Conservation, Fisheries New Zealand (MPI), local iwi, hapū and representation from two post-treaty settlement groups. Hawke's Bay Regional Council science staff are both participants in, and the facilitators of this group.

11. HBMaC's purpose is to provide recommendations on improving the information and evidential base of decision-making in the management of Hawke's Bay coastal marine area. HBMaC developed the Research Roadmap which covers three themes:
    11.1. Terrestrial and Coastal Linkages
    11.2. Ecosystems and Habitats
    11.3. Fisheries
12. Due to the existing relationships held within the HBMaC group, Hawke's Bay was approached to participate in the Sustainable Seas National Science Challenge as a case study area. The National Science Challenges are cross-disciplinary, mission-led programmes designed to tackle New Zealand's biggest science-based challenges.
13. The Hawke's Bay case study is focused on enabling (*rather than implementing*) Ecosystem Based Management (EBM) in Hawke's Bay.

Discussion

14. Sustainable Seas is one of 11 National Science Challenges established in 2014 to direct science funding towards some of the biggest science-based issues and opportunities facing New Zealand.
15. In 2018, Hawke's Bay Regional Council commenced discussions with the Sustainable Seas leadership team regarding participating as a case study area. This would enable Sustainable Seas to trial EBM tools they already had developed, and enable HBMaC to assess what further information may be required to underpin Ecosystem Based Management in Hawke's Bay.
16. The HBMaC vision of 'Achieve a healthy and functioning marine ecosystem in Hawke's Bay that supports an abundant and sustainable fishery' is well aligned to the Sustainable Seas vision 'Aotearoa New Zealand has healthy marine ecosystems that provide value for every New Zealander'.
17. EBM is an approach to management that addresses cumulative impacts and balances multiple, often conflicting, objectives across management objectives and/ or sectors. A primary goal of EBM is to balance the diverse and interconnected needs of society and the environment.
18. Stage one of the Hawke's Bay project focused on two main stressors: land-derived sediments entering the marine environment and bottom contact from fisheries activities (e.g. trawling). Three full day workshops were held with HBMaC participants and the Sustainable Seas project team. These workshops looked at the aspects that influence the two stressors (including social and ecological aspects), as well as projected patterns under different scenarios (e.g. do nothing, current or projected management).
19. A systems map, a way to visually articulate the relationships between variables that best explain the behaviour of the system that you are trying to understand, was developed. This highlighted four areas where our desired state differed from our current state. These included:
    19.1. Land-derived sediment entering the marine environment
    19.2. Appropriate benthic structure (e.g. complex habitat, sand, mud etc)
    19.3. Loss of connection with Tangaroa
    19.4. Public satisfaction with ecosystem health.
20. The final workshop was held a week before COVID lockdown and so further discussions were slightly hampered by the time delay between the workshop and reporting, and also due to travel limitations by some participants in that week.
21. The report and map have been finalised and are in the publication process.
22. Stage two of the project will investigate the impact of different management scenarios on reducing the gaps between the current and desired state using existing tools developed in the Sustainable Seas programme. We are proposing to trial a Degradation

and Recovery Model to simulate changes in management (e.g. changes to sediment delivery, changes to bottom contact from trawl gear etc) and understand what that may mean for seafloor health.

23. These scenarios will then be returned to the systems map to understand the implications of these actions in the socio-ecological space.
24. We envisage that this will highlight areas of multiple and competing values, and potential conflicts, and have signaled to Sustainable Seas that further work is likely to be required in this space. This includes support around looking at risk and uncertainty in decision-making.
25. This is a Sustainable Seas project, and as such all funding is held by them. Hawke's Bay Regional Council are contributing staff time to support this project.

Next Steps

26. HBMaC is currently awaiting decisions from the Sustainable Seas board on funding of stage 2 of the project; expected November/December 2020.
27. In future we anticipate that this project will assist Council to deliver the Kotahi Plan.

Decision Making Process

28. 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 "*Hawke's Bay Marine & Coast Group and Sustainable Seas National Science Challenge Collaboration*" staff report.

Authored by:

Anna Madarasz-Smith
TEAM LEADER/PRINCIPAL SCIENTIST MARINE AND COAST

Ellen Robotham
POLICY PLANNER

Becky Shanahan
SCIENTIST MARINE AND COASTS

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

Wednesday 04 November 2020

Subject: MARINE BIOSECURITY PROGRAMME UPDATE

Reason for Report

1. This report provides an overview and update on the Marine Biosecurity Programme, currently being delivered by the Catchment Services team.

Executive Summary

2. Marine pests were included in the 2018-38 Hawke's Bay Regional Pest Management Plan (RPMP) for the first time.
3. The aim of the Hawke's Bay marine biosecurity programme is to reduce the likelihood of marine pests establishing in Hawke's Bay, primarily via the movement of vessels with bio-fouling.
4. In the short time the marine biosecurity programme has been operating, 24 vessels have been inspected and two vessels with marine pests have been intercepted on their arrival to Hawke's Bay.
5. No established populations of exclusion marine pests have been detected to date in Hawke's Bay waters.

Strategic Fit

6. This marine pest programme sits within a biosecurity framework for the Hawke's Bay region, which includes the RPMP, the Hawke's Bay Biodiversity Strategy and the HBRC Strategic Plan. This programme also aligns with the work the Marine and Coast science team carries out protecting and enhancing our marine environment.

Background

7. Marine pests compete with and prey on native species, modify natural habitats, affect marine industries, and alter ecosystem processes. Once here, they are difficult and expensive to get rid of.
8. Marine pests are established in a number of regions throughout New Zealand including Northland Auckland, Waikato and Bay of Plenty. Hawke's Bay is currently in the enviable position of not having any of the worst marine pests established within the region.
9. The main pathway in which marine pests are spread is through bio-fouling on vessel hulls.
10. In order to reduce the risk of marine pests being transported to Hawke's Bay, a marine biosecurity programme was included in the Hawke's Bay RPMP (2018-2038). Two marine pests are included as Exclusion Pests (Clubbed tunicate and Mediterranean fanworm) alongside a Clean Hull rule, which states that all vessels and structures that enter Hawke's Bay waters must have no more than a slime layer and/or goose barnacles. A breach of this rule is an offence under the biosecurity act.

Discussion

11. When a vessel enters Hawke's Bay waters and berths in the Inner Harbor an Incoming Vessel Form containing specific biosecurity questions must be completed by the skipper and submitted to HBRC. A risk analysis is undertaken using this information and if the vessel is suspected to be high risk of not complying with the HBRC Clean Hull rule divers will inspect the vessel.

12. The table below shows the number of incoming vessels that have been assessed, and the levels of compliance.

# of Incoming Vessel Forms received	133
# of vessels inspected	24
# of vessels inspected compliant with Clean Hull Rule	8
# of vessels inspected not compliant with Clean Hull Rule	16
# of non-compliant vessels directed to be hauled out or leave HB waters	15
# of marine pest incursions	2

13. Council staff responded to all non-compliant vessels and marine pest incursions by either directing the vessel to be hauled out and cleaned, or to leave Hawke's Bay waters.

14. Additionally, a biennial marine pest survey is undertaken of the Ahuriri Inner Harbour using divers. If a marine pest was found in the early stages of establishment we would have a better chance of eradicating it. No new marine pests have been found to date.

15. HBRC is a member of the Top of the North Marine Biosecurity Partnership (Auckland Council, Northland Regional Council, Gisborne District Council, Waikato Regional Council, Bay of Plenty Regional Council and Biosecurity New Zealand). The partnership shares information, best practice, resources and collaborate on research. In conjunction with Eagle Technology the Partnership is also developing a Marine Vessel Portal where information on vessel information and pest distribution can be shared between organisations.

16. A key constraint for the HBRC marine biosecurity programme is the lack of national coordination. Marine biosecurity is a national issue as the risk of marine pests spreading arises when vessels move between regions. Currently, there are no national rules regarding vessel cleanliness. This results in a disjointed approach which is a cause of frustration for Councils and vessel owners. Biosecurity New Zealand have indicated that they are now looking into developing a National Marine Biosecurity Strategy.

17. Another constraint is the Napier Port is not included in the national Marine High Risk Site Surveillance (MHRSS) programme. The MHRSS is a national programme of surveys targeted at the early detection of high-risk marine non-indigenous species undertaken in 11 ports and marinas in New Zealand. This programme is managed by Biosecurity New Zealand. A baseline survey was last carried out in 2003 by Biosecurity New Zealand, however, no surveillance for marine pests has been undertaken since this survey as part of the national programme. Therefore, whilst HBRC carry out biennial surveys for marine pests at the Ahuriri Inner Harbour the lack of marine pest surveillance at Napier Port leaves the risk that new to Hawke's Bay or new to New Zealand marine pests have established at the port. HBRC staff continue to advocate to Biosecurity New Zealand to undertake more regular surveys.

Next Steps

18. The marine biosecurity programme has been shown to be highly valuable within the short time it has been running. This is highlighted by the two marine pest incursions that have been intercepted on vessel hulls and managed following best practice. One of these vessels had two mature Mediterranean fanworm on the hull and was coming to Hawke's Bay to berth permanently. Had this incursion not been intercepted, it is likely this marine pest would have established in Hawke's Bay.

19. The Top of the North Marine Biosecurity Partnership, has been invaluable in the development and implementation of HBRC's marine biosecurity programme. This collaboration continues to grow of which HBRC as a minor party significantly benefits from.

20. The Top of the North Marine Biosecurity Partnership is currently developing an Inter-regional Marine Pathway Management Plan. This plan would implement a consistent set

of rules for the level of allowable hull-fouling on vessels within those regions implementing this plan.

Decision Making Process

21. 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 "*Marine Biosecurity Programme Update*" staff report.

Authored by:

Alice McNatty
TEAM LEADER PEST PLANTS AND MARINE BIODIVERSITY

Mark Mitchell
TEAM LEADER/PRINCIPAL ADVISOR, BIOSECURITY/BIODIVERSITY

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

Wednesday 04 November 2020

Subject: BIOSECURITY OPERATIONAL PLAN AND ANNUAL REPORT

Reason for Report

1. This item presents the Hawke's Bay Regional Council's Biosecurity Annual Report for the 2019-20 year and Operational Plan for the 2020-2021 year.

Executive Summary

2. Pest management is an important part of the sustainable management of natural resources in Hawke's Bay. The Hawke's Bay Regional Council (Council) manages risks posed by pests and other organisms through its Biosecurity programme. The Hawke's Bay Regional Pest Management Plan (RPMP) 2018-2038 is the core document behind this and establishes the regulatory basis for pest management in Hawke's Bay. The RPMP was made operative in February 2019.

3. As the management agency, Council is required to prepare an annual operational plan that sets out how the RPMP is to be implemented. Following the end of each financial year, Council is required to produce an Annual Report, recording progress in implementation of the RPMP via the Operational Plan.

Strategic Fit

4. Regional pest management sits within a biosecurity framework for the Hawke's Bay region, which includes the RPMP, the Hawke's Bay Biodiversity Strategy and the HBRC Strategic Plan. Neighbouring Regional Pest Management Plans and national legislation, policy and initiatives have also influenced Hawke's Bays RPMP.

Background

5. Regional councils have a mandate under Part 2 of the Biosecurity Act 1993 (the Act) to provide regional leadership in activities that prevent, reduce, or eliminate adverse effects from harmful organisms that are present in their region. Council therefore has this leadership role in the Hawke's Bay region.

6. The purpose of the Hawke's Bay Regional Pest Management Plan is to provide for the efficient and effective management or eradication of specified harmful organisms in the Hawke's Bay Region. It builds on the 2013 Strategy and previous pest management programmes. The purpose of the Plan is to:

   6.1 minimise the actual or potential adverse or unintended effects associated with those organisms; and

   6.2 maximise the effectiveness of individual actions in managing pests through a regionally coordinated approach.

7. Many organisms in the Hawke's Bay region are considered undesirable or a nuisance. The Regional Pest Management Plan only addresses pests where voluntary action is insufficient due to the nature of the pest or the related costs and benefits of individual action or inaction. The Act specifies criteria that must be met to justify such intervention.

8. The RPMP empowers Council to exercise the relevant advisory, service delivery, regulatory and funding provisions available under the Act to deliver the specific objectives identified within the Plan.

Discussion

9. The RPMP contains 63 pests, comprising of 33 pest plants, 23 pest animals, two marine pests and five horticultural pests.

10. Some of the key outputs during the 2019-2020 financial year were:

    10.1. The Pest Plant team visited 2,334 properties undertaking weed control or auditing

    10.2. Staff undertook 10 biocontrol releases (Californian green thistle beetle)

    10.3. No exclusion pest plants were detected in the Hawke's Bay region

    10.4. A biosecurity response was undertaken for Mediterranean fanworm, an exclusion pest, which was detected on the hull of a vessel in the inner Ahuriri harbour

    10.5. Fifteen Notices of Direction were issued

    10.6. A total of 141 active rook nests were treated

    10.7. A total of 1,267 feral goats were controlled within the Mahia and Maungaharuru feral goat coordinated management areas (CMA)

    10.8. A total of 66 rabbit enquiries were responded to

    10.9. Staff worked with 32 land occupies/community groups in managing site specific pests, primarily predators

    10.10. Possum monitoring was undertaken across 80,700 ha (approximately 10% of the PCA area) with the overall trap catch rate across the area being 2.4%

    10.11. Predators were controlled over 54,000 ha, removing 92 feral cats, 37 ferrets, 42 stoats, 706 hedgehogs and 945 rats

    10.12. Outcome monitoring showed increases in native bird abundance within the predator control areas

    10.13. New Council Pest Hub website was implemented.

11. Almost all programme objectives were achieved. However, some Australian sedge and Old man's beard control could not be completed due to Covid-19 restrictions.

12. Although almost all programme objectives were achieved, the following areas of concern were identified:

    12.1. 221 possum monitoring lines were above a 4% RTC, resulting in 64 properties failing their monitor (18.6% of properties monitored)

    12.2. Rabbit enquiries continue to increase, particularly in urban areas. Rabbits are a difficult pest to control, requiring expensive ongoing management

    12.3. The number of properties with pest plants (primarily Chilean Needle Grass) continues to grow, resulting in increased pressure on Pest Plant budgets and staff.

Next Steps

13. A review under S17a of the Local Government Act (LGA) 2002, was recently undertaken to assess the efficiency and effectiveness of the Catchment Services biosecurity and biodiversity programmes. The review was reported to Council in September 2020. This report highlighted several areas that require further investigation, including resourcing for pest plants, approaches for managing rabbits and the delivery model for managing possums. The Catchment Services team is currently working through these recommendations, with further advice coming back to council in the coming months on proposed changes.

14. Identified as a significant action arising from the S17a review, the possum control area programme is undergoing immediate review by an external contractor. The findings of this review and advice on any required changes and resourcing implications will be presented to council early next year for inclusion in the 2021-22 Annual Plan and

associated consultative processes. In the interim, the Pest Animal team has directed more resources this current financial year into possum monitoring across the PCA.

15. As another placeholder, further resources for possum monitoring and pest plant management have been requested within the 2021-31 LTP process. This will address some of the immediate areas of concern and more substantive and enduring proposals will come back to council for advice and required changes for inclusion in Annual Plans. This slight delay will allow staff to complete comprehensive reviews and ensure that the proposed changes are well thought through, can be effectively implemented and can go through appropriate consultative processes.

16. Staff have ramped up the communication with OSPRI, who have moved to a new geographically based operating model, with staff now based in the region. There are currently 19 herds infected and five herds under investigation in the current TB outbreak area. OSPRI believe they are managing the outbreak and expect the number of infected herds to drop substantially over the next 6 months.

Decision Making Process

17. 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 "*Biosecurity Operational Plan and Annual Report*" staff reports.

Authored by:

Mark Mitchell
TEAM LEADER/PRINCIPAL ADVISOR,
BIOSECURITY/BIODIVERSITY

Approved by:

Iain Maxwell
GROUP MANAGER INTEGRATED
CATCHMENT MANAGEMENT

Attachment/s

⇩**1** HBRC Biosecurity 2019-20 Annual Report

⇩**2** Combined Pest Plant and Pest Animal Operational Plan 2020-2021

Biosecurity Annual Report 1 July 2019 - 30 June 2020

Report on the 2019-20 Operational Plan

October 2020
Hawkes Bay Regional Council Publication No. 5528

HAWKES BAY
REGIONAL COUNCIL
TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

ISSN 2703-2051 (Online)
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Attachment 1 Item 9

Version

HAWKES BAY REGIONAL COUNCIL
TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

(06) 835 9200
0800 108 838
Private Bag 6006 Napier 4142
159 Dalton Street . Napier 4110

Catchment Services

Biosecurity Annual Report

October 2020
Hawkes Bay Regional Council Publication No. 5528

Prepared By:
Mark Mitchell, Acting Manager, Catchment Services

Approved By:
Iain Maxwell, Group Manager – Integrated Catchment Management

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Contents

Executive Summary

Hawke's Bay Regional Council is the management agency responsible for developing and implementing the Hawke's Bay Regional Pest Management Plan 2018-2028 in accordance with the Biosecurity Act 1993.

The RPMP is a combination of the eradication or effective management of specified pests or groups of pests. It describes the biosecurity activities that will be undertaken throughout Hawke's Bay and outlines the management or eradication of specific organisms. Doing so will:

- minimise the actual or potential adverse or unintended effects associated with these organisms, and,
- maximise the effectiveness of individual actions in managing pests through a regionally coordinated approach.

As the management agency, Council is required to prepare an annual operational plan that sets out how the plan is to be implemented. Following the end of each financial year, staff will report to Council on the implementation of the operational plan.

This is the Annual Report for the 2019/2020 year relating to the Operational Plan for the Hawke's Bay Regional Pest Management Plan (RPMP).

1 Introduction

Regional councils have a mandate under Part 2 of the Biosecurity Act 1993 (the Act) to provide regional leadership in activities that prevent, reduce, or eliminate adverse effects from harmful organisms that are present in their region.

The purpose of the Hawke's Bay Regional Pest Management Plan (RPMP) is to provide for the efficient and effective management or eradication of specified harmful organisms in the Hawke's Bay Region. It builds on the 2013 Strategy and previous pest management programmes. The purpose of the Plan is to:

- Minimise the actual or potential adverse or unintended effects associated with those organisms, and
- Maximise the effectiveness of individual actions in managing pests through a regionally coordinated approach.

This Annual Report records progress in implementing the Regional Pest Management Plan via the Operational Plan 2019-2020, covering council's biosecurity activities for the period 13 July 2019 to 30 June 2020. The Annual Report of regulatory activities is a statutory requirement under section 100B(2) of the Biosecurity Act 1993 (the Act).

2 Pest Plants

The RPMP lists a total of 33 plant species as pests, which have been divided into five management categories.

For each of these pest plant categories, the Annual Report provides a brief description of what activities Council undertook in the 2019/2020 year.

2.1 Exclusion Pest Plants

These are pest plants that are not known to be present in the Hawke's Bay region and would likely have significant negative environmental and/or economic impacts if they were to establish. The objective of this programme is to prevent their establishment.

Exclusion	Management Regime
Alligator weed	Staff worked with other Regional Councils and technical experts to produce a high-level response plan for these pests. They were also added to the Pest Hub on the HBRC website to raise awareness with the public. Staff followed up any suspected sightings of Exclusion pest plants. No exclusion species were confirmed in the Hawke's Bay region during the 2019-20 financial year.
Marshwort	
Noogoora bur	
Senegal tea	
Spartina	

2.2 Eradication Pest Plants

These are pest plants in the Hawke's Bay region where eradication is possible. The objective is to destroy all known infestations of these species within the Hawke's Bay region, prior to seed set. HBRC undertakes direct control through service delivery at all known sites.

Eradication	Staff days	Management Regime
African feather grass	9	Control work focussed around the Ngaruroro River. Two two's surveys were undertaken. Very few plants were found.
Cathedral bells	1	All known rural sites are being controlled by contractors or staff. A few sites are now clear.
Goats rue	2	Staff monitored all high risk roadside areas and known infestation sites in Eskdale. Plants were only found at one roadside area in Central Hawke's Bay and in the Eskdale area over the 2019-20 financial year.
Purple loosestrife	1	There are now two sites in Hawke's Bay as a new site was found at Tangoio. All plants were destroyed.
Spiny emex	5	Numbers remain static on the two infested properties. Spiny emex has a very long seed life.
White edged nightshade	1	Three plants were found and destroyed
Yellow water lily	1	No yellow water lily was found during the 2019-20 financial year. This plant may possibly be eradicated from Hawke's Bay, but ongoing surveillance is required to confirm this.
Phragmites	9	In accordance with the contract between HBRC and Ministry of Primary Industries, HBRC will destroy all infestations prior to seed set.

2.3 Progressive Containment Pest Plants

These are pest plants in the Hawke's Bay region where they are too widespread to eradicate but there is an opportunity to progressively contain and reduce their geographic distribution either across the region or specified areas within the region. This programme is achieved through a combination of occupier responsibility and direct control by HBRC through service delivery at all known sites.

Progressive containment	Staff days	Management Regime
Apple of Sodom	22	Main problem areas are several farms in the Seafield Road area. Improvements continue to be made each year. Time spent undertaking surveillance and control has reduced to approximately three weeks per year. Isolated plants are removed and destroyed by staff.
Australian sedge	8	Only found in the Wairoa district. Majority of work subsidised through the incentive scheme and undertaken by contractors. Some sites were unable to be managed due to Covid -19 restrictions.
Cotton thistle	2	Numbers were low due to a wet summer last year. Staff assisted private landowners in controlling cotton thistle to make sure control was undertaken adequately.
Darwin's barberry	14	There are two infestations, one at Gwavas and one at Puketitiri. Both were surveyed with control work being ongoing. An extensive surveillance and control programme was undertaken at Puketitiri using contractors and a helicopter. Some of the funding for the Puketitiri infestation has been sourced from Lottery funding.
Japanese honeysuckle	1	This programme applies to the Tutira area, as outlined in the RPMP. Key areas were controlled by contractors and land occupiers. Tutira Country Park infestations have been sprayed by Council's Old Man's Beard team.

Progressive containment	Staff days	Management Regime
		Some areas were unable to be managed due to Covid-19 time restrictions.
Nassella tussock	4	Although plant numbers are reducing there is a large seed bank. A site detected nine years ago in the Tukituki area is of increasing concern due to the high numbers of plants being found each year.
Old man's beard	49	Main control areas at present are north of the Napier-Taupo Highway and in areas of high biodiversity value. Areas found adjacent to the Kaweka and Ruahine Ranges last season were surveyed again and controlled. Some aerial work in the Wairoa region not completed due to Covid-19 restrictions.
Saffron thistle	44	Numbers were low this year (mainly due to a wet summer in the previous year). All known sites were controlled.
Velvetleaf	3	Known sites were assessed. No plants found. Machinery hygiene was enforced.
Wilding Conifers	10	Pinus contorta is mainly a problem in areas that are close to conservation land. Over 25,000 hectares was surveyed, including Ngamatea Station, Sparrowhawk, Parts of Kaweka Forest (Pan Pac), Owhaoko D1, D8B, D4B and A East, A No 1B blocks, Owhaoko C1, C2, C4 and C5 blocks, Upper Ripia frost flats in Rangitaiki. Any Pinus contorta detected was controlled. MPI have continued to help finance control programmes in the Napier/Taihape Rd area
Woolly nightshade	73	New urban sites were found this season, although less than previous years. A pamphlet drop in high risk areas assisted in detecting new sites. Known infestations on logged properties (forestry) continue to have high numbers of plants due to soil disturbance and high light environment.

2.4 Sustained Control Pest Plants

These are pest plants that are well established in Hawke's Bay where preventing or minimising the spread of these pests between neighbouring properties is the primary objective. This includes boundary control pest plants, where a neighbouring occupier may be required to control these pests on their boundary to prevent the spread onto adjacent properties.

Chilean Needle Grass

Chilean needle grass is a very difficult weed to control. With the current control tools available, HBRC are only able to contain it within known areas. However, over the last five years, an average of 11 new properties per year have been found, due to a robust advocacy programme and an increased surveillance programme. This increase in properties has created extra pressure (in Spring/Summer) on staff resources and budgets, at what is already an extremely busy time for the Pest Plant team.

After eight years of significant investment in the registration process the Marlborough District Council, in partnership with HBRC and Environment Canterbury, have gained registration of the herbicide Flupropanate (Taskforce) for the control of Chilean needle grass. However, further efficacy and residue trials are still required by the ACVM board to provide more information to retain this registration. Flupropanate gives long term residual control against Chilean needle grass.

HBRC continue to run a joint advocacy programme with Environment Canterbury and the Marlborough District Council with Chilean needle grass. Along with surveillance programmes another ten new properties had Chilean needle grass discovered on them. Subdivision of properties that have Chilean needle grass on is increasing which increases the number of landowners to contact each year.

Privet

The new rule within the RPMP (the requirement of a doctor's certificate by the complainant) reduced the number of properties requiring privet removal. A total of 90 properties had privet removed. Management programmes for hedges are ongoing.

Yellow bristle grass

Staff worked with NZTA and Wairoa District Council to manage the risk posed by mowing regimes during seeding and the requirement for mower washdowns. High risk landowners were also contacted.

2.5 Sustained Control Pest Plants – Boundary Control

These are pest plants that may require neighbouring occupiers to control these pest plants on their boundary. They are Bathurst bur, Blackberry, Gorse, Nodding thistle, Ragwort and Variegated thistle.

The amount of time spent in this area this season was minimal, with only 3 hours recorded to this. Complaints were predominantly regarding Blackberry or Variegated thistle.

Enforcement is the key management tool for Boundary Control plants. Controls are only enforced if their location contravenes RPMP rules (e.g. gorse within 10 metres of a neighbour's boundary providing that boundary is clear), and only if there is a complaint.

2.6 Biodiversity Pest Plants

These are plants that have a negative ecological effect which are managed outside of the RPMP.

Blue Passion Flower

Staff have refocused where its activities are undertaken. Additional infestations were found in Napier, Hastings, Waipawa and Havelock North. Control was undertaken down the Taipo Stream and advice provided to landowners in other areas on how to control this troublesome weed.

Climbing Spindleberry

This plant is found in the Central Hawke's Bay area along the banks of the Waipawa and Tukituki Rivers. This season all known sites were sprayed by contractors although some areas are very difficult to get through due to Blackberry, Gorse and Broom. Biosecurity staff are working with the Operations Group to clear tracks through these areas to allow easier access for the contractors.

Giant/Asiatic Knotweed

This was reported to HBRC in the Tuai area and is present in the Waipukurau Transfer Station. The Tuai infestation was sprayed by a contractor while the Waipukurau infestation was controlled by biosecurity officers. It is a very invasive plant that will smother native plants, especially lower growing species and samplings.

DIDYMO/Aquatic Pest Plants

A student employed over the summer season, financed by a grant from the Ministry of Primary Industries, to raise awareness of Didymo and other aquatic plant pests. Contact with all waterway user groups was achieved over this period. Databases of waterway users (which will provide for rapid communication in an incursion event), and access points to waterways to give an overall geographical understanding of all waterway entry sites in an incursion event, was updated. Samples were taken from strategic sites on the main Hawke's Bay Rivers by HBRC, Fish and Game and DOC and sent away for DNA analysis to ascertain whether Didymo is present. All samples this year were negative for the presence of Didymo.

2.7 Surveillance Programme

More focus has been put into certain pest plants such as Old man's beard, Woolly nightshade and Chilean needle grass. Unfortunately, with the loss of five weeks of field work, due to Covid-19, less surveillance was completed than was planned.

During each property inspection, staff record pest plants found on individual farm maps. During monitoring staff use previously gathered information to assess whether or not infestations have spread or contracted. During visits staff take the opportunity to discuss any relevant concerns with the occupier.

Biosecurity officer visits	Properties
Rural visits	1,428
Urban and industrial visits	906
Nurseries and pet shop visits	7

2.8 Surveillance of Railway Land

Staff have a good working relationship with Treescape, the contractors who have responsibility for vegetation control along the rail corridor in Hawke's Bay. Staff communicate with the Area Supervisor annually, identifying areas that need control. Treescape then does the work when required. This procedure enables staff to control pest plants along the railway tracks throughout the region in a timely manner.

2.9 State Highway and District Road Monitoring

A good working relationship has been developed between staff and Waka Kotahi (NZ Transport Agency) as well as the Central Hawke's Bay, Wairoa and the Hastings District Councils, for the clearance of roadside weeds. When weeds are cleared from roadsides, staff ensure that the adjacent property owner also clears their side. Both District Councils and NZTA have been very cooperative in setting up no-mow zones when Chilean needle grass is seeding in November/ December.

The NZTA provides an additional budget to control pest plants, on their roadsides, such as Old man's beard, Japanese honeysuckle and Pampas. This budget is managed by HBRC staff which ensures that these pest plants are controlled at the optimum time.

2.10 Nurseries and Pet Shops

MPI has indicated that nurseries in the Hawke's Bay area only have to be visited at least once every three years to ensure that no plants banned for sale under the National Plant Pest Accord are being stocked. Only seven nurseries were visited this year due to the urban advisor being on four months sick leave.

2.11 Regulatory

Fifteen Notices of Direction were issued, all related to shingle extractors along the Tuki Tuki rivers. Subdivision activities are monitored by staff to ensure compliance, which has been good this year. Over 100 diggers/mowers were inspected this year.

2.12 Education and Publicity

The objective of these activities is to reach a wider community than can be achieved through farm visits. In this plant pest staff work with the Environment Education section of the Council. Six displays were done in this financial year. These were done at:

- CHB A + P Show
- Wairoa A + P Show
- Hawke's Bay A + P Show
- CHBDC "Doggy Day Out" day
- East Coast Farmers Expo
- Joint "Weed swap day" with DOC

The following topics have been printed in the media: newspaper local newspapers:

- Chilean needle grass (x2)
- Didymo
- Woolly nightshade

Pamphlets on Woolly nightshade were distributed in selected urban areas. Didymo presentations were given to several clubs associated with freshwater activities. A talk on pest plants was given to the Victoria Garden Club. One radio interview was done on restrictions on gravel extraction on the Tuki Tuki River due to Chilean needle grass seed.

2.13 Biological Control

HBRC contracted Landcare Research to:

- Audit the effectiveness of Biological Control
- Develop new Biological Control Projects.
- Provide a plant identification service.

Landcare Research is continuing to evaluate/import possible biological controls for Aquatic weeds, Japanese honeysuckle, Woolly nightshade, Chinese privet, Field horsetail, Mothplant, Nassella tussock, Tradescantia, Pampas, Darwin's barberry, Wild ginger, Old man's beard, and Banana passionfruit.

Staff undertook 10 releases of green thistle beetle (Californian thistle) in the Hawke's Bay area this season, collecting beetles from local established populations.

A Sustainable Farming Fund Calamint biocontrol two-year project was completed this year. It identified several promising biocontrol agents in the Mediterranean area. More funds are required to continue this project.

2.14 Plant Pest Subsidy Scheme

The scheme was set up to provide assistance to landowners in undertaking control programmes. A record 63 subsidy forms were signed and undertaken this season.

Type	Number	Amount
Rural	71	$59,287
Urban	1	$500

Chilean needle grass, Saffron thistle, Pinus contorta and Old man's beard were the main pests subsidised. Please note this subsidy only applies to small number of land occupier responsibility pest plants within the RPMP.

2.15 Conclusion

Most pest plant programme objectives have been achieved. However, some Australian sedge and Old man's beard control programmes could not be completed due to Covid-19 restrictions. Generally, a downward trend in numbers of plants is continuing except for Chilean needle grass where new properties/sites are continually being found.

The surveillance monitoring plan carried out this year has continued to target certain pest plants (particularly Old man's beard, Chilean needle grass and Woolly nightshade) and some of the areas surrounding them, areas of high risk, QEII covenanted sites, dump sites, creeks-drains and rivers and areas that are presently being controlled for low incidence plants. Again, unfortunately, some planned surveillance didn't occur due to Covid-19 restrictions.

3 Animal Pests

The RPMP lists a total of 25 animal species as pests, which have been divided into five management categories. For each of these pest categories, the Annual Report provides a brief description of what activities Council undertook in the 2019/2020 year.

3.1 Exclusion Pest Animals

These are pest animals that are not known to be present in the Hawke's Bay region and would likely have significant negative environmental and/or economic impacts if they were to establish. The objective of this programme is to prevent their establishment.

<table>
<tr><th>Exclusion</th><th>Management Regime</th></tr>
<tr><td>Wallaby</td><td>No reports were received of wallabies during the 2019-20 year. Partnerships have been formed with MPI, Waikato Regional Council and Bay of Plenty Regional council who are currently managing wallaby populations.</td></tr>
<tr><td>Mediterranean fanworm & Clubbed tunicate</td><td>When a vessel berths in the Inner Harbour an Incoming Vessel Form is completed and submitted to HBRC. A risk analysis is undertaken and if the vessel is deemed high risk divers will inspect the vessel.
The table below shows the number of incoming vessels assessed, and the levels of compliance.
<table>
<tr><td># of Incoming Vessel Forms received</td><td>133</td></tr>
<tr><td># of vessels inspected
• # of vessels inspected compliant with Clean Hull Rule
• # of vessels inspected not compliant with Clean Hull Rule
• # of vessels non-compliant vessels directed to be hauled out or leave HB waters</td><td>24
8
16
15</td></tr>
<tr><td># of marine pest incursions</td><td>2</td></tr>
</table>
Council staff responded to all non-compliant vessels and marine incursions, requiring vessels to be either hauled out and cleaned or leave the region. The Mediterranean fanworm incursion required divers to remove all detectible fanworm, wrap the boat then haul out for cleaning.

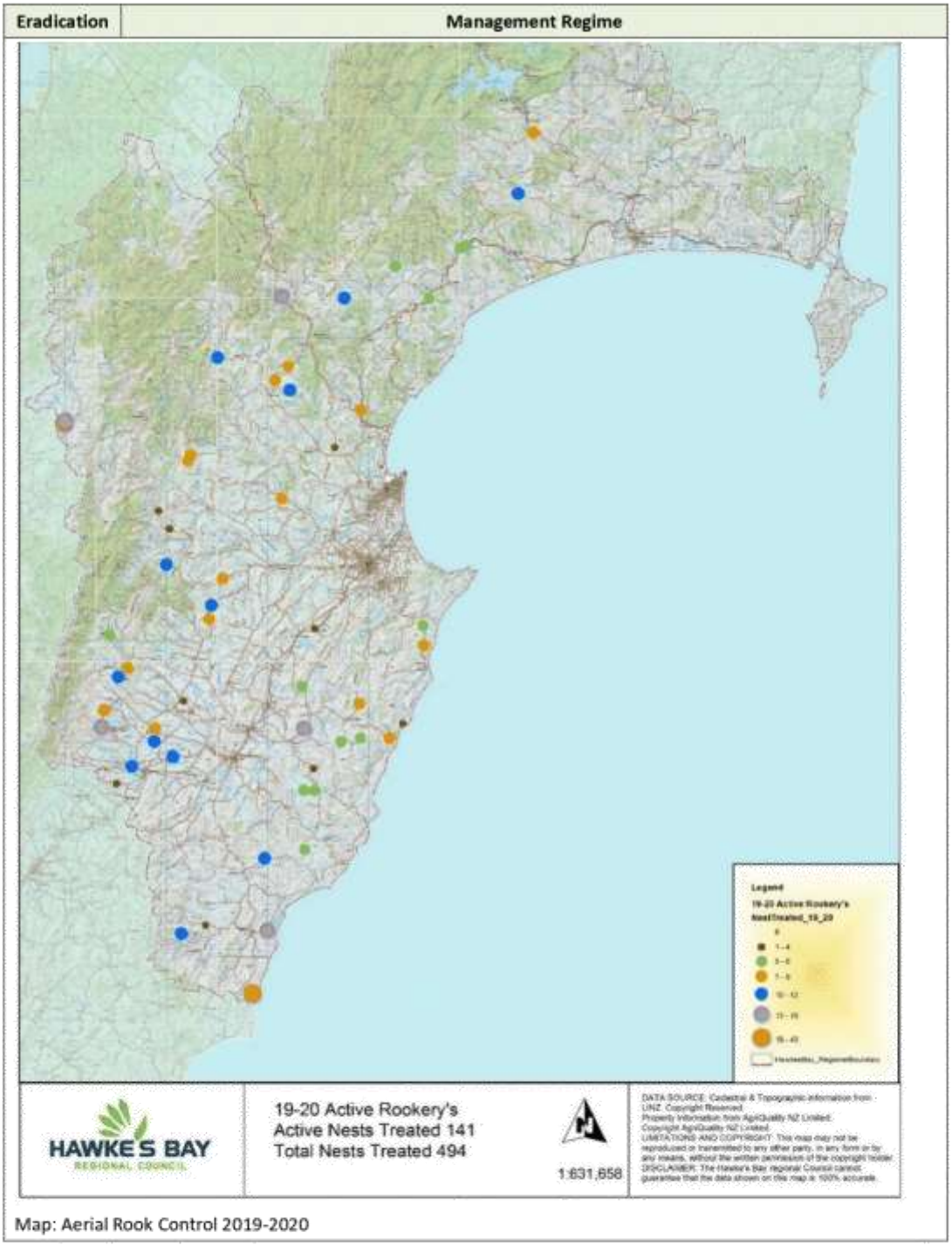
<u>Education and Awareness</u>
• Marine Pest ID and Awareness Workshop – run by NIWA was held in Napier in July 2019 with 30 people attending.
• Two media releases – one in spring 2019, the other in late summer 2020.</td></tr>
</table>

	• An HBRC Facebook video focusing on biosecurity and marine biosecurity in summer 2020. Stakeholder and Partnerships • Relationships have been formed with key stakeholders including Napier City Council, Napier Sailing Club, Port of Napier, Legasea HB, Top of the North Marine Biosecurity Partnership, Top of the South Marine Biosecurity Partnership, NIWA and Biosecurity New Zealand.

3.2 Eradication Pest Animals

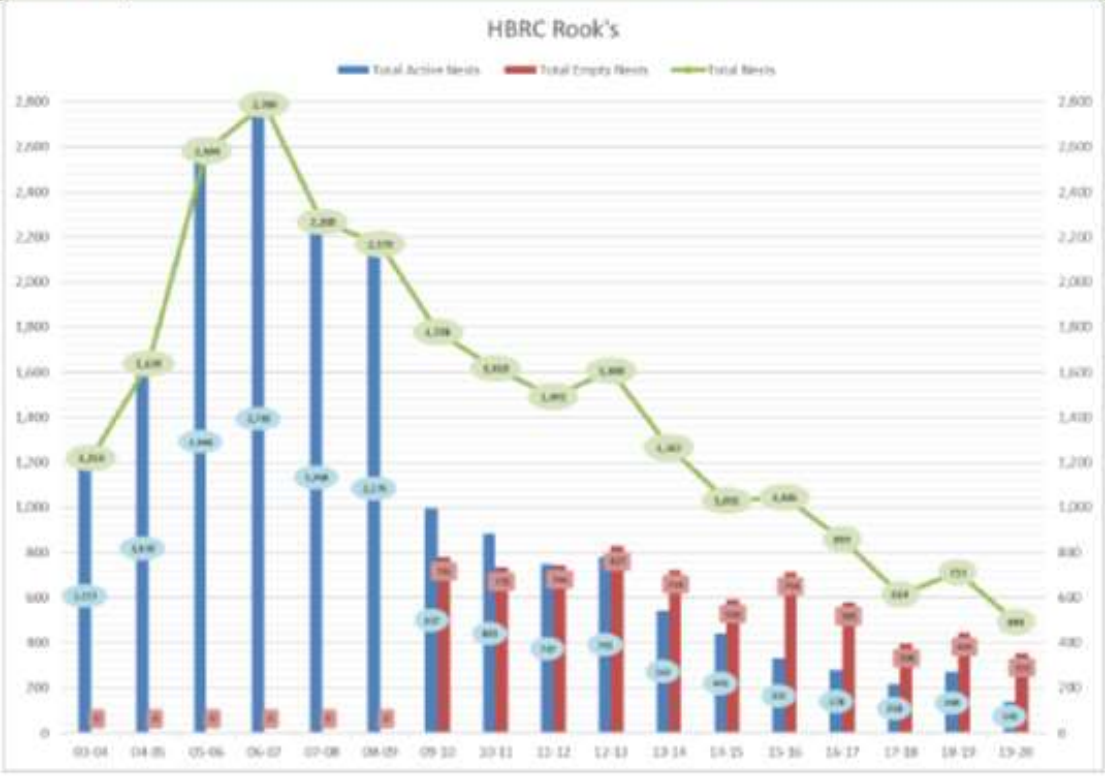
These are pest animals in the Hawke's Bay region where eradication is possible. The objective is to eradicate rooks from the region and all possums contained within Possum Eradication Areas.

Eradication	Management Regime
Possum (within the Whakatipu Mahia area)	HBRC is currently contracted to deliver the Whakatipu Mahia project for Predator Free 2050 Ltd. This includes 14500ha of possum eradication and reducing mustelid populations by 90% on the peninsula. Land occupiers within this area have been signed up to the Possum Eradication Area programme contained within the RPMP and will be responsible for maintaining possum eradication status in accordance with the Hawke's Bay Regional Possum Control Technical Protocol (PN 4969). The bait station network currently covers 70% of the peninsular consisting of 5,753 stations. There are currently 858 traps deployed on the peninsular, including 453 wirelessly monitored leghold traps. Camera monitoring for predators was undertaken pre and post control, showing a 61% reduction in feral cats. Due to using toxin as the primary control tool of possums, the total number of possums controlled is unknown. However, to date numbers caught in mop-up traps totals 306 possums, 40 cats, 59 rats and 59 hedgehogs. The project is currently on track to deliver its commitments to PF2050 with only minor delays experienced because of COVID 19. The map below outlines the teams progress across the peninsula to date. Green icons represent bait stations, red wireless monitored traps and purple motion sensitive cameras. 
Rook	All known rookeries within the Hawke's Bay Region were aerially treated utilizing a under slung strop man applying DRC 1339 gel bait directly into nests. A total of 141 active nests were treated. Post control inspections on some of these rookeries indicate that previous control has been successful with greatly reduced activity. Ten rook ground control enquires were responded to during the year with approximately 150 rooks poisoned as a result of these enquiries.



Map: Aerial Rook Control 2019-2020

Eradication	Management Regime



Graph 1: Rook Nests Trends

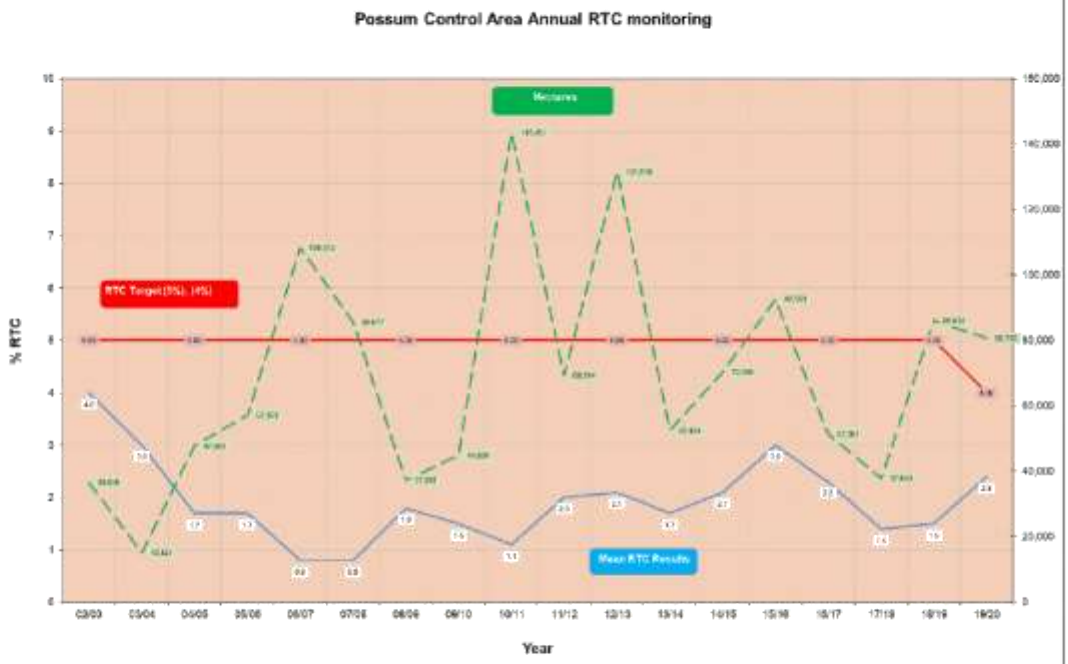
3.3 Sustained Control Pest Animals

These are pest animals that are widespread across the Hawke's Bay region. The objective is to sustainably control these pests in order to minimise adverse effects on environmental values and economic well-being within the Hawke's Bay region.

Sustained Control	Management Regime
Feral Goat	Feral goat control was undertaken across two feral goat coordinated management areas (CMA), being Mahia (7,672 ha) and Maungaharuru (28,000 ha). A total of 1,267 feral goats were controlled. The Mahia goat CMA is jointly managed by HBRC, Department of Conservation and supported by Grandy Lake Forests. It is now in a maintenance phase and the project objective is to maintain and enhance the results accomplished to date on the internal areas and continue to maintain low populations within the boundary properties. Reinvasion continues to be an ongoing risk with high populations still current on most boundaries. The Maungaharuru goat CMA is jointly funded by HBRC, Department of Conservation and Pan Pac. This CMA is also in a maintenance phase. Like Mahia, reinvasion continues to be an ongoing risk.
Phytosanitary pests	Occupiers are responsible for managing production pests at pipfruit production sites. Resolving apple black spot, codling moth, European canker, fireblight or lightbrown apple moth control disputes between neighbouring parties is undertaken by the HBFGA in the first instance. If an agreement cannot be reached, the HBFGA will advise Hawke's Bay Regional Council of the situation and seek appropriate enforcement action to be undertaken under the Biosecurity Act. HBRC did not receive any requests to undertake enforcement action for phytosanitary pests.

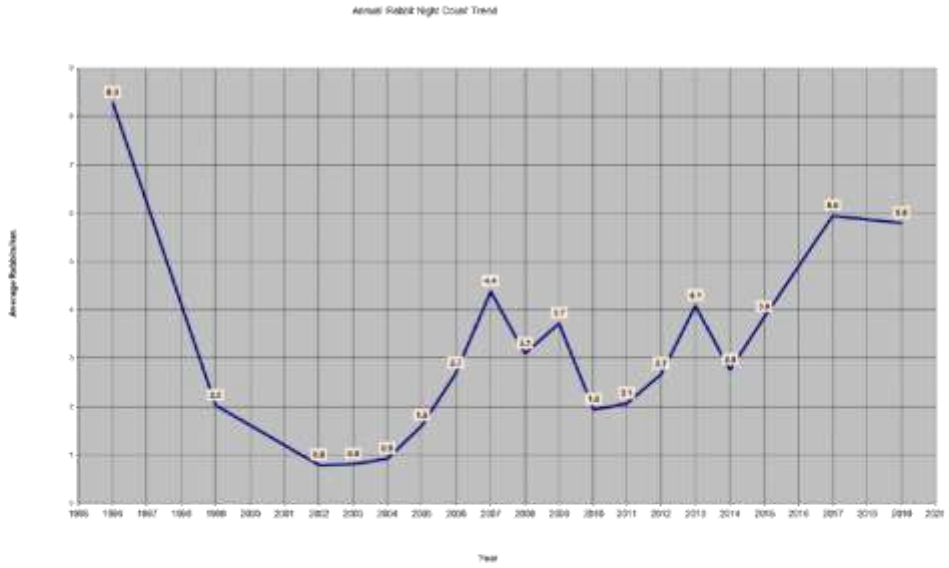
<table>
<tr><th>Sustained Control</th><th>Management Regime</th></tr>
<tr><td>Possum (rest of region)</td><td>
Occupiers within a Possum Control Area (PCA) programme are required to maintain possum densities on their land at or below 4% residual trap catch (RTC). The PCA programme currently covers 774,450ha.
One area in Keruru (15,230 ha) was transitioned from OSPRI management into the PCA programme this financial year due to proof of freedom of bovine tuberculosis. However, due to the TB outbreak in Hawke's Bay, approximately 52,000ha contained within the PCA programme is now under OSPRI management. Biosecurity staff are working closely with OSPRI who have moved to a new geographically based operating model, with staff based in the region.
Possum monitoring was undertaken across 80,700 ha (approximately 10% of the PCA area) of the PCA programme to monitor compliance with the RPMP rule.
<table>
<tr><th colspan="5">PCA possum monitoring programme 2019-20</th></tr>
<tr><th>Occupiers</th><th>Area monitored (Ha)</th><th>Number of monitoring lines</th><th>Average Residual Trap Catch (RTC %)</th><th>Number of monitoring Lines > 4% RTC</th></tr>
<tr><td>345</td><td>80,700</td><td>1,270</td><td>2.4%</td><td>221</td></tr>
</table>
Although the overall trap catch rate across the area monitored was 2.4%, 221 lines were above 4% with 18.6% of properties monitored failing (64 properties). Biosecurity staff worked with failed properties to ensure they are compliant with the RPMP rule. All properties engaged an HBRC approved contractor to undertake possum control resulting in no requirement for enforcement action.
HBRC supported land occupiers in managing possum densities through providing best practice advice, a 40% subsidy on a range of possum control products at Farmlands and PGG Wrightsons and financial assistance for managing possums in difficult terrain. Furthermore, 37 QEII covenants received either free possum control (covenants >20ha) or free bait sufficient to control possums within the QEII area (covenants <20ha).
HBRC ensured possum control on all HBRC managed river berm land using a contractor. This has been done as a good neighbour, to meet HBRC's obligations under the RPMP, and to complement the control being carried out by adjacent land users in the PCA programme.
</td></tr>
</table>

Sustained Control	Management Regime

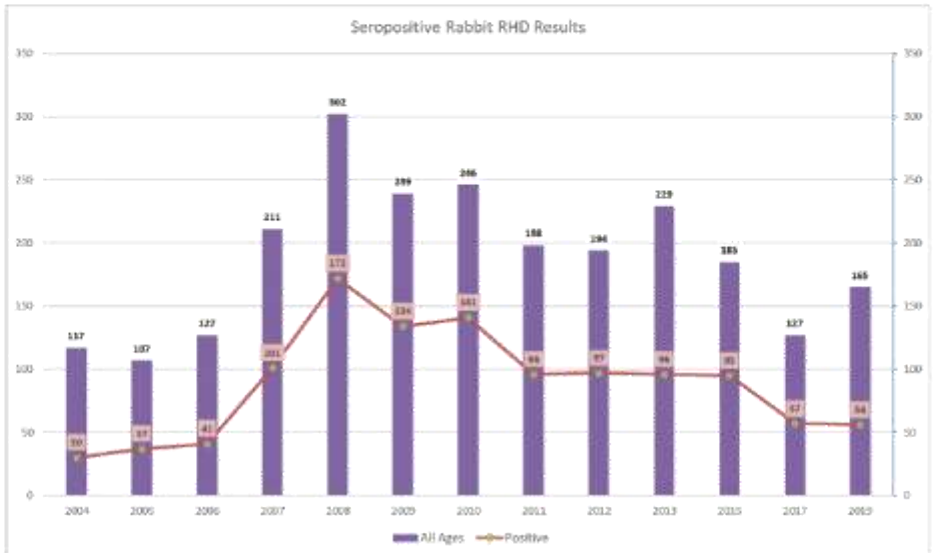


Predators	HBRC is currently involved in a multi-agency initiative Te Matau A Maui. This is via two separate but complementary projects, Poutiri Ao o Tane and Cape to City. The 'Poutiri Ao o Tane' project is a community based initiative with strong backing from several agencies including HBRC, DOC, HDC, Landcare Research and local community and Iwi groups. The project aim is to achieve positive biodiversity and social outcomes over an 8,000 hectare area, encompassing both DOC reserves and private farmland. An important milestone of this project is the release of native birds such as Kaka and Kakareiki in Boundary Stream Mainland Island and the re-establishment of sea birds on the Maungahaururu range, including Black, Cooks and mottled petrel. This financial year Poutiri Ao ō Tāne had five maintenance checks across 13 500ha project area, servicing 703 podiTRAP and DOC250 traps. These traps have caught 37 cats, 28 ferrets, 28 stoats, 1 weasel, 143 hedgehogs, 134 rats, 31 mice and 87 rabbits across 19 properties. Poutiri Ao o Tane has led to the development of a proposal for wide scale predator control in the Cape to City footprint which will develop the ability of wide scale predator control to be rolled out across Hawke's Bay. Cape to City's vision is to have "Native species thrive where we live, work and play". Its aim is to achieve positive biodiversity, economic and social outcomes over 26,000 hectares encompassing both DOC reserves and private farmland. It also aims to transfer the predator control techniques learned into the wider ecological restoration groups within the Hawke's Bay region. This financial year Cape to City has had four maintenance checks across the 26 000ha project area, servicing 1475 podiTRAPs. These traps have caught 15 cats, 7 ferrets. 14 stoats, 10 weasels, 504 hedgehogs, 252 rats, 34 mice and 64 rabbits across 57 properties (since 1 July 2019). The team has also supported additional trapping on several lifestyle block properties. Biodiversity monitoring with tracking tunnels suggests that skinks, geckos and wētā are more abundant within the Cape to City footprint than in the adjacent non treatment area. Although there are preexisting differences, trends suggest increasing abundance of species within the project area. Bird counts conducted over 2017/18 have shown that within Cape to City, toutouwai (robin), tūī, korimako (bellbird), pīwakawaka (fantail), riroriro (grey warbler) and titipounamu (rifleman) increased. The growth and expansion of the toutouwai population was particularly spectacular,

Sustained Control	Management Regime
	thanks to the combination of predator control, natural dispersal out of Cape Sanctuary, and a successful translocation programme. Longer term, HBRC objectives in regard to wide scale predator control are to: Identify a pest control regime that substantially reduces the current cost of top predator (cats and mustelid) control maintenance within a rural landscape containing significant bush fragments Provide additional protection to important habitat or sites of regional significance and native species that will benefit from top predator control. Support and empower the local community to set and attain achievable biodiversity protection goals. Deliver economic benefits to sheep farming operations through the landscape scale reduction of the disease toxoplasmosis or the application of green credentials.

Sustained Control	Management Regime
Rabbits	A total of 66 rabbit enquiries for advice and assistance were received over the last 12 months. Assistance was provided in the form of Environment Topic handouts, verbal advice, and in some cases demonstrations on the use of Pindone pellets and Magtoxin for rabbit control. **Rabbit night counts** Rabbit night counts were undertaken this financial year across 28 sites. Data indicates a slight decrease in rabbit densities from 6 rabbits per kilometre in 2017 to 5.8 rabbits per kilometre in 2020. This is only a snapshot of rabbit populations in Hawke's Bay. Graph 1: Rabbit night counts  **Rabbit haemorrhagic disease** Regional surveillance was carried out during 2019 to assess the prevalence of rabbit haemorrhagic disease (RHD). Blood samples are obtained from rabbits by a contractor who is trained in a MAF approved method. Blood samples were taken from 165 rabbits from 16 sites across the Region. Immunity to RHD on a regional basis was detected to a slightly lesser extent in a larger number of areas compared to the previous surveys. This indicates that RHD immunity has decreased in some rabbit populations in the region. Of the 165 rabbits tested 56 or 33.9% tested positive of being exposed to RHD at some stage during their life cycle.

Graph 2: RHD Trends



3.4 Site-Led Pest Animals

The objective is to support coordinated and integrated control of pests in defined areas that protect and restore specific ecological or biodiversity values which are threatened or compromised by pests.

Site-led	Management Regime
Feral cats **Feral deer** **Feral goats** **Feral pigs** **Hedgehogs** **Mustelids** **Possums** **Rats**	The following table outlines the projects that received assistance through the site-specific programme. These projects form a wide range of initiatives from working with individual land users through to projects with significant local community involvement. Most projects have a strong focus on predator control to restore native birdlife.

Project	Hectares	Location
Whakaki wetland Trust	577	Wairoa
Wetewhakaawi / McGregors	579	Pakaututu
Campbell / Snelling	102	Wairoa
Manaroa QE2	450	Puketitiri
Waipatiki Valley	68	Waipatiki
Blowhard Bush	63	Kaweka
Whangawehi	340	Mahia
Maungataniwha Forest Trust	6,637	Willowflat
Birch Hill	1200	Porangahau
Waitangi Wetland	11	Napier
Clifton cricket club/ Te Awanga Downs	200	Te Awanga
Mike Walker	7	Bayview
Pekapeka	98	STH 2
Haumoana Community Care	969	Haumoana
ECOED	3200	Kaweka
Ngatapa	9543	Waipunga
Tutira Country Park	460	Tutira

Muddy Creek	63	Clive
Opoutama wetland	68	Mahia
Cow Shed wetland	20	Mahunga
Pringa Bush	13	Keraru
Trelinnoe Station	1200	Te Pohue
Little bush Reserve	12	Puketitiri
Napier Rd community rabbit control	17	Havelock nth
Esk Hills residents society	80	Bay view
A' Deanes Bush Buffer	40	Ashley Clinton
Lake Hatuma Shooters Society	200	Waipukurau
Whangahou Beach	216	Whangahou
Lake Oingo	270	Napier
Ahuriri Bittern Protection group	120	Ahuriri
Bel Group	10	Ashley Clinton
Gwavas Reserve	126	Gwavas

3.5 Education and Advice

The Biosecurity team continue to post regular articles in "Our Place", concentrating on rabbits, RHD, rooks, PCA updates and the use of maintenance contractors. Alongside pest plants, Pest Animal staff have worked closely with the HBRC Communications Team to implement a new HBRC Pest Hub website, including incorporating 21 factsheets covering all aspects of pest animal control.

3.6 Research Initiatives

A range of research initiatives have been completed as part of the stage two due diligence for wide scale predator control (WSPC). Almost all of the research undertaken in the project is available to be viewed at http://capetocity.co.nz/resources/reports/.

These initiatives include research in three main areas:

Optimising operational delivery

These projects include Wireless trap monitoring optimisation, landowner participation modelling, trap network optimisation, motion sensitive camera monitoring,

Outcome monitoring

There is a wide range of outcome monitoring taking place in the Cape to City project. This includes bird count monitoring, skinks and geckos, invertebrates, and toxoplasmosis monitoring. Several baseline surveys have been completed on landowner participation to be re-run in two to three years' time. Environmental DNA monitoring has also been completed and compared to traditional invertebrate monitoring scenarios.

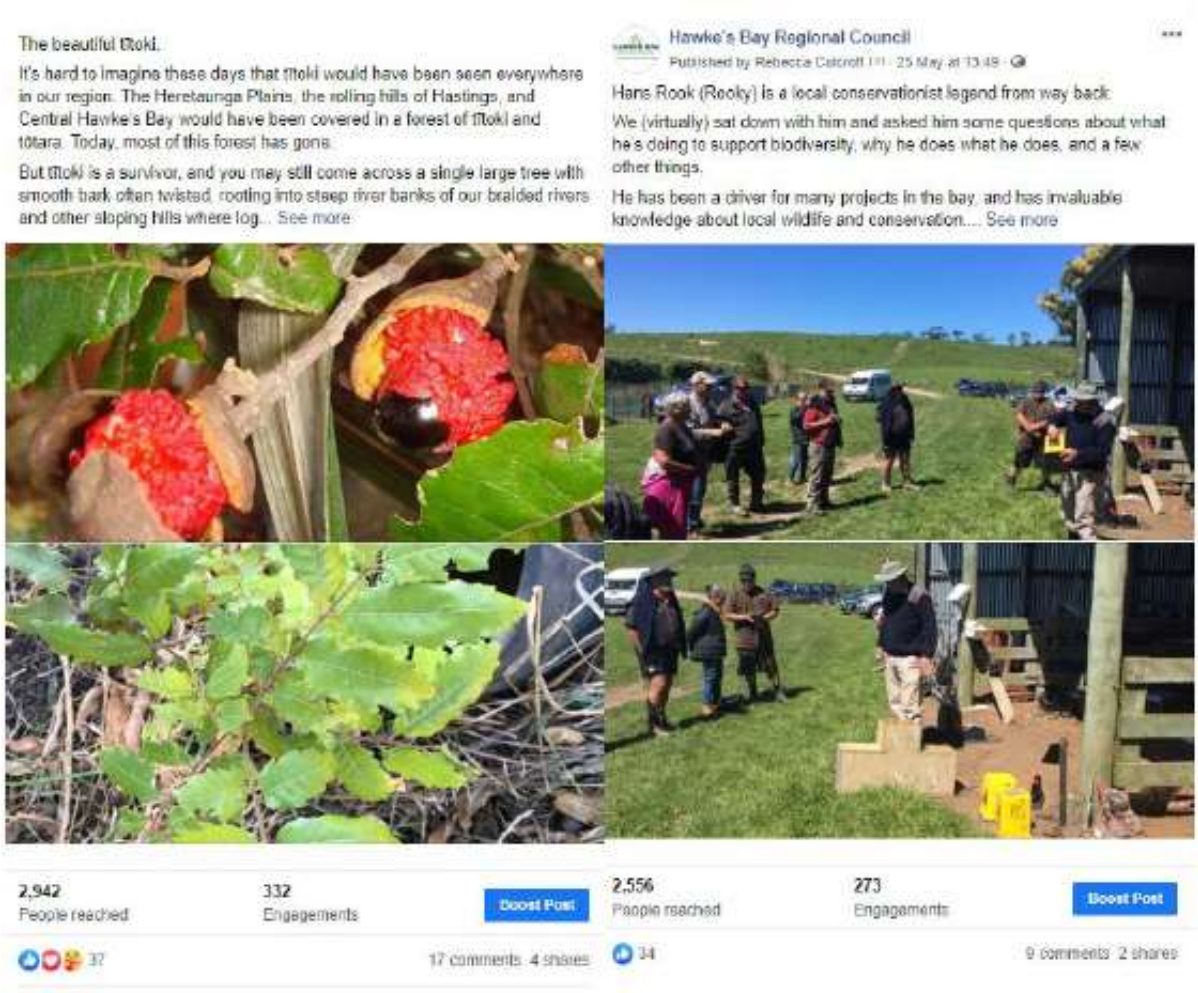
Habitat restoration

Biodiversity recovery is heavily reliant on native species having the habitat to live in, thrive and spread out from. Restoring habitat is therefore a key aspect of ecological restoration. Research has been conducted into habitat needs for different native species and spatial connectivity across the farmland land scape.

4 Communications

In 2019, the biodiversity and biosecurity communications and engagement plan was updated, to plan and implement strategic communications. This included seasonal activities for public awareness and information, such as the river bird survey and pest control work around the region.

August 2019 and May 2020 were dedicated months focussed on biosecurity and biodiversity respectively. Both months included media releases, social media, web content, and internal comms. While both months were a success, biodiversity month in May was particularly so with three releases sent out and reported on, 21 social media posts with high levels of engagement, updated web content with high visitor numbers, internal comms that were well received. An example of a highly engaged post was about titoki and local legend, former DOC staffer Hans Rook.



Website and pest control hub

Council revamped the Biosecurity webpage to make it easier to quicker to access the desired information. This included introducing a comprehensive pest control hub. The hub went live in July 2020.

The pest hub provides a very user-friendly web hub of all the pest plants and animals, including marine pests, and diseases, that fall under the Regional Pest Management Plan. It also includes many other pests in New Zealand, including those not currently known to be found in Hawke's Bay. There is the opportunity to report pests, including a geo location, provides detailed information about pests including descriptions of the pest, photos, what harm or damage they may cause, and how they can be controlled. Management programmes

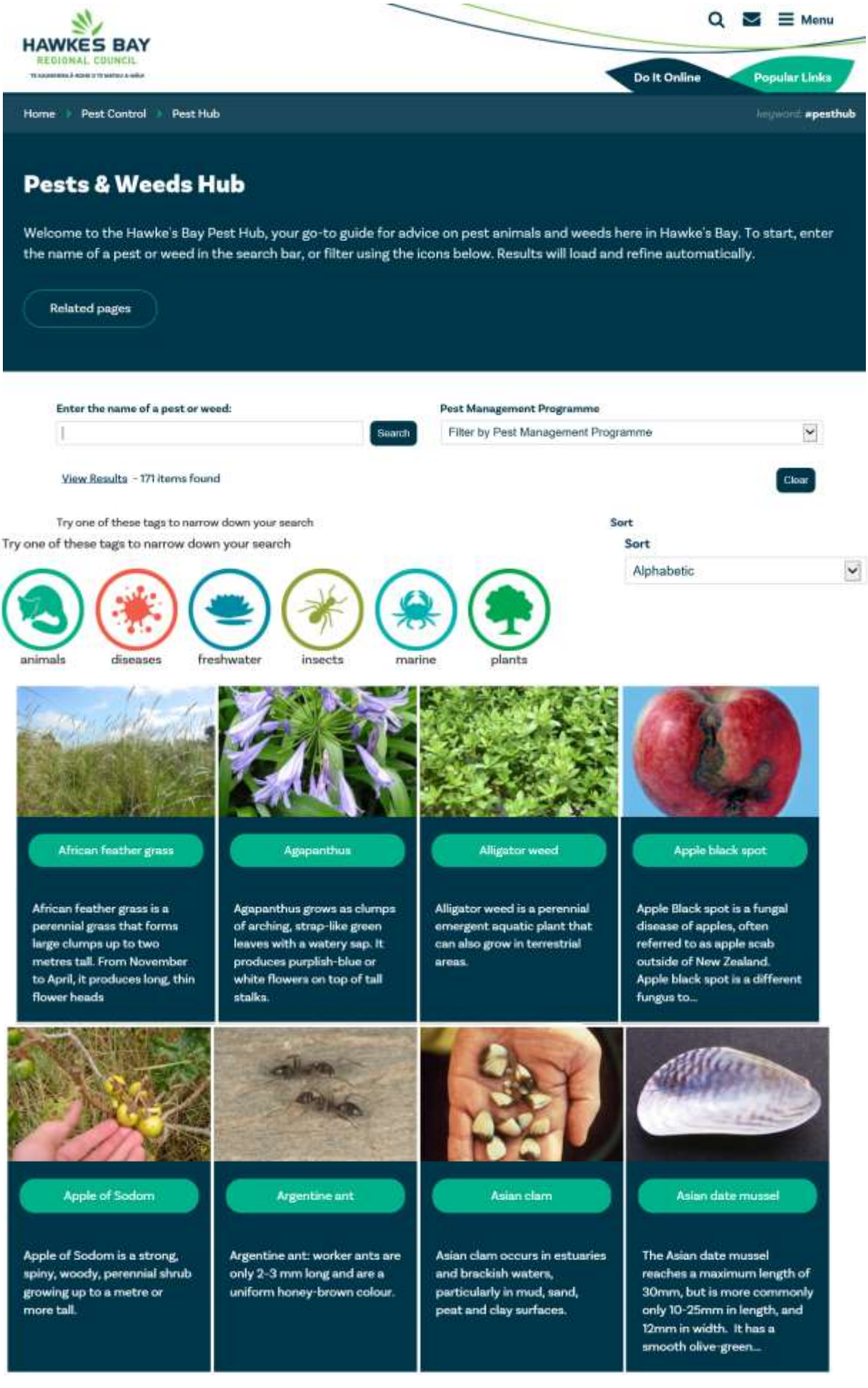
and rules relating to each pest are included which lets people know if they need to take any steps if found on their property - https://www.hbrc.govt.nz/environment/pest-control/pest-hub/

Web stats:

Web Page	Visits – July 2019 to June 2018
Pest hub	0
Plant pests	931
biosecurity	865
Chilean needle grass	602
Animal pests	559
Marine pests	128

Attachment 1

Item 9



2020-2021 Operational Plan

Regional Pest Management Plan 2018-38

October 2020
Hawkes Bay Regional Council Publication No. 5529

HAWKES BAY
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HAWKES BAY REGIONAL COUNCIL
TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

(06) 835 9200
0800 108 838
Private Bag 6006 Napier 4142
159 Dalton Street . Napier 4110

Catchment Services

2020-2021 Operational Plan

Regional Pest Management Plan 2018-38

October 2020
Hawkes Bay Regional Council Publication No. 5529

Prepared By:
Mark Mitchell, Acting Manager, Catchment Services

Approved By:
Iain Maxwell – Group Manager – Integrated Catchment Management

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Version

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Tables

Introduction

Regional councils have a mandate under Part 2 of the Biosecurity Act 1993 (the Act) to provide regional leadership in activities that prevent, reduce, or eliminate adverse effects from harmful organisms that are present in their region.

This operational plan sets out how Hawke's Bay Regional Council (HBRC) will implement the objectives set out in the Hawke's Bay Regional Pest Management Plan 2018-38 (the RPMP). This operational plan is effective from July 2020 to 30 June 2021.

Background

Hawke's Bay Regional Council is the management agency responsible for developing and implementing the Hawke's Bay Regional Pest Management Plan 2018-2028 in accordance with the Biosecurity Act 1993.

The RPMP sets out policies and rules that in combination seek to achieve the eradication or effective management of specified pests or groups of pests. It describes the biosecurity activities that will be undertaken throughout Hawke's Bay and outlines the management or eradication of specific organisms. Doing so will:

- minimise the actual or potential adverse or unintended effects associated with these organisms, and,
- maximise the effectiveness of individual actions in managing pests through a regionally coordinated approach.

As the management agency, Council is required to prepare an annual operational plan that sets out how the plan is to be implemented. Following the end of each financial year, staff will report to Council on the implementation of the operational plan.

This plan is the operational (management) response to supporting or directly achieving the objectives contained within the RPMP and is delivered by the Biosecurity team of the Catchment Services section within the Integrated Catchment Management (ICM) group.

1 Integration with Annual Plan

As far as practicable, the Operational Plan has been integrated with council's Annual Plan. The Annual Plan sets the overall priorities and work programmes for the organisation and provides an overview of related pest management activities for the 2020/21 year. Implementation costs are included in the Annual Plan.

2 Integration with Biodiversity Activities

HBRC has responsibilities to manage biodiversity under the Resource Management Act 1991. The management of high value biodiversity areas across the region is coordinated by the Biodiversity team of the Catchment Services team within the ICM group. Pest plant and pest animal control is a key method for managing native biodiversity, requiring ongoing investment of council resources, with resources allocated to the Ecosystem Prioritisation programme. This programme focuses on managing the areas of highest biodiversity value in Hawke's Bay, which includes ongoing coordinated pest control. Implementation of this programme requires close coordination with the Pest Plant, Pest Animal and Predator Free Hawke's Bay teams. This work is complemented by other efforts such as deer fencing to exclude feral deer and advocating for legal protection under QEII and other covenanting agencies.

3 Pest Categories

Exclusion Pests

The purpose of this category is to prevent the establishment of a pest which is present in New Zealand but not yet established in the region. Eradication of an incursion exclusion pest will be attempted by the Council in conjunction with other agencies such as MPI, DOC and neighbouring Regional Councils.

Eradication Pests

The purpose of this category is to reduce the incidence or density of a pest to zero levels in an area in the short to medium term. For pests such as rooks, this could take over 30 years to achieve.

Progressive Containment Pests

The intermediate outcome for this category is to contain and reduce the geographic distribution of the pest to an area over time. Progressive containment pests are those where a pest is at high densities in parts of Hawke's Bay, but of low extent or limited range. Eradication is not feasible region-wide, but it is feasible to prevent the pest from spreading to other parts of Hawke's Bay or to eradicate the pest from parts of Hawke's Bay.

- Existing populations will be monitored and, where appropriate, systems set in place to prevent further spread.
- New technologies and methods will be investigated and introduced where possible.

Sustained Control Pests

The purpose of this category is to ensure pests are being controlled, to reduce its impacts on values and spread to other properties. This may include boundary control of pest plants or suppression of a pest animal over a large geographic are where eradication is not possible.

4 Pests contained within the RPMP

Table 4-1: Number of Pest Species in the Plan.

Number of species (or groups of species) in the Regional Pest Management Plan					
Type of pest	Exclusion	Eradication	Progressive containment	Site led	Sustained control
Plants	5	8	11		9
Animals	1	2		8	5
Phytosanitary					5
Marine	2				

**Note some species have more than one programme.*

Table 4-2: Pest Plant species included in RPMP

Common Name	Scientific Name	Programme
African feather grass*	*Cenchrus macrourus*	Eradication
Alligator weed*	*Alternanthera philoxeroides*	Exclusion
Apple of Sodom	*Solanum linnaeanum*	Progressive Containment
Australian sedge	*Carex longebrachiata*	Progressive Containment
Bathurst bur	*Xanthium spinosum*	Sustained Control

Common Name	Scientific Name	Programme
Blackberry	*Rubus fruticosus* agg.	Sustained Control
Cathedral bells*	*Cobaea scandens*	Eradication
Chilean needle grass*	*Nassella neesiana*	Sustained Control
Cotton thistle	*Onopordum acanthium*	Progressive Containment
Darwin's barberry*	*Berberis darwinii*	Progressive Containment
Goats rue	*Galega officinalis*	Eradication
Gorse	*Ulex europaeus*	Sustained Control
Japanese honeysuckle	*Lonicera japonica*	Progressive Containment
Marshwort*	*Nymphoides geminata*	Exclusion
Noogoora bur	*Xanthium strumarium*	Exclusion
Nassella tussock*	*Nassella trichotoma*	Progressive Containment
Nodding thistle	*Cardus nutans*	Sustained Control
Old man's beard*	*Clematis vitalba*	Progressive Containment
Phragmites*	*Phragmites australis*	Eradication
Purple loosestrife*	*Lythrum salicaria*	Eradication
Privet (Chinese and tree)	*Ligustrum sinense, L. lucidum*	Sustained Control
Ragwort	*Jacobaea vulgaris*	Sustained Control
Saffron thistle	*Carthamus lanatus*	Progressive Containment
Senegal tea*	*Gymnocoronis spilanthoides*	Exclusion
Spartina	*Spartina alterniflora, S. anglica, S. gracilis, S. maritime, S. x townsendii*	Exclusion
Spiny emex	*Emex australis*	Eradication
Variegated thistle	*Silybum marianum*	Sustained Control
Velvetleaf*	*Abutilon theophrasti*	Progressive Containment
White-edged nightshade*	*Solanum marginatum*	Eradication
Wilding Conifers	*Ref glossary pg 102*	Progressive Containment
Woolly nightshade*	*Solanum mauritianum*	Progressive Containment
Yellow bristle grass	*Setaria pumila*	Sustained Control
Yellow water lily*	*Nuphar lutea*	Eradication

** Unwanted organisms (as declared by a Chief Technical Officer)*

Table 4-3: Pest Animal species included in RPMP

Common Name	Scientific Name	Programme
Feral cat	*Felis catus*	Sustained Control, Site-led
Feral deer (incl. hybrids)	*Cervus elaphus, C. nippon, C. dama*	Site-led
Feral goat	*Capra hircus*	Sustained Control, Site-led
Feral pig	*Sus scrofa*	Site-led
Hedgehog	*Erinaceus europaeus*	Site-led
Mustelids (ferret, stoat, weasel)	*Mustelo furo, M. ermine, M. nivalis*	Sustained Control, Site-led
Possum	*Trichosurus vulpecula*	Eradication, Sustained Control, Site-led
Rabbit	*Oryctolagus cuniculis*	Sustained Control
Rat (Norway and ship)	*Rattus norvegicus, R. rattus*	Site-led
Rook*	*Corvus frugilegus*	Eradication
Wallaby (Bennett's, dama, parma, brush-tailed rock and swamp)*	*Macropus rufogriseus rufogriseus, M. eugenii, M. parma, Petrogale pencillata, Wallabia bicolour*	Exclusion

** Unwanted organisms (as declared by a Chief Technical Officer)*

Table 4-4: Marine Pests species included in RPMP

Common Name	Scientific Name	Programme
Mediterranean fanworm**	*Sabella spallanzanii*	Exclusion
Clubbed tunicate	*Styela clava*	Exclusion

*** Notifiable organism (s45 Biosecurity Act)*

Table 4-5: Phytosanitary Pests species included in RPMP

Common Name	Scientific Name	Programme
Apple black spot	*Venturia inaequalis.*	Sustained Control
Codling moth	*Cydia pomonella*	Sustained Control
European canker	*Neonectria ditissima*	Sustained Control
Fireblight	*Erwinia amylovora*	Sustained Control
Lightbrown apple moth (Leafroller)	*Epiphyas postvittana*	Sustained Control

This operational plan details the Plan objective for the control of the pests defined within the RPMP and provides a brief description of what activities HBRC will undertake to achieve the stated objective.

5 Principle Measures

This plan and the RPMP are based on the following core areas of HBRC's responsibility:

Regulation (standards and enforcement)

Standards, rules and restrictions are set, and compliance enforced with penalties, when and where necessary.

Inspection

Regular property inspections ensure that rules and regulations are being met and changes in pest densities are determined over time.

Monitoring

Undertaking monitoring for pests in the region to determine their presence, distribution and effects, and to measure the extent to which the objectives of the RPMP are being achieved.

Direct control

Funding and undertaking pest control in some circumstances as a service for regional benefit.

Advice and education

Free advice is given to raise awareness of pest problems and to provide land occupiers with the information to control their own pests.

Community initiatives

Guidance and support are provided for community driven initiatives to control pests.

Cost recovery

A full cost recovery operational service is available for pest control.

Biological control

As approved biological control agents become available, HBRC may elect to utilise them. Biocontrol is currently a key tool in the management of rabbits and various pest plant and other harmful species.

6 Pest Plants

6.1. Exclusion Pest Plants

Objective

Prevent the establishment of exclusion pest plants in the Hawke's Bay region.

Targets

Conduct searches in areas vulnerable to infestation, follow up on reported sightings and raise public awareness of exclusion pests. Develop partnerships with other organisations and community groups that have expertise or an interest in protecting the environment.

Eradication of exclusion species will be attempted by HBRC in conjunction with relevant Crown agencies and stakeholders where practicable.

Council will provide training to relevant council staff and stakeholders about the identification of the exclusion pests to assist in early detection. Council will provide advice, attend events, and undertake publicity campaigns to increase public awareness of exclusion pests.

Exclusion	Management Regime
Alligator weed	Develop partnerships with interested and relevant parties to extend the area monitored for the presence of these pest plants. Investigate possible pathways for these pest plants to move into Hawke's Bay. Respond to reports of this pest, using powers under the Biosecurity Act if required
Marshwort	
Noogoora bur	
Senegal tea	
Spartina	

6.2. Eradication Pest Plants

Objective

Destroy all known infestations of these species within the Hawke's Bay region, prior to seed set.

Targets

Undertake direct control through service delivery at all known sites. Assessment of existing infestation points to decide whether any surveys are required. Inspection and delimit regime to be carried out at all known sites.

Control work will be undertaken annually by council staff, contractors, partners and/or stakeholders and data will be recorded in Clover.

Eradication	Management Regime
African feather grass	HBRC will destroy all infestations prior to seed set.
Cathedral bells	
Goats rue	
Purple loosestrife	
Spiny emex	
White edged nightshade	
Yellow water lily	
Phragmites	In accordance with the contract between HBRC and Ministry of Primary Industries, HBRC will destroy all infestations prior to seed set.

6.3. Progressive Containment Pest Plants

Objective

Progressively contain and reduce the geographic distribution of the pest plant either across the region or specified areas within the region.

Targets

Through a combination of direct control (service delivery) and occupier responsibility (monitoring and compliance) all known infestations will be controlled prior to seed set where practical.

Council staff will control populations within the containment area through a variety of control methods, including but not limited to spraying. The long-term goal for many of these pests is eradication but is not feasible within the short to medium term.

Council staff will also support communities to reduce the impact of progressive containment pests through regulatory and non-regulatory biosecurity programmes.

Progressive containment	Management Regime
Apple of Sodom	Occupiers are responsible for the control of Apple of Sodom on their land and may qualify for a subsidy under the incentive scheme. HBRC will at its discretion control some known infestations prior to seed set where it is practical to do so.
Australian sedge	
Cotton thistle	
Darwin's barberry	
Japanese honeysuckle	
Saffron thistle	
Velvetleaf	
Woolly nightshade	
Nassella tussock	Occupiers are responsible for the control of Nassella tussock on their land and may qualify for a subsidy under the incentive scheme. HBRC will at its discretion control known infestations prior to seed set.
Old man's beard	As stated in the RPMP, Old Man's Beard (OMB) is not as widespread North of SH5 as it is South of this area, therefore it is beneficial to require occupiers to continue to control old man's beard north of SH5. Occupiers North of SH5 are responsible for the control of Old man's beard on their land and may qualify for a subsidy under the incentive scheme. HBRC will at its discretion control some known infestations prior to seed set where it is practical to do so. There is also a progressive containment programme along the Ruahine and Kaweka ranges, to prevent the establishment of Old man's beard in the ranges. HBRC, upon forming an agreed work programme with the Department of Conservation, will control all Old man's beard within a 500-metre buffer zone along the edge of the Ruahine and Kaweka ranges (as per map in RPMP 2018-38). South of SH5 and outside of the 500-metre buffer zone along the edge of the Ruahine and Kaweka ranges, Council will still encourage the control of OMB but will not enforce compliance. Land users below SH5 will still be eligible for the incentive scheme for the control of OMB. HBRC will at its discretion control some known infestations before seeds reach maturity where it is practical to do so.
Wilding Conifers	Occupiers are responsible for the control of Pinus contorta on their land and may qualify for a subsidy under the incentive scheme. HBRC will at its discretion control some known infestations where it is practical to do so. Occupiers are responsible for the control of Scots pine, mountain pine and dwarf mountain pine on their land in the designated containment area and may qualify for a subsidy under the incentive scheme. HBRC will at its discretion control some known infestations where it is practical to do so. HBRC will collaborate with other stakeholders to ensure the milestones it is responsible for within the Kaimanawa and Rangitaiki Management Units are completed, and MPI are supplied with all the necessary data required

6.4. Sustained Control Pest Plants

Objective

To provide for ongoing control of the subject, or an organism being spread by the subject, to reduce its impacts on values and spread to other properties.

Targets

A number of pests are well established in Hawke's Bay, many of which have been subject to various control aspirations over time. Preventing or minimising the spread of these pests between neighbouring properties is the primary objective.

Sustained Control	Management Regime
Bathurst bur	HBRC, upon receiving a written complaint, will ensure the occupier destroys all Bathurst bur within 5 metres of the property boundary that is adjacent to the adjoining occupier complainants boundary where the adjoining occupier is also destroying, or the land is clear of, all Bathurst bur.
Blackberry	HBRC, upon receiving a written complaint, will ensure the occupier destroys all Blackberry within 10 metres of the property boundary that is adjacent to the adjoining occupier complainants boundary where the adjoining occupier is also destroying, or the land is clear of, all Blackberry.
Chilean needle grass	Occupiers are responsible for the control of Chilean Needle grass on their land and may qualify for a subsidy under the incentive scheme. Chilean needle grass was identified in dry summer areas of Hawke's Bay - west of Napier, and at Bay View, Puketapu, Havelock North, Maraekakaho, Poukawa, Tukituki flood plain, Otane, Patangata, Waipawa, Waipukarau, Wakarara, Omakere, Onga Onga and Porangahau (approx. 665ha) There are infestations on river berm land and roadsides. Biosecurity staff will arrange for the control of Chilean needle grass on public land. On private land, occupiers are required to meet the rules outlined in the RPMP and control Chilean needle grass in accordance with their agreed management programmes. HBRC will at its discretion control some known infestations prior to seed set where it is practical to do so. HBRC will work with Marlborough District Council and Environment Canterbury in raising awareness of CNG within New Zealand. HBRC will encourage the use of the control tool, Flupropanate as required. HBRC will assist Marlborough District Council and Environment Canterbury in undertaking further Flupropanate trials to provide residue and efficacy data to the Environmental Protection Authority.
Gorse	HBRC, upon receiving a written complaint, will ensure the occupier destroys all Gorse within 10 metres of the property boundary that is adjacent to the adjoining occupier complainants boundary where the adjoining occupier is also destroying, or the land is clear of, all Gorse
Nodding thistle	HBRC, upon receiving a written complaint, will ensure the occupier destroys all Nodding thistle within 20 metres of the property boundary that is adjacent to the adjoining occupier complainants boundary where the adjoining occupier is also destroying, or the land is clear of, all Nodding thistle
Privet (Chinese and Tree)	Upon receipt by Council of a doctor's certificate/positive blood test clearly showing a person to be suffering a Privet allergy, Council will, within the urban area (50km speed zone or less), destroy any isolated Chinese and Tree privet plants within 50m of the residence or place of work of that person. If, upon inspection by Council, large numbers of plants exist, including as hedges, a direction will be served on the occupier to thoroughly prune to prevent flowering or destroy the plants. The Standard Operating Procedures for managing Privet are attached to this paper. (Appendix 1)
Ragwort	HBRC, upon receiving a written complaint, will ensure the occupier destroys all Ragwort within 20 metres of the property boundary that is adjacent to the adjoining occupier complainants boundary where the adjoining occupier is also destroying, or the land is clear of, all Ragwort. The presence of biological controls will be taken into consideration when a complaint is made.
Variegated thistle	HBRC, upon receiving a written complaint, will ensure the occupier destroys all Variegated thistle within 5 metres of the property boundary that is adjacent to the adjoining occupier complainants boundary where the adjoining occupier is also destroying, or the land is clear of, all Variegated thistle
Yellow bristle grass	HBRC will collaborate with roading authorities to manage likely vector pathways of Yellow bristle grass.

6.5. Biodiversity Pest Plants

These are plants that have a negative ecological effect which are managed outside of the RPMP. Plants that presently fall into this category are African love grass, Boneseed, Climbing spindleberry, Blue passion flower, Asiatic knotweed, Giant knotweed, Banana passionfruit, Cotoneaster, Mothplant, Feathertop grass, Pampas, Purple ragwort and Chilean rhubarb.

6.6. Biological Control of Pest Plants

HBRC continues to support research into biological control of pest plants. HBRC's priorities for further research into bio-control agents during the life of the RPMP are Calamint, Mothplant, Nassella tussock, and Japanese honeysuckle. Biological control agents for Ragwort, Nodding thistle, and Gorse are widespread and active in the region.

Over the duration of this operational plan staff will continue to work effectively to engage Maori land owners and hapu at a local and regional level in the consultation around new biocontrol releases.

6.7. National Pest Plant Accord

The Ministry of Primary Industries manages the National Pest Plant Accord, which has declared 135 plants as unwanted organisms under the Biosecurity Act. HBRC has agreed to be responsible for ensuring that people selling plants are conforming to the requirements of the Act, and not selling or propagating these plants. All pest plants and unwanted organisms are banned from sale and propagation under the Biosecurity Act. All retail outlets that are known to sell plants will be visited at least once every three years, to ensure that they are not selling any pest plant listed in the RPMP or the Pest Plant Accord.

6.8. General Advice and Information

Biosecurity staff will provide advice, attend events and undertake publicity campaigns to increase public awareness of pests. The information is intended to assist occupiers meet their obligations under the RPMP. Biosecurity staff will also assist with the general identification of plants, and provide information and education material about poisonous plants.

Staff will inspect plant outlets and markets within the Hawke's Bay region for the sale and/or propagation of RPMP species. Training will be provided to relevant staff and stakeholders in the identification of pests to assist in early detection.

HBRC implemented a new website called Pest Hub. It lists a large range of pests, including those listed within the RPMP. It contains information on their impact, best practice control techniques and has the ability to report a pest to HBRC staff. It can be found here: https://www.hbrc.govt.nz/environment/pest-control/pest-hub/

7 Pest Animals

7.1. Exclusion Pest Animals

Objective

Prevent the establishment of exclusion pest animals in the Hawke's Bay region.

Targets

Undertake surveillance of high risk areas/pathways. Follow up on reported sightings or reports of illegal releases and raise public awareness of exclusion pests. Develop partnerships with other organisations and community groups that have expertise or an interest in protecting the environment.

Eradication of exclusion species will be attempted by HBRC in conjunction with relevant Crown agencies and stakeholders where practicable.

Council will provide training to relevant council staff and stakeholders about the identification of the exclusion pests to assist in early detection. Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of exclusion pests.

Exclusion	Management Regime
Wallaby	Undertake active surveillance of high-risk areas/pathways for these pests. Develop partnerships with interested and relevant parties to extend the area monitored for the presence of these pests. Investigate possible pathways for these pest plants to move into Hawke's Bay. Respond to reports of this pest, using powers under the Biosecurity Act if required
Mediterranean fanworm	
Clubbed tunicate	

7.2. Eradication Pest Animals

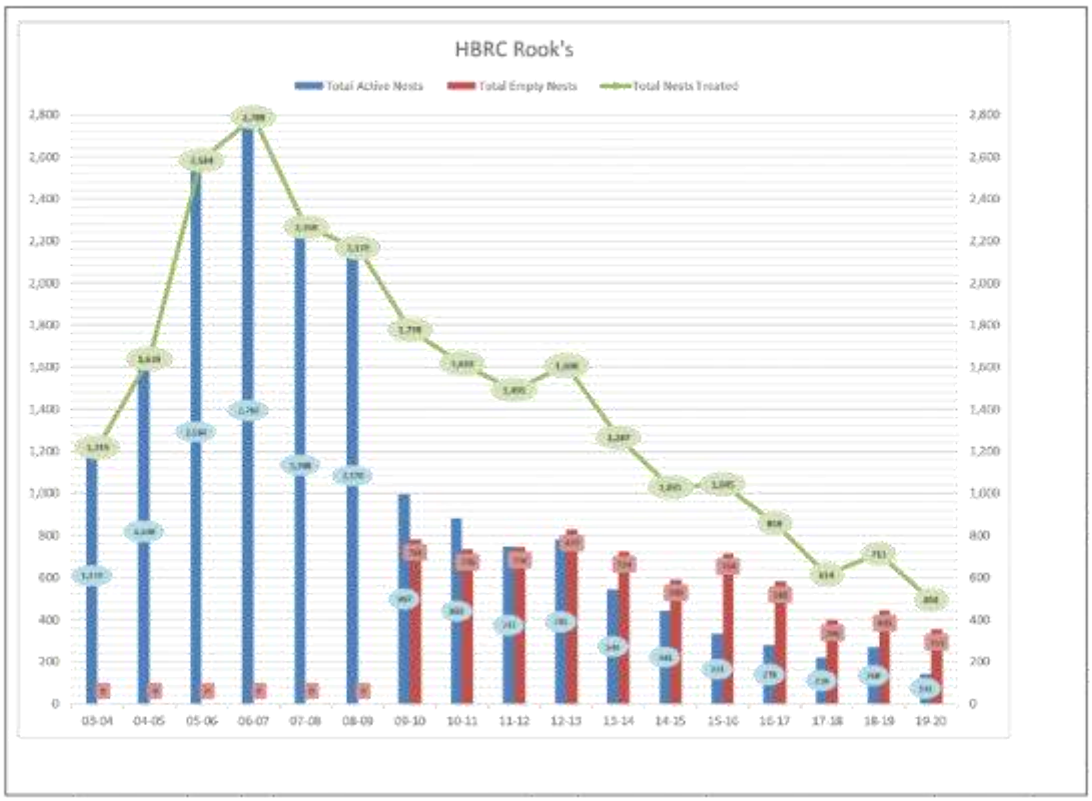
Objective

Eradicate rooks from the region. Have no active rookeries within 20 years of the commencement of the RPMP. Eradicate all possums contained within Possum Eradication Areas.

Targets

Destroy all active rook nests within the Hawke's Bay region and eradicate possums within those areas identified as Possum Eradication Areas. Inspect pet shops, online sales and wildlife shelters if reports are received of the sale and/or breeding of possums and rooks. Support appropriate research initiatives, including biological control should it become available. Undertake direct control through service delivery.

Eradication	Management Regime
Possum	A Possum Eradication Area is created once written agreements have been entered into with 75% or more of the total proposed land area. The Council will undertake possum eradication work within the entire Possum Eradication Area. Once possum eradication commences, land occupiers within the area shall maintain possum eradication status in accordance with the Hawke's Bay Regional Possum Control Technical Protocol (PN 4969).
Rook	Over the duration of the Plan, all active rook nests will be destroyed within the Hawke's Bay region. Information will be provided to land occupiers on rook identification, the potential adverse effects that they cause, who to contact for rook control, and the risks of inappropriate control.

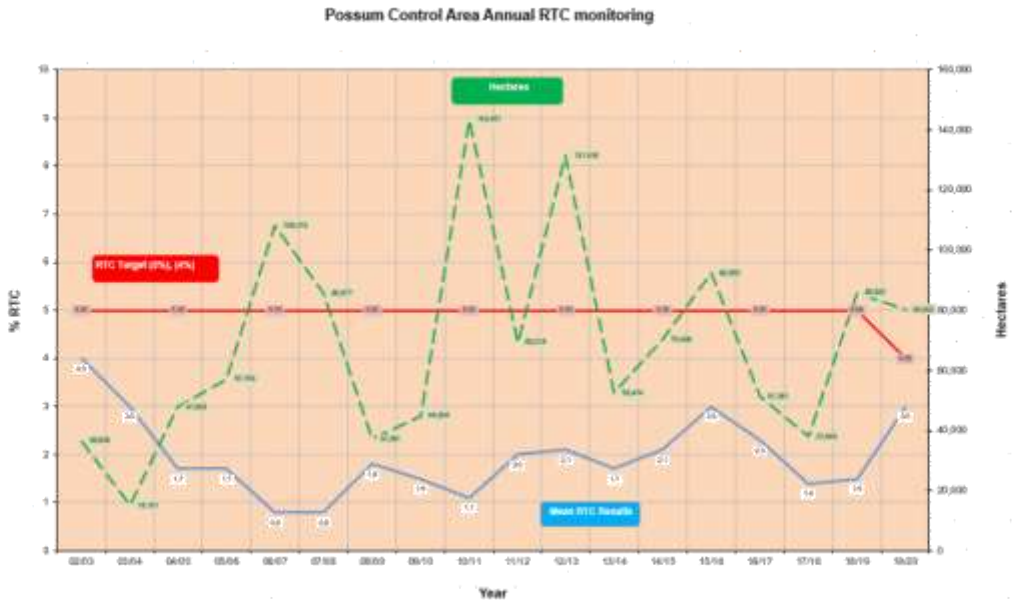


7.3. Sustained Control Pest Animals

Objective

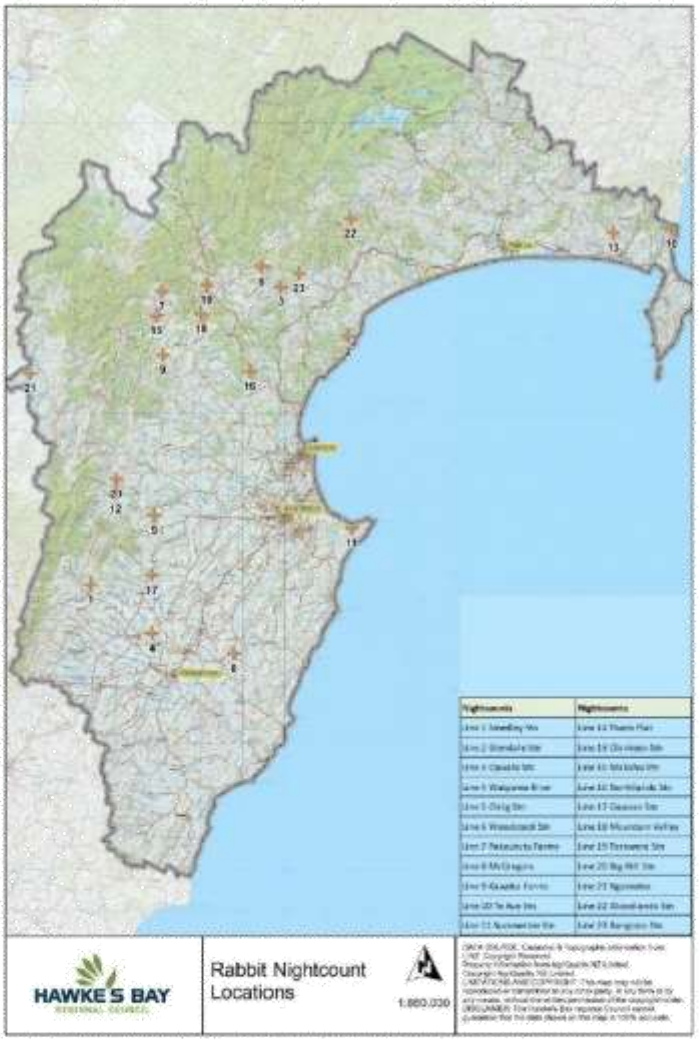
Over the duration of the Plan, sustainably control sustained control pest animals in order to minimise adverse effects on environmental values and economic well-being within the Hawke's Bay region.

Sustained Control	Management Regime
Feral Goat	Sustainably control feral goats on land contained within Feral Goat Coordinated Management Areas to zero density or to levels specified within a Written Management Agreement approved by Hawke's Bay Regional Council. A Feral Goat Coordinated Management Area is created once written agreements have been entered into with 75% or more of the total land area. The Council will coordinate initial feral goat control work within the entire Feral Goat Coordinated Management Area. Once feral goats have been reduced to low levels, occupiers within the area are required to maintain feral goats in accordance with this Protocol.

Sustained Control	Management Regime
Possum	Sustainably control possums contained within Possum Control Areas to ensure population density on that land is at or below 4% residual trap catch. An occupier within a Possum Control Area shall maintain possum densities on their land at or below 4% residual trap catch, in accordance with the Hawke's Bay Regional Possum Control Technical Protocol (PN 4969). Possum monitoring will be undertaken by council on a sample of properties within the PCA area to assess if properties are meeting the plan rule. Compliance action will be undertaken for properties that fail to meet the plan rule. This includes land where the Good Neighbour Rule applies. HBRC will support land occupiers in managing possum densities through providing best practice advice, a subsidy will be provided on a range of possum control products and financial assistance for managing possums in difficult terrain. Landowners who have a QEII block less than 20 hectares on their property are eligible to receive free possum bait sufficient to control possums within the QEII area. For landowners with QEIIs greater than 20 hectares, or where several small QEIIs are collectively greater than 20 hectares, HBRC arranges and pays for possum control.
	
Predators	Sustainably control stoats, ferrets, weasels and feral cats on land contained within Predator Control Areas to ensure population density on that land does not exceed levels outlined in the Hawke's Bay Regional Predator Control Technical Protocol (PN 4970). The Council will identify Predator Control Areas and will seek to enter into written agreements with individual landowners within those areas to undertake long term predator control maintenance. Once written agreements have been entered into with 75% or more of the total land area, the Council will undertake initial predator control work within the entire Predator Control Area. After initial predator control work has been undertaken, occupiers within the area will be required to maintain the listed pests in accordance with the Hawke's Bay Regional Predator Control Technical Protocol.

Sustained Control	Management Regime
Rabbits	Sustainably control rabbits to ensure population levels are maintained below Level 4 on the Modified McLean Scale (2012). The following will be undertaken: • Conduct targeted biannual surveillance of rabbit prone areas. • Conduct biannual monitoring of rabbits at known or suspected Rabbit Haemorrhagic Disease (RHD) areas. • Provide advice and education to land occupiers, including occupiers of small blocks, to help them control rabbits by the most efficient and effective means. • Monitor for compliance and where appropriate enforce the rabbit control rule. At its discretion, and as set out in an approved management programme, Council may meet up to 50% of the cost of rabbit control on rateable land where rabbit numbers exceed 4 on the McLean Scale. Council will continue to support research initiatives, including biological control, and release biological control agents for the control of feral rabbits when appropriate.

Rabbit night count locations



7.4. Site-Led Pest Animals

Objective

Support sustainable control of site-led pests at sites of ecological importance to levels appropriate for the protection of ecological values, recreational values and economic well-being within the Hawke's Bay region.

Targets

Coordinated and integrated control of pests in defined areas that protect and restore specific ecological or biodiversity values which are threatened or compromised by pests. Sites include:

- Ecosystem Prioritisation (Hawke's Bay Regional Council)
- Recommended Areas for Protection (Department of Conservation)
- Sites of Special Wildlife Interest (Department of Conservation)

Site-led	Management Regime
Feral cats **Feral deer** **Feral goats** **Feral pigs** **Hedgehogs** **Mustelids** **Possums** **Rats**	Support land occupiers and community groups in managing site-led pests at areas of high biodiversity value though technical information, best practice control techniques and provision of traps or ungulate control. An agreement will be signed with the land occupier agreeing to utilise the traps and undertake best practice. HBRC staff will work with other groups to maximise outcomes of council programmes e.g. Erosion Control Scheme, Predator Free Hawke's Bay, Environmental Enhancement projects, Ecological Management and Enhancement Plans.

8 Phytosanitary Pests

Objective

Sustainably control apple black spot, codling moth, European canker, fireblight and lightbrown apple moth on unmanaged pipfruit production sites to protect economic well-being of the pipfruit industry within the Hawke's Bay region.

Targets

Occupiers of unmanaged pipfruit production sites shall, on receipt of a written direction from an Authorised Person, control:

- Apple black spot (Venturia inaequalis) on their land from the presence of green tips until fruit maturity/harvest; and
- Codling moth (Cydia pomonella) on their land if five (5) or more codling moths are caught in any one codling moth pheromone trap during any calendar week on their land;
- European canker (Neonectria ditissima) by inspecting all pipfruit trees on their land at least four times during the year, applying post-harvest sprays if canker is found and removing and burning all infected pipfruit tree parts showing any presence of European canker; and
- Fireblight (Erwinia amylovora) on their land during the pipfruit bloom period (from pink to petal fall); and
- Lightbrown apple moth (Leafroller) (Epiphyas postvittana) on their land once thirty (30) lightbrown apple moths are caught in any one lightbrown apple moth pheromone trap on their land from the 15th December until fruit harvest.

Sustained Control	Management Regime
Phytosanitary pests	Resolving apple black spot, codling moth, European canker, fireblight or lightbrown apple moth control disputes between neighbouring parties will be undertaken by HBFGA in the first instance. If pest monitoring on the affected managed pipfruit production site over a reasonable time period confirms that: • there is a clear difference in the management inputs required to control phytosanitary pests compared to the previous three years; and • monitoring results indicated that the phytosanitary pest outbreak is more severe along the boundary with the adjacent unmanaged pipfruit production site; Then HBFGA will advise the occupier of the unmanaged pipfruit production site(s), that they are deemed to be an exacerbator of phytosanitary pests. HBFGA will be entitled to give the occupier of the unmanaged pipfruit production site(s) 14 days to reach an agreement. If agreement cannot be reached and/or control is not undertaken within that time, HBFGA will advise Hawke's Bay Regional Council of the situation and seek a direction to control phytosanitary pests on the unmanaged pipfruit production site. On receiving advice regarding the situation, Hawke's Bay Regional Council will initiate appropriate enforcement procedures under the Biosecurity Act for the control of the phytosanitary pests.

9 Financial Summary

Council's Long Term Plan 2018 - 2028 provides the necessary funding, via rates and user charges, for the operational and planning activities associated with pest management.

The 2020-2021 Long Term Plan and Revised expenditure budgets are summarised in the table below:

Biosecurity 20-21 Annual Expenditure	LTP	Revised
Pest Management Strategies	$ 89,308	$ 105,006
Plant Pest Control	$ 929,122	$ 1,031,869
Rabbit control	$ 56,970	$ 60,431
Possum control	$ 1,158,921	$ 1,136,467
Site specific pest animal control	$ 99,651	$ 96,590
Cape to City - wide scale predator control	$ 382,206	$ 419,748
Rook control	$ 131,617	$ 133,159
Possum Bait and Rabbit Subsidy	$ 96,419	$ 94,679
Pest Annual General Advice	$ 44,749	$ 50,094
Pest Animal Research	$ 57,676	$ 58,769
Marine Pests/Horticulture & Pipfruit	$ 84,672	$ 102,365
Predator Free Hawkes Bay	$ 483,087	$ 557,178
Rate collection costs (overhead)	$ 45,528	$ 51,806
	$ 3,659,926	$ 3,898,161

10 Measuring Performance

The following criteria will be used to measure the success or otherwise in implementing the Operational Plan:

- Completion rate of programmes contained within this Operational Plan;
- Results from trend monitoring undertaken, and an assessment of these results;
- The number of enquires received, and a summary of those enquires;
- The education initiatives undertaken during the year;
- The number of Notice of Directions issued, the level of compliance with those notices, and any follow-up activity undertaken;
- The outcomes of all service delivery operations undertaken;
- The results of biological control research and monitoring, and the number of bio-control releases undertaken;
- All research initiatives to which contributions have been made during the year; and
- Any cross-boundary issues that arose and how they were resolved.

11 Implementation Report

A report on the Operational Plan and the success or otherwise of its implementation will be prepared no later than five months after conclusion of the financial year. A copy of this report will be provided to council.

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

Wednesday 04 November 2020

Subject: HERETAUNGA PLAINS FLOOD CONTROL SCHEME REVIEW UPDATE

Reason for the report

1. This item provides the Committee with an update on the Level of Service (LoS) review of Heretaunga Plains Flood Control Scheme (HPFCS) rivers, including progress and future milestones.

Executive Summary

2. Staff will present the key activities and achievements of the project to date.
3. The project was last presented to Council in July 2020, since then we have updated the work program to respond to the additional funding from Government's Flood Control Resilience Funding.
4. A comprehensive land investigation has been undertaken by The Property Group to confirm and set the extent of the study area for land located on both banks of the HPFCS rivers. A 100m corridor on both banks of each of the rivers to evaluate property risks in regard to land tenure and land use. An overall risk profile for each land parcel has been developed for each river, data is hosted on a GIS site. This work will facilitate land borrow site identification, access requirements, easement instruments and potential land purchase.
5. As part of the LOS program of work, we reviewed the flood frequency analysis for the Tutaekuri Rivers in 2020, with 30 years additional hydrologic data from the previous analysis (1989). The current (2020) analysis shows that the 100 year flow estimate in 1989 is equivalent to today's 500 year flow estimate. This has been independently reviewed by NIWA.
6. The result of the analysis for the Tutaekuri River is that the current stopbank heights provide adequate protection from overtopping in a 0.2% AEP (1:500yr) event. Other failure modes need to be examined to determine the risk of failure during the 0.2% AEP event. These items are discussed further below.
7. Modelling of the Ngaruroro River will be completed in December 2020 with a focus to identify and prioritise physical works in FY2021-22 and FY2022-23. The Lower Tukituki River and Clive River modelling is scheduled to be completed by July 2021.
8. A consequences of failure mapping exercise was undertaken for all rivers. Two sites on the Tutaekuri River (Moteo and Taradale) were selected for geophysical and geotechnical investigations in preparation for scoping and strengthening works of the existing stop bank assets. Engineering design options will be developed following geotechnical assessments and physical works will be programmed for start in October 2021. Maps are attached.
9. A priority has been placed to identify sites for improvement works on the Tutaekuri river to meet Crown funded physical works programme for FY20-21 due to the completion of modelling and condition assessments on this river. Refer to attachment 2.

Strategic Fit

10. This project aligns with council strategy and priority under:
    - 10.1. Climate change and resilience
    - 10.2. Sustainable services and infrastructure.

Background

11. Through the 2012-2022 LTP, it was identified that investment would occur from 2015-2016 onwards “to upgrade stop banks and river edge protection necessary to provide the required level of service (following the Level of Service review).
12. Through the 2015 LTP process, HBRC noted that Level of Services will be reviewed over time but no further specific consultation was carried out.
13. In 2018-2028 LTP consultation document “Facing our Future,” we informed and listed some major projects and consolation process for next 30years. The project Heretaunga Plains Scheme named in this document states “Improve flood carrying capacity from a 1 in 100 year event level to a 1 in 500 year level, in response to climate change.“
14. No further consultation with public has been carried out since the Facing the Future document (2018-28 Consultation document) was released.
15. A budget of $20M (not including Crown funding) was allocated in the 2018 LTP for the next 10 years.

Discussion

16. Modelling for Tutaekuri River has indicated confirmation that existing stop bank heights currently provide protection for the risk of overtopping during a 1 in 500 year (0.2% AEP) flood event.
17. Non-destructive geophysical testing and destructive geotechnical testing allows us to categorise residual risks and likelihood of other failure modes due to increased velocities and shear stresses. Engineering options shall be developed to mitigate failure modes by means of strengthening, augmenting or replacing assets.
18. The effects of climate change as a relative increase to hydrologic modelling data is not well defined. The range for each of the representative concentration pathway (RCPs) scenarios presents considerable uncertainty. The subsequent increase in flow rate for hydrologic modeling of the HPFCS rivers has been estimated between 5%-39%.
19. Over the next 5 years NIWA is scheduled to investigate in detail the impact of climate change on flood response in NZ to reduce this level of uncertainty.
20. Furthermore, due to significant variations in the scale, the decision on the appropriate climate change scenario to adopt is dependent on council’s appetite for risk (to be discussed during presentation).

Next Steps

21. Engineering design options shall be developed for Moteo and Taradale sites following geophysical and geotechnical assessments to align with Crown funding physical works programme for FY2020-21.
22. HBRC will engage a third-party consultant (river engineer) to assist in detailed options analysis for the HPFCS. This will provide an independent overview of our schemes and offer any opportunities to investigate other options not yet considered.
23. Each individual engineering design work package generated for this project will be distributed to prequalified consultants who meet the requirements of a Panel Agreement for Engineering Services.
24. A regular update of the project will be reported to each EICC meeting.

Decision Making Process

25. 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 *"Heretaunga Plains Flood Control Scheme Review Update"* staff report.

Authored by:

Martina Groves
REGIONAL ASSET MANAGER

David Keracher
ACTING MANAGER
REGIONAL PROJECTS

Approved by:

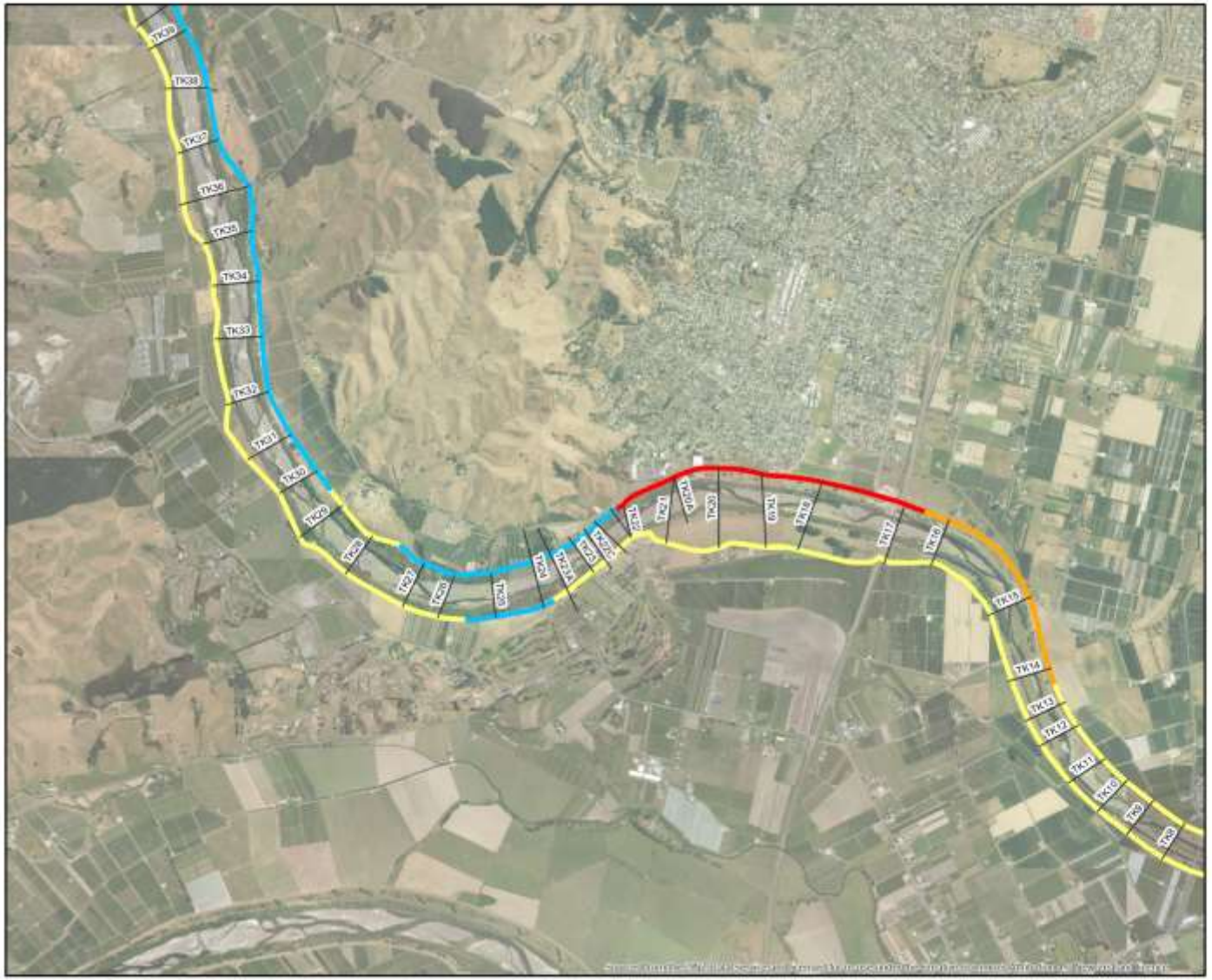
Chris Dolley
GROUP MANAGER
ASSET MANAGEMENT

Attachment/s

⇩**1** Consequences of Failure Mapping

⇩**2** Tutaekuri Sites for Improvements

Consequences of failure mapping (Tutaekuri river)



N

Legend

Consequences_of_failure

- N/A
- 1
- 2
- 3
- 4
- 5

Project:
Flood Protection Asset (FPA) Performance and Risk Assessment

Title:
Tutaekuri
Consequences of failure

Map 2 of 3

DATA FROM: Information obtained from the Hawke's Bay Regional Council's Geographic Information Systems Database

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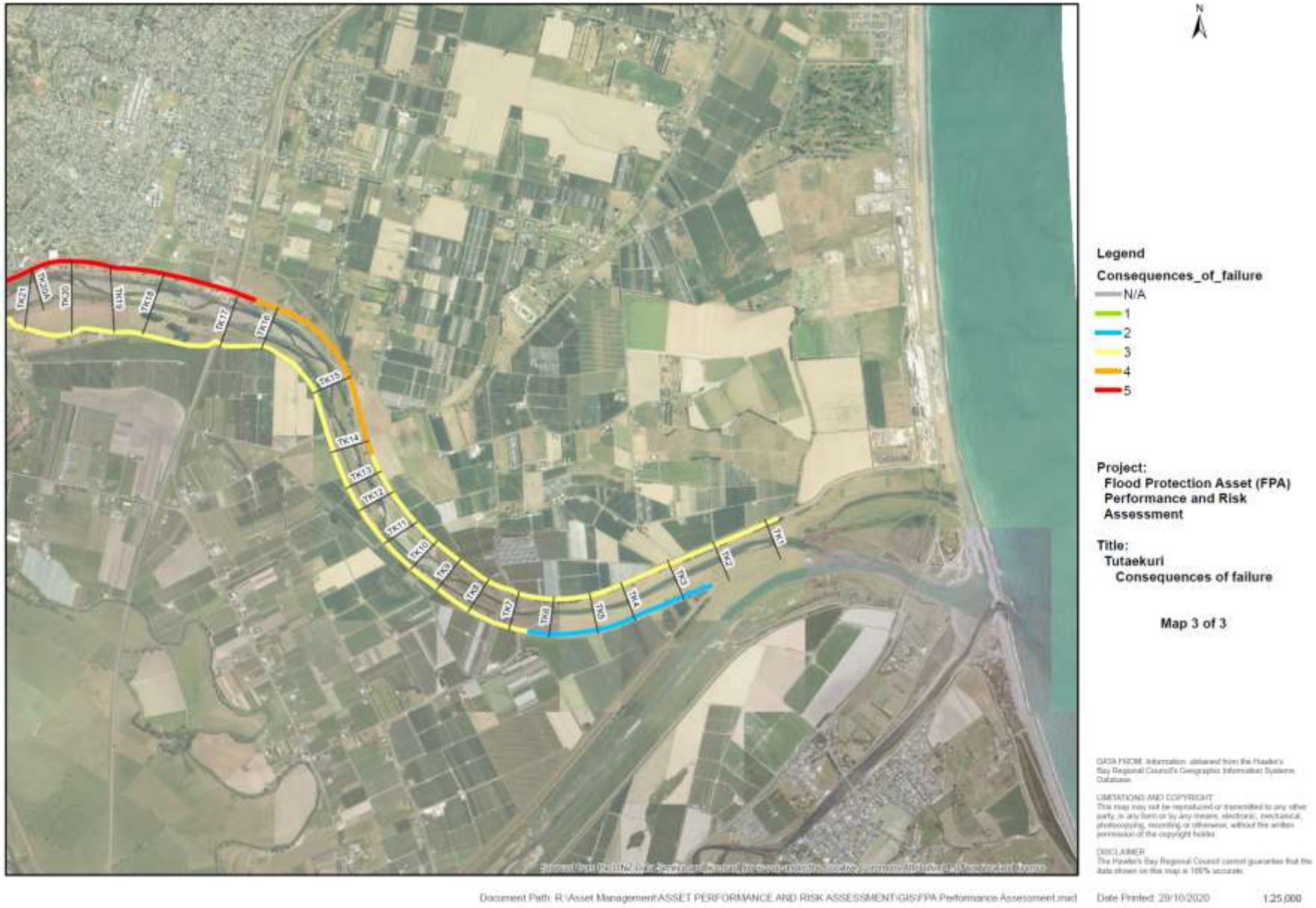
Document Path: R:\Asset Management\ASSET PERFORMANCE AND RISK ASSESSMENT\GIS\FPA Performance Assessment.mxd Date Printed: 29/10/2020 1:25,000



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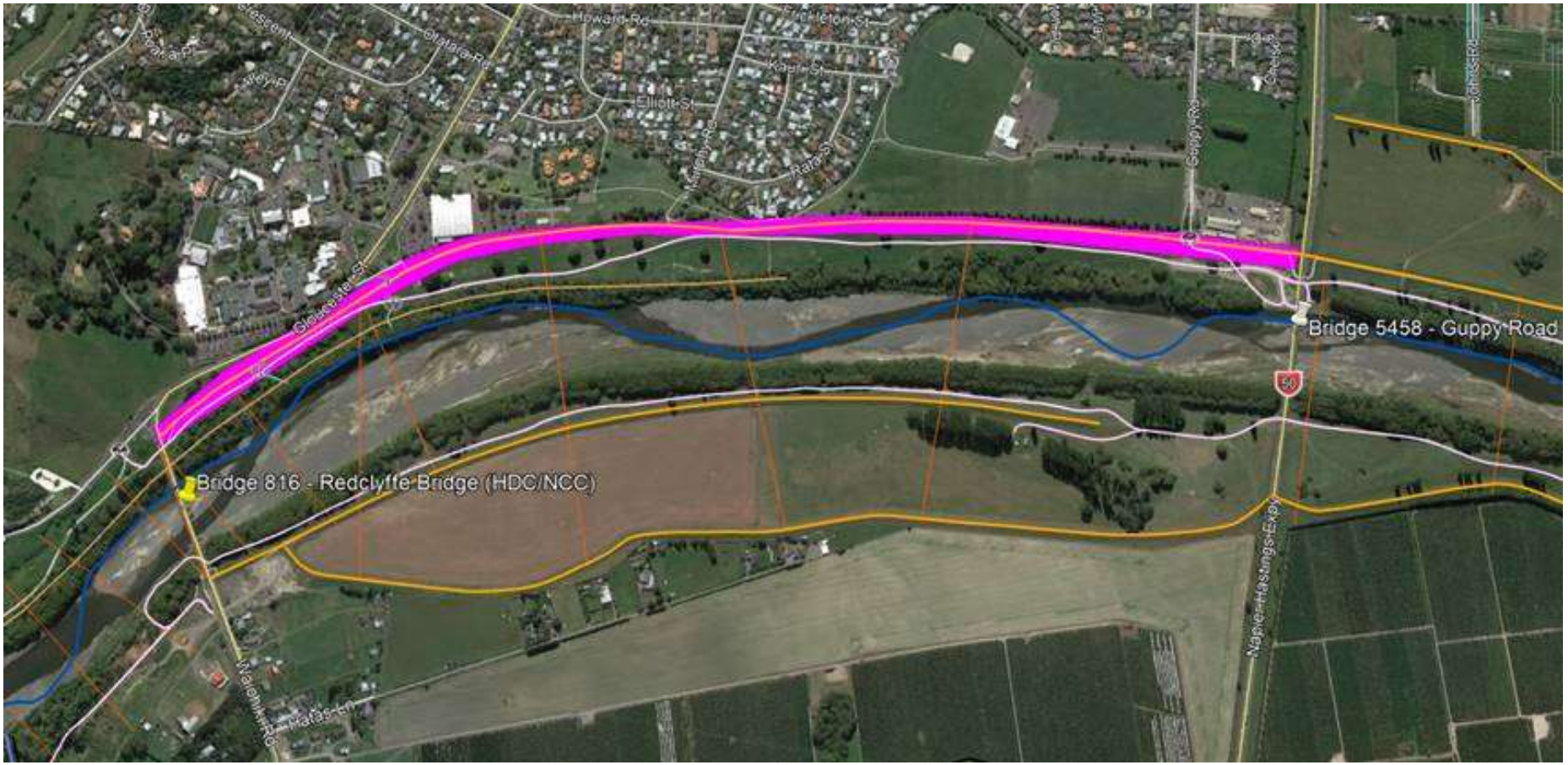
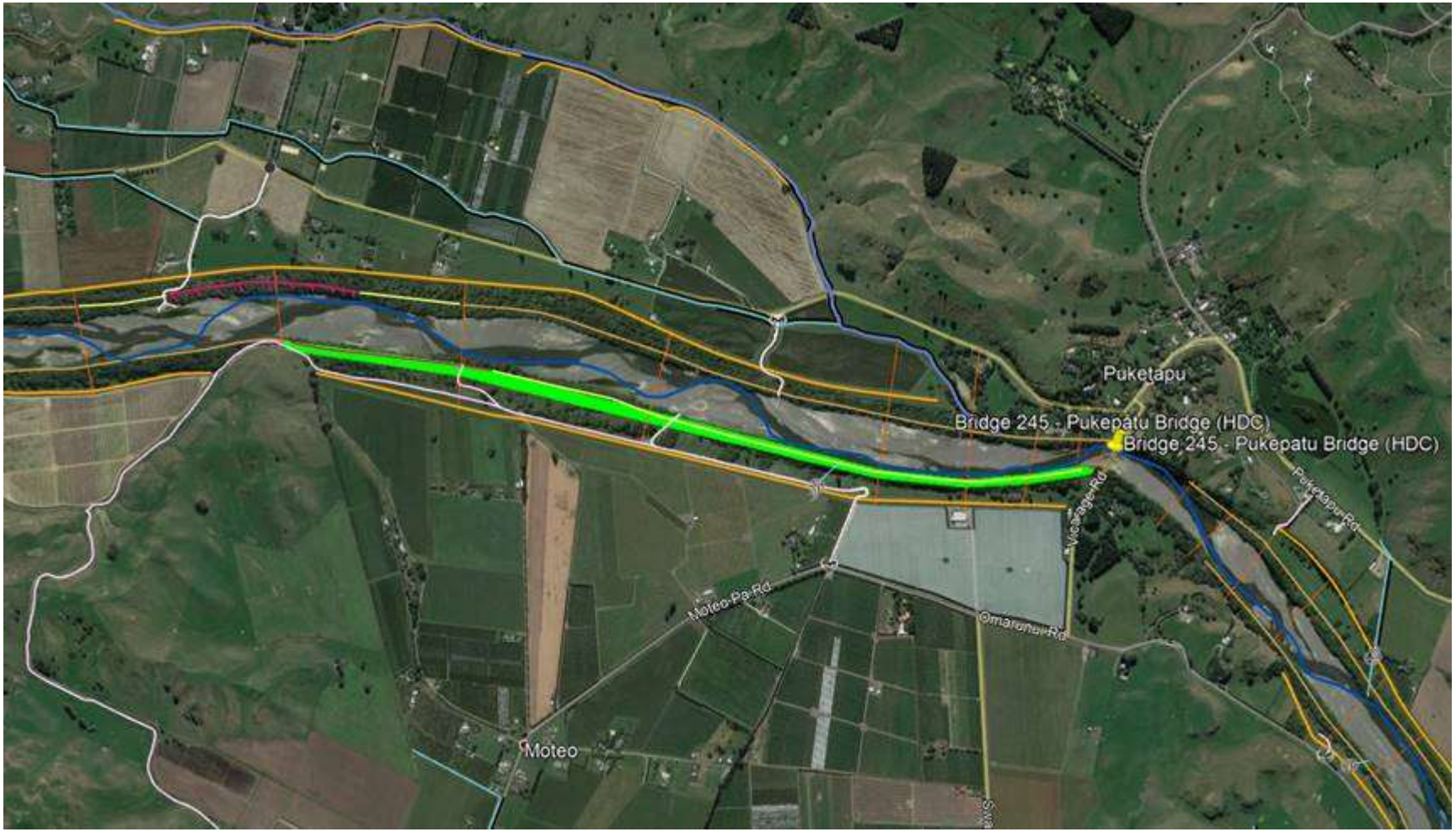
Site A: Taradale - XS21b to XS17 (left bank) as shown in pink below ~2.1km



Site B: Moteo - XS47 to XS43a (right bank) - as shown in green below ~2.7km



HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

Wednesday 04 November 2020

Subject: CROWN FUNDED FLOOD RESILIENCE PROJECTS UPDATE

Reason for Report

1. This report provides an update on four projects approved for funding as part of the Crown's Flood Control Resilience Funding with the Infrastructure Reference Group managed by the Provincial Development Unit (PDU).

Background

2. In Budget 2020, Cabinet agreed to provide a $3 billion investment in infrastructure to support New Zealand's economic recovery as part of the 11 May COVID-19 Response and Recovery Fund.
3. The Government established the Infrastructure Reference Group (IRG) to identify a pipeline of shovel-ready projects to support the economy during the COVID-19 rebuild. The process was supported by Crown Infrastructure Partners.
4. Council have received confirmation from IRG of funding allocation for a total amount of up to $19.2 m (plus GST, if any) which is a 64% contribution to the projects.
5. Council received formal approval for allocated funding from the PDU on 29 September 2020. A signed contract shall be returned to PDU before 10 November 2020.
6. Several updates to the contract have been issued since the formal approval including confirmation of queries from other regional councils, changes to the programme and project brief.

Discussion

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

7. This project is programmed over a three-year period and will build upon existing river modelling, condition assessment and property analysis undertaken as part of the Heretaunga Plains Flood Control Scheme (HPFCS) level of service review.
8. HBRC co-funding of $7.2 million is required to match IRG funds of $12.8 million.
9. $1.2 m per year has been allocated in the current LTP for FY 2021-22 and 2022-23. This leaves a shortfall of $3.35 million which will be see $1.675 m brought forward from each of FY 2026-27 and 2027-28.
10. FY 2020-21 includes $500k of allocated funding to undertake stop bank strengthening at two sites on the Tūtaekurī River, as shown in figures 1 and 2.
11. Red highlighted area on left bank of Tūtaekurī river between cross sections XS17-XS22 on Figure 1 below, indicates severe consequence of failure at the Taradale site, as determined from the site-specific Flood Protection Asset (FPA) performance and risk assessment

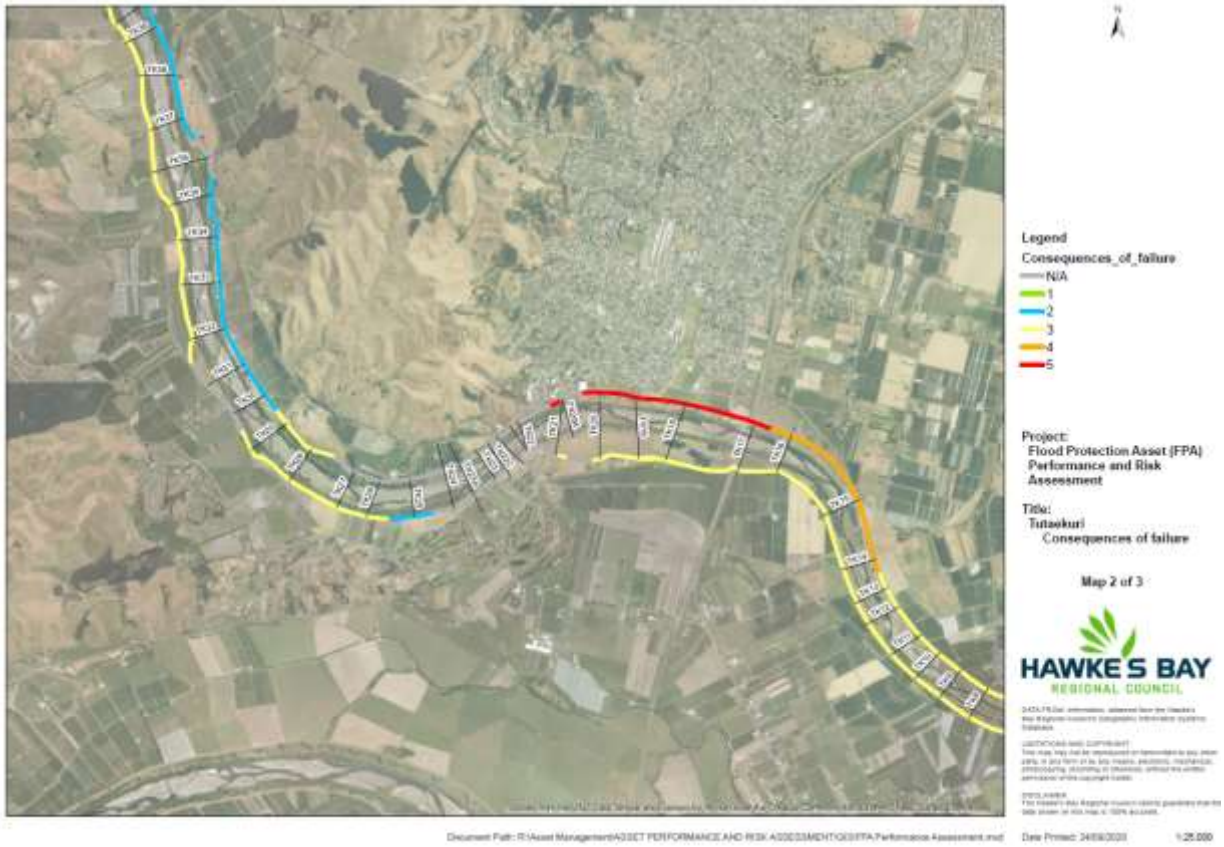


Figure 1 – FPA Performance and Risk Assessment: Taradale site

12. Orange highlighted area on right bank of Tūtaekurī river between cross sections XS43a-XS47 on Figure 2 below, indicates high consequence of failure at the Moteo site, as determined from the site specific FPA performance and risk assessment.

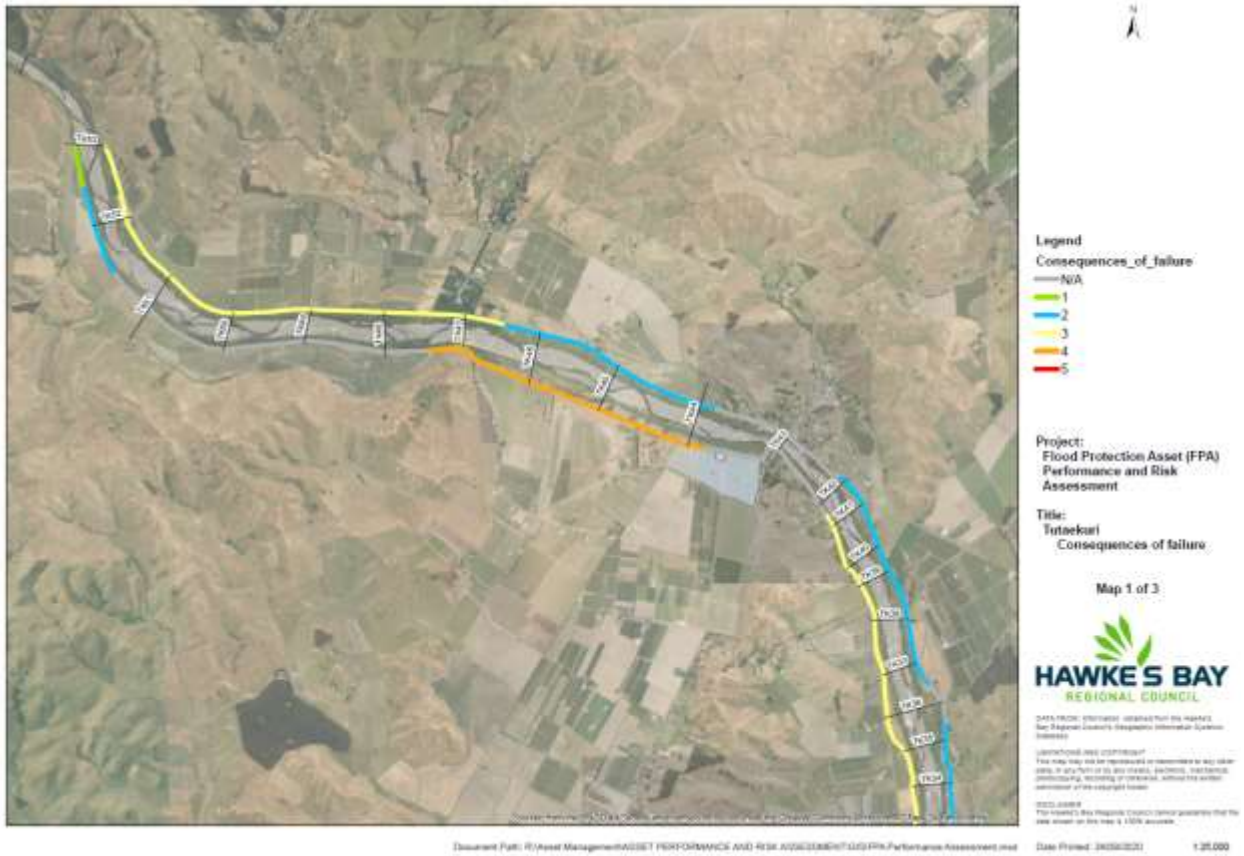


Figure 2 – FPA Performance and Risk Assessment: Moteo site

13. Modelling of the Tūtaekurī has confirmed that the existing stop banks can accommodate overtopping failure for a 1 in 500-year flood event, this however, excludes increase in water levels due to climate change. In order to ensure other risks associated with increased velocities and shear stresses are mitigated, Council are engaging geotechnical specialists to undertake failure mode analysis using a suite of non-destructive and destructive testing. Results of geotechnical testing will dictate the scope and type of stop bank strengthening works required.

14. Each of the work packages generated for this project will be distributed to prequalified consultants who meet the requirements of a Panel Agreement for Engineering Services.

15. Council will engage a third-party river engineering consultant to undertake a high-level study of the existing HPFCS. This will provide an independent overview of our schemes and offer any opportunities to improve level of service with "out of the box" thinking.

16. Table 1 below provides the budget forecast with breakdown of funding for IRG and HBRC's contribution:

Table 1: Heretaunga Plains Flood Control Scheme Budget Forecast

	IRG Contribution	HBRC Contribution
2020-21	\$320k	\$180k
2021-22	\$6.24m	\$3.51m
2022-23	\$6.24m	\$3.51m
TOTAL	**\$12.8m**	**\$7.2m**

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

17. Removal of over 800,000 m^3 gravel is required to maintain existing nameplate capacity of 1:100 level of protection from Upper Tukituki scheme. Gravel aggradation across this scheme has been an area of concern for the last decade.

18. IRG funding is a significant opportunity to subsidise gravel extraction from this region with a focus on competitive tendering and supporting the local economy.

19. This project is programmed over a three-year period which requires HBRC co-funding of \$2.88 million to release IRG funding of \$5.12 million. It is proposed that a significant portion of HBRC's contribution be loan funded then paid back via targeted and general rates under Upper Tukituki scheme, following consultation during the 2021-31 LTP.

20. Public meeting was held on 26 August 2020 to discuss the loan funding options where there a level of support was expressed by community.

21. Public meeting with Class A and B ratepayers (high dollar value ratepayers) is scheduled for November 2020.

22. Scheme loan will be a consultation topic for 2021-2031 LTP.

23. The scheme balance of \$340k will be used in FY 2020-21 at no cost to Upper Tukituki scheme ratepayers. This will allow the project to commence without delay.

24. A workshop was held on 2 September with local gravel extractors to debate options for extraction from Upper Tukituki Scheme Rivers. The outcomes of this have been considered and will be explored further in due course.

25. Drone surveys of Makeretu, Mangaonuku and Tukipo rivers are programmed to commence this year in order to quantify volumes of aggraded gravels and prioritise key extraction sites. This will complement existing topographical surveys of the Upper Tukituki and Waipawa rivers and confirm gravel forecasting over the next three years.

26. Material testing of gravels will be undertaken at several locations on each of the rivers. Crushing, screening and compaction testing will determine suitability of gravels indicative end use requirements.

27. Strategic discussions with Central Hawkes Bay District Council (CHBDC) have proved to be extremely useful in terms of aligning extraction of key sites with Provincial Growth Funded projects in the region. Whilst this does not currently leverage on gravel

subsidies, it has opened a narrative on responsible use of river gravels in the region. Council will continue partner with CHBDC to support future capital projects in order to achieve social and environmental outcomes whilst contributing to the local economy.

28. Council have been in discussion with NZTA regarding provision of gravels for the Manawatu gorge project. Significant volumes may be required based on their suitability, pending third party testing results.

29. Collaboration with industry and stakeholders has been identified as a suitable "vehicle" to deliver key IRG funding outcomes. Emphasis will be given to social procurement drivers and supporting the local economy.

30. Table 2 below provides the budget forecast with breakdown of funding for IRG and HBRC's contribution:

Table 2 - Upper Tukituki Gravel Extraction Flood Control Scheme

	IRG Contribution	HBRC Contribution
2020-21	$604k	$340k
2021-22	$1.92m	$1.08m
2022-23	$2.594m	$1.46m
TOTAL	**$5.12m**	**$2.88m**

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

31. This one-year project programme will provide engineered erosion protection works of southern approach to NZTA's SH50 bridge. The left bank of the Waipawa river immediately upstream of SH50 bridge has eroded significantly over the past five years. If left unattended, there is a risk that the southern approach will be compromised and the river may outflank the bridge.

32. Detailed design for erosion protection works to be completed late October.

33. Methodology for the project has been agreed with Works Group as part of Early Contractor Involvement (ECI) and shall form the basis of the contract agreement.

34. Direct engagement for the works shall be awarded to HBRC Works Group due to the specialist nature of the project within the riverbed. It is anticipated that site works will commence in early November.

35. Table 3 below provides the budget forecast with breakdown of funding for IRG and HBRC's contribution:

Table 3 - Upper Tukituki Flood Control Scheme SH50/Waipawa Erosion

	IRG Contribution	HBRC Contribution	NZTA Contribution
2020-21	$640k	$60k	$300k
TOTAL	**$640k**	**$60k**	**$300k**

Project 4: River Parade Scour Protection, Wairoa – $1 million

36. This one-year project programme will provide steel sheet piled erosion protection works on left bank of the Wairoa River. Over the last five years the Wairoa River has gradually undermined the embankment immediately south of the Ferry Hotel. This has in turn compromised Wairoa District Council (WDC) water assets and more recently Carroll Street and River Parade.

37. In September HBRC engineering team held a workshop with Consulting Engineer Gary Williams in order to confirm the alignment of the proposed steel sheet piled wall, including the curtailment detail upstream.

38. Council have undertaken ECI with Latteys Group, a specialist sheet piling contractor, to develop a suite of geotechnical testing for preliminary design options. The outcome of the preliminary design will allow us to maximise the lineal meterage of the sheet piled wall, thus providing the greatest benefit to WDC's existing compromised assets.

39. The proposed level of service for the erosion protection shall be confirmed with WDC as part of the preliminary design. It is expected that design will be completed early 2021 with site mobilisation anticipated mid-2021, dependent on steel sheet pile procurement lead times.

40. Table 4 below provides the budget forecast with breakdown of funding for IRG and HBRC's contribution:

Table 4 – River Parade Scour Protection, Wairoa

	IRG Contribution	HBRC Contribution	WDC Contribution
2020-21	$640k	$180k	$180k
TOTAL	**$640k**	**$180k**	**$180k**

IRG Contract Requirements

41. The contractual financial forecasting has been amended to advanced quarterly payments for each project. This was a result of river managers SIG's concerns over balancing over and under throughout the project lifecycle.

42. Negotiations continue on specific aspects of the contract with PDU. River Managers SIG is providing significant input to the standard contract used for all Regional Councils for this program.

Next Steps

43. The contract for above noted works shall be signed and returned to the PDU in early November following completion of programming and budget forecasting.

Decision Making Process

44. 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 "*Crown Funded Flood Resilience Projects Update*" staff report.

Authored by:

David Keracher
ACTING MANAGER
REGIONAL PROJECTS

Approved by:

Chris Dolley
GROUP MANAGER
ASSET MANAGEMENT

Attachment/s

There are no attachments for this report.

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

Wednesday 04 November 2020

Subject: REGIONAL DROUGHT RELIEF FUND

Reason for Report

1. This item provides an update on the Regional Drought Relief Fund and discusses recommended next steps.

Executive Summary

2. The Regional Drought Relief Fund (RDRF) which totalled $1,015,110, has distributed $979,561 to assist our rural community with costs related to animal feed transportation and welfare.

3. Applications to the fund closed 30 September 2020, leaving $35,549 remaining in the fund.

Background

4. On 12 March 2020, the Ministry for Primary Industries classified the 2019-20 drought as a large-scale adverse event for the entire North Island.

5. The Hawke's Bay Rural Advisory Group (RAG) was the lead group for the drought response working under the Hawke's Bay Civil Defence and Emergency Management Group (HBCDEM) structure. The RAG is made up of representatives from rural and primary sector businesses, agencies and councils.

6. The RAG worked closely with the Hawke's Bay Regional Council and the HBCDEM to co-ordinate activities, information and support for rural people impacted by the drought and national lockdown.

Funding

7. On 19 May 2020, the regions mayors and Regional Council chairman launched the RDRF, in response to the critical shortage of feed, as a result of the severe and prolonged drought in Hawke's Bay. The purpose of this fund was to "leave no one behind" and support the stock feed requirements of as many landowners as possible through the winter by offering a payment towards the cost of transporting feed to farm.

8. The fund initially accrued $1 million including contributions from Ministry for Primary Industries ($500k), Regional Council ($200k), Central Hawke's Bay District Council ($50k), Centralines ($50k), Hastings District Council ($200k). The RAG administered the fund held in Trust by the Hawke's Bay Disaster Relief Trust.

9. In addition to this government funding, the community raised $15,110 through a GiveaLittle campaign, promoted by the 'Digging deep for farmers' drive created by the RAG communications team.

10. The RAG agreed to commit $10,000 from the RDRF towards the East Coast Rural Support Trust (RST), to support their work in providing 'critical care' personal and financial support to vulnerable farming families. This small amount of funding was available for immediate use to supply feed, for veterinary support or additional on farm labour.

Initial funding criteria

11. The terms of reference for the RDRF were clear from the outset that the funds raised will support the cost of transporting feed to the region.
12. The RAG agreed on the following criteria.
    - 13.1 Funding is for transportation of feed
    - 13.2 Invoices must be dated on or after 19 May 2020 (when the RDRF was announced)
    - 13.3 Farm must be in the Hawke's Bay
    - 13.4 Farm must have feed/plan budget
    - 13.5 Farm size: Between 20ha-150ha, can claim up to $400
    - 13.6 Farm size: Greater than 150ha, can claim up to $1,350
    - 13.7 Farms that received free donated feed (via Rural Support Trust) would have to share their portion of the transport costs, at the end of spring
    - 13.8 Funding can only be applied for once.
13. Given the urgency of the feed requirement, the application process was managed as a high trust model of targeted assistance in much the way that the government COVID-19 wage subsidy was applied.

Obtaining funding

14. People were to apply for funding through the online form on a Regional Council website or drop into any of our offices to complete an application form. They were to asked to attach proof of feed transport cost (a recent invoice), along with a bank deposit slip.
15. For small block owners (less than 20ha), the RAG and Regional Council organised three separate 'lifestyle feed runs' over three consecutive weekends during May. Feed was purchased and transported into Hawke’s Bay from all over the country (Christchurch, Gisborne, Tauranga, Inglewood, New Plymouth and Feilding) and sold online to small block owners.
16. We sold out of feed within 48 hours for each run, which showed the level of need. On the pickup days, we relied on volunteers to help load the bales. This included; Napier Tech Rugby, East Coast Young Farmers, Regional Council staff, Civil Defence staff, regional councillor Will Foley, and RAG leaders.
17. Furthermore, the RST organised for donated feed from around the country to be transported into the region and allocated to those in need. The RDRF paid those transportation costs.

Funding criteria review July 2020

18. Initially, the RAG believed demand was going to exceed supply given the scale of the drought and the estimated number of eligible properties; hence modest limits based on farm size were agreed. After five weeks, only 103 applications, totalling $125,550 had been received.
19. In July 2020, the RAG met to review its fund criteria as uptake was unexpectedly low. The feedback at that meeting from RAG participants was that the amounts being offered were too low, many had arranged feed prior to the RDRF being announced (and so missed out on the support payment) and so the RAG made the following adjustments.
    - 21.1 Allow those that organised feed early access to the fund (the eligibility date was shifted to 12 March 20, when the adverse event was declared by MPI)
    - 21.2 Not to on-charge transportation costs to the recipients of donated feed
    - 21.3 Fund transportation of stock to properties outside the region to graze, and then back again
    - 21.4 To increase the limits

21.4.1 Farm size: Between 20ha-150ha, could claim up to $1,000 (up from $400)

21.4.2 Farm size: Greater than 150ha, could claim up to $5,000 (up from $1,350)

21.5 To automatically top up to the new limits those who had already applied by depositing the difference into their accounts ($224,980)

21.6 To confirm that applications will close end of September 2020.

20. These criteria changes, along with new direct marketing initiatives developed to promote the RDRF, via the RAG communications team, increased uptake in the subsequent weeks.

Funding update, October 20

21. At the close of the fund, $979,561 was dispersed to support our rural community with costs related to animal feed transportation and welfare. The fund totalled $1,015,110, which leaves $35,549 remaining.

22. The lifestyle feed runs supported 333 farmers who bought 4,902 bales of feed. The total cost of transportation for the lifestyle feed totalled $14,798.

23. We received 289 online applications from farmers who claimed a total of $797,650.

Northern HB	Mid-HB	Southern HB
4	173	112

24. 33 of these applicants were on farms sized between 20ha-150ha, and 255 were farms sized greater than 150ha.

25. The donated feed transportation costs totalled $149,613. This covered the cost of transport only and note the cost of the actual feed. This change resulted in a greater supply of donated feed being able to come to the region.

26. The A&P showgrounds was used as the staging area for incoming donated and lifestyle feed over the past five months. The RDRF contributed approximately $13,000 for costs associated with this including distribution and collection logistics (labour and forklift diesel costs), and repairs to the showgrounds access road, which was damaged by the feed transport trucks.

Building resilience in our rural communities

27. Hawke's Bay Regional Council has declared the region is in a climate emergency. This means increased frequency and intensity of volatile weather events including drought, and storms.

28. Farmers believe about 65% of New Zealand's agriculture will be moderately or severely impacted by climate change in the next 30 years, according to a survey (MPI, 2019).

29. We want to help farmers and rural communities prepare for and manage through drought, so they can pursue a prosperous and sustainable future.

30. In order to do this, we are facilitating the development of a Regional Drought Resilience Strategy (RDRS), in partnership with the primary sector, MPI, councils and industry. We would like to utilize the small amount of remaining funding in the RDRF to begin this work (councils 'share' of this total is $7,109.80).

31. This strategy will pull together existing knowledge on managing for drought across a broad range of areas, such as alternate land use options, the use of trees on farms, reticulation, on-farm water storage and ongoing advice to landowners.

32. To achieve this, we see this work being split into three phases:

Phase one: Initial scoping to develop a Regional Drought Resilience Strategy

33. Before writing a RDRS we need to better understand:

36.1 the current thinking of those affected by this drought, including the primary sector and other supporting services

36.2 what historical resilience efforts have been made and the impact these have had

36.3 what information is available now that would help support drought resilience

36.4 best methods for engaging with our rural communities

34. Council contracted AgFirst Pastoral (HB) Limited to deliver this initial thinking.

Phase two: Development of a Regional Drought Resilience Strategy

35. We are currently contracting an industry professional to develop the strategy, with the strategy development occurring over the summer months.

Phase three: Development of an integrated Drought Resilience Action Plan

36. After the strategy has been developed we will create a focused implementation plan or action plan that sets out how we will set about operationalising the strategy and the processes and pathways that will achieve that. This will be the more significant and ongoing body of work that includes things like farmer field days, workshops and monitor farms.

Next Steps

37. Hawke's Bay should expect more frequent drought events like 2020, and we need to prepare and support our rural communities by developing a RDRS and an integrated action plan.

38. We are seeking the agreement of the fund contributors, including council, to use the remaining $35,549 to contract the right person, to work with the right people, to deliver a Regional Drought Resilience Strategy.

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 "Regional Drought Relief Fund" staff report including the proposal to spend the residual funding of $35,549 on a Regional Drought Resilience Strategy.

Authored by:

Jolene Townshend
SENIOR ADVISOR
INTEGRATED CATCHMENT MANAGEMENT

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

Wednesday 04 November 2020

Subject: IMPLICATIONS OF CLIMATE CHANGE ON THE HAWKE'S BAY REGION

Reason for Report

1. This item provides a summary of the report prepared by NIWA on climate change projections and impacts for Tairāwhiti and Hawke's Bay.
2. Hawke's Bay Regional Council and Gisborne District Council together commissioned the report with the assistance of Envirolink funding. The information presented in the report is a summary of the current knowledge of projected impacts on the regions' natural environment and on a broad range of activities and infrastructure.
3. The report will be available on Monday 2 November, accessible via this link and search for "Climate change projections and impacts for Tairāwhiti and Hawke's Bay".

Executive Summary

4. The climate change projections underpinning the Regional Council's work to date on climate change adaptation have largely come from national level assessments, ad hoc reports focused on specific local or regional issues and a *Hawke's Bay Climate Change Projections* report that was prepared by NIWA for Landcare Research NZ Ltd in May 2017.
5. The May 2017 report provided information on a limited number of climate factors so joining with Gisborne District Council presented an opportunity to procure a broad and detailed assessment of the risks posed by climate change to both regions. The newly prepared report provides information on the impacts of high and mid-range greenhouse gas emissions pathways on our climate, river flows, coastline and key sectors in the region.

Strategic Fit

6. The Strategic Plan 2020-25 places climate change "at the heart of **everything we do**".
7. The Strategic Plan focusses on four priority areas that encompass climate resilient water security, climate smart land use, climate resilient biodiversity and climate resilient services and infrastructure.
8. It includes several strategic goals directly addressing climate change risks, such as managing foreseeable flood and coastal hazards risks out to 2100. Furthermore, it sets an aspiration for the region of net zero greenhouse gas emissions by 2050.
9. The climate change projections and impacts report prepared by NIWA provides the most up to date and comprehensive assessment of climate change risks to the region.

Background

10. New Zealand's climate is warming. The mean annual temperature has increased, on average, 1.02°C (±0.25°C) per century since 1909. The recently released "Our Atmosphere and Climate 2020" report by the Ministry for the Environment presented a national picture of climate trends between 1972 and 2019. It showed that Napier's seasonal daily temperatures were likely or very likely increasing and the annual number of warm days (maximum temperature above 25°C) was very likely increasing. Trends in annual rainfall were not discernible but the proportion of total rainfall falling in very wet days was very likely increasing and the number of very wet days was very likely increasing. The intensity and frequency of short-term drought were likely increasing.

11. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) presented global climate change projections as four scenarios or Representative Concentration Pathways (RCPs). Each RCP depicts possible future CO_2 concentrations and accompanying radiative forcing. These scenarios formed the basis of the Coupled Model Intercomparison Project Phase 5 (CMIP5) which brought together the efforts of the international climate modelling community to model future climate change.

12. NIWA selected six global climate model simulations from CMIP5 to drive a regional climate model producing 5 km by 5 km square pixels over the Tairāwhiti and Hawke's Bay regions. Two scenarios were used for this purpose - a mid-range emission pathway (RCP4.5) and a high emission pathway (RCP8.5). NIWA used the results to describe the changes that may occur to our climate over the 21st century and how those changes may impact on our activities, environment and infrastructure.

Discussion

13. The projected changes are presented as 20-year averages spanning the years 2040 (2031-2050) and 2090 (2081-2100) and represent the change from the period 1986-2005. Some of the main findings include:

    13.1. Annual average temperatures warm 0.5°C-1.0°C by 2040 and 1.5°C and 3°C by 2090 for the mid-range and high emissions pathways respectively. The strongest warming is in autumn and the least warming is in winter.

    13.2. The number of days of frost decrease by up to 5 days (by the coast) and 20 days (inland) by 2040 and up to 30 and 50 days for inland areas by 2090 under the mid-range and high emissions pathways respectively.

    13.3. Heatwaves (period of three consecutive days greater than 25°C) become more common with increases of between 10 and 20 days by 2040 and 20 and 60 days by 2090 for the mid-range and high emissions pathways respectively.

    13.4. Annual rainfall decreases by 0-5% by 2040 then by up to 10% and 15% in parts of Hawke's Bay by 2090 for the mid-range and high emissions pathways respectively. The largest decreases are in the western ranges. Results vary across the seasons with spring rainfall showing the greatest decrease, while coastal areas see an increase in summer rainfall and the northwest ranges an increase in winter rainfall. Short duration extreme rainfall totals increase between 5% and 14% per degree of warming.

    13.5. Drought potential increases, as measured by annual accumulated Potential Evapotranspiration Deficit (PED) and the annual number of days of soil moisture deficit. PED increases by up to 150 mm in the south of the region by 2040 and over a broader area by 2090 under the mid-range emissions pathway. This increases to 200 mm by 2090 under the high emissions pathway. The probability of extreme PED (greater than 300 mm) reaches 80-100% in parts of the region. Days of soil moisture deficit could increase by 20 days or more with the largest increases in spring and winter. The findings are supported by a separate letter report on Hawke's Bay drought predictions, prepared earlier this year by NIWA for the Regional Council. That report was based on NIWA's New Zealand Drought Index (NZDI) and found that drought onset could occur earlier in future and the risk of "back to back" droughts would increase.

    13.6. The changes in rainfall are expected to impact river flows. Annual average discharge decreases (by approximately 20% by 2090 under the high emissions pathway). Mean annual low flows (MALF) largely decrease over time, exceeding 20% in some areas by 2090 under the high emissions pathway, but an increase in summer rainfall in coastal locations may mean an increase in some catchments by 2040 under the mid-range emissions pathway. Mean Annual Flood increases by up to 50% for many of the region's rivers by the end of the century under a high emissions pathway.

    13.7. Relative sea level rise is being observed and continues under both scenarios. A sea level rise of 0.4 m (which is expected by 2060 under the high emissions

pathway and by 2090 by the mid-range emissions pathway) would mean the present mean high water spring level, which is exceeded by only 10% of high tides, would be exceeded by 100% of all high tides. A 500-year storm-tide event becomes a 5-year event with a relative sea level rise of 0.16 m.

13.8. Climate change presents risks to forestry, horticulture, agriculture, tourism, ecosystem health, human health as well as infrastructure and the built environment. These include:

13.8.1. An increased incidence of pests and diseases.

13.8.2. Increased animal heat stress and reduced quality and quantity of fruit and vegetable crops in more prevalent heatwaves.

13.8.3. Increased erosion from high intensity rainfall events resulting in damage to infrastructure (roads, water supply), forestry and agricultural land productivity with potential impacts on tourism through loss of infrastructure connectivity. High intensity rainfall may also increase the risk of reduced quality of fruit and vegetables.

13.8.4. Increased drought severity and fire risk. Increased pressures on irrigation, water supplies and freshwater ecosystems from lower river flows.

13.8.5. Increased exposure of infrastructure and the primary sector to extreme coastal flooding and habitat loss through "coastal squeeze" as sea levels rise. An altered distribution and abundance of marine species with warming seas and species with carbonate shells impacted by ocean acidification.

13.8.6. Potential opportunities include increased pasture and plant productivity, biomass and crop yields (when not limited by water availability) because of higher levels of CO_2. Less frost damage and new scope for crop diversification. Tourism and water-based activities boosted by a longer warm season. Improved winter air quality through reductions in domestic fire use though summer air quality may degrade due to wildfires, wind-blown dust during droughts and a greater abundance of allergenic pollen associated with higher plant productivity.

Next Steps

14. The *Hawke's Bay Climate Change Projections* report is the most comprehensive and wide-ranging assessment of climate change impacts on the region to date. It provides a picture of the region's future under both worst case and achievable greenhouse gas emissions pathways. The results can be used to support the climate action campaign that is currently underway. The projections can also be used to further inform the Regional Council's policies and actions to achieve the climate resilient and climate smart goals in the Strategic Plan.

Decision Making Process

making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the "Implications of Climate Change on the Hawke's Bay Region" staff report.

Authored by:

Dr Kathleen Kozyniak
PRINCIPAL SCIENTIST (AIR)

Dr Jeff Smith
MANAGER SCIENCE

Approved by:

Iain Maxwell
GROUP MANAGER INTEGRATED
CATCHMENT MANAGEMENT

Attachment/s

There are no attachments for this report.

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

Wednesday 04 November 2020

Subject: CLIMATE CHANGE SURVEY RESULTS

Reason for Report

1. This item provides the results of the Regional Council-commissioned climate change community perceptions survey (Attachment 1), where 836 Hawke's Bay residents were asked a range of questions about climate change.

Executive Summary

2. This survey was conducted as part of the Regional Council's climate change work.
3. Results show Hawke's Bay residents are aware, concerned about, and want more action on climate change. More than any other organisation, residents see the Regional Council as being responsible for taking action.

Background

4. The survey was undertaken following on from the Regional Council's declaration of a climate emergency to understand the community's views of the climate crisis and the Regional Council's role, and as a benchmark for future surveys.
5. The community perceptions survey was identified earlier this year by the Climate Change Working Group as one of the top three work priorities for the 2020-21 period within a very modest budget.
6. The results from this survey are being used during a six-week climate action campaign and are intended to inform decision making on Council's priorities for the 2021-2031 Long Term Plan.

Discussion

7. Key findings from the survey include:
    - 7.1. 41% of people associated the Regional Council as the main organisation responsible for taking action in response to climate change in Hawke's Bay (slightly more than double the Ministry for the Environment as the organisation with the next highest response)
    - 7.2. 90% of people believe that climate change is already occurring, with a fairly even split between those who believe the cause is human activities alone and those who believe the cause is a mix of natural processes and human activities
    - 7.3. 62% are concerned about the impact of climate change in Hawke's Bay, with drought is seen as the main negative outcome of climate change, followed by sea level rise and impacts on water supply
    - 7.4. Unpromoted 24% of people stated that climate change is one of the most important challenges facing New Zealand in the next 20 years
    - 7.5. Drinking water quality (37%) was the single most mentioned important challenge, followed by economic struggles (which may be somewhat biased due to COVID-19 impacts), then climate change
    - 7.6. Attention to water usage and storage (22%) were the main suggested improvements for the Council
    - 7.7. 55% of people are prepared to pay more in rates to minimise the impact of climate change

7.8. The most supported initiative that people were prepared to pay for was a reduction of carbon and erosion through tree planting

7.9. Concern for future generations was the main driving force for taking part in environmental actions

7.10. 80% of people said they have been moderately or greatly involved in environmental activities - the top four activities were recycling, reusable product purchases, energy-saving household products and composting

7.11. Lack of alternatives or resources and cost were the two main cited barriers to engaging in environment-related activities

7.12. According to the community, climate change is most directly the result of population growth and waste, energy and transport, and industrial processes. Only 1 in 10 people surveyed think that agriculture is a key cause.

7.13. Greenhouse gas emissions from agriculture to year-end 2018 made up to 80% of gross emissions for Hawke's Bay (Stats NZ 2020). The same Stats NZ survey showed that greenhouse gas emissions in Hawke's Bay have dropped by 7% since 2007 mainly due to a drop in agricultural and industrial emissions.

8. The methodology used in this surveying is set out in the full Survey Report's Appendix (Attachment 1).

9. The survey results indicate there is a very high level of awareness of climate change as an issue, and a reasonably broad understanding of many of the impacts of climate change on the environment and the economy. However, relative to the overwhelming weight of qualified, published and peer-reviewed scientific research on the causes and impacts of climate change it appears that a significant proportion of surveyed residents do not fully appreciate the extent of expected impacts of climate change on their future quality of life and the regional economy, and the associated urgency of climate change mitigation.

10. Staff consider that in light of the Council's statutory responsibility for the management of key climate-affected natural resources such as freshwater, terrestrial and marine ecosystems, and protection of our communities from flooding and inundation, there is a strong case for further Council efforts to increase public understanding of the severity and urgency of climate change issues.

11. The survey results are a reminder of the diversity of concerns within the community and the reality that for many residents longer-term issues likely to unfold over coming decades are not top of mind when they are asked unprompted. Over 80,000 residents, or around 40%, earn less than $40,000 per annum and many are struggling with day to day issues and immediate concerns. The Council will need to carefully consider how it communicates on climate change to reach such audiences. The results also highlight the importance of drinking water quality for residents, which has been a major focus of Council, the Drinking Water Joint Committee and the TANK Plan Change since the Havelock North contamination event.

Next Steps

12. Results from this survey will be incorporated into both the pre-engagement and communications and engagement phases of the 2021-2031 Long Term Plan delivery.

13. A review of the climate action campaign will inform future education and engagement in this developing programme of work.

14. This survey is proposed to occur biannually, with the next survey being conducted in 2022, and will over time enable Council to measure changing community perceptions of climate change and shifts that may occur as a result of Council activity.

Decision Making Process

making provisions do not apply.

Recommendation

That the Environment and Integrated Catchments Committee receives and notes the "*Climate Change Survey Results*" staff report.

Authored by:

Rebecca Ashcroft-Cullen
COMMUNICATIONS ADVISOR

Drew Broadley
COMMUNITY ENGAGEMENT AND COMMUNICATIONS MANAGER

Gavin Ide
PRINCIPAL ADVISOR STRATEGIC PLANNING

Jenny Keown
COMMUNICATIONS ADVISOR

Approved by:

Ceri Edmonds
ACTING GROUP MANAGER STRATEGIC PLANNING

James Palmer
CHIEF EXECUTIVE

Attachment/s

⇩**1** 2020 HBRC Climate Crisis Survey Report Final


Hawke's Bay Regional Council
SIL Research | Climate Crisis Survey 2020
Contact Dr Virgil Troy 06 834 1996 or virgiltroy@silresearch.co.nz
Research is undertaken to the highest possible standards and in accord with the principles detailed in the RANZ Code of Practice which is based on the ESOMAR Code of Conduct for Market Research.
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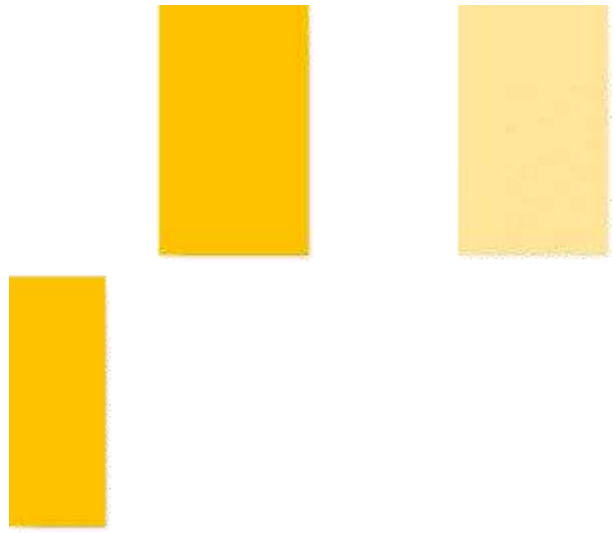
SEPTEMBER 2020



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EXECUTIVE SUMMARY

The purpose of this research was to investigate Hawke's Bay residents' attitudes towards the environment, especially climate change. It was designed to better understand the drivers of current attitudes, beliefs and perceptions surrounding climate change, actions taken, and barriers to further action.

Research was conducted between 06 July and 31 August 2020. Multiple data collection methods were utilised to ensure residents were represented and that collection methods were as inclusive as possible. A total of n=836 surveys were used in the final analysis. The main findings were as follows:

1. Without prompting, **1-in-4** residents believed **climate change** was one of the challenges facing New Zealand. However, **drinking water** was the single most mentioned challenge (**37%**), followed by **economic struggles** (in part due to the COVID-19 impact).
2. **9-in-10** believed that **climate change is already occurring** (90%), and the main perceived cause was shared between **human activities** alone (**47%**) and **a combination** of natural processes and human activities (**44%**).
3. Overall, **62%** of residents were **concerned** about the impact of climate change in Hawke's Bay (similar to 65% in 2019). **Drought/lower rainfall** was perceived as the main negative outcome of climate change in the region.
4. Three main perceived sources of negative impact on climate change were **population growth/waste** (**33%**), **energy/transport** (**23%**) and **industrial processes** (**20%**). According to the Ministry for the Environment, nearly half of New Zealand's gross emissions comes from agriculture (and up to **80%** in Hawke's Bay); a factor identified by 1-in-10 survey respondents.
5. Overall, the survey results showed a good level of commitment to reduce the impact on the environment; **8-in-10** residents said they had been **moderately** to **greatly involved** with such activities or behaviours. The level of perceived involvement in environmental activities matched fairly well with actual reported actions.
6. Half of residents who stated they had been **a lot** or **greatly** involved with environment-related activities reported taking 10 to 13 specific actions taken in the past 12 months. Another 32% reported taking 8 to 9 actions.
7. The top-four environment-related activities highly adopted by the Hawke's Bay community were **recycling** (**96%**), **reusable product purchases** (instead of plastic) (**93%**), use of **energy saving household products** (**89%**) and **composting** (**81%**).
8. Concern for **future generations** was the main driving force for taking part in environmental activities (**30%**). Being well-informed significantly affected the level of involvement in environmental activities; **75%** of residents **felt informed** about actions they could take every day to limit the impact of climate change.
9. **Lack of alternatives** or **resources** (**29%**) and **cost** (**25%**) were the two main cited barriers that limited residents' engagement in environment-related activities.
10. **41%** of residents associated the Regional Council as the **main organisation** responsible for actions **on climate change** in Hawke's Bay. 77% of residents thought of the Regional Council as the main environmental organisation responsible for land, water, air and coast in Hawke's Bay in 2019. **One-third** of residents agreed that Hawke's Bay Regional Council is currently **doing enough** to prevent and reduce the impact of climate change (33%).
11. Attention to **water usage** and **storage** were the main suggested improvements for the Regional Council.
12. On average, **55%** of residents were **prepared to pay more**, for example in taxes, rates, or levies, to minimise the impact of climate change through specific initiatives; **25% disagreed** they would pay more at all.
13. The most supported initiative was reduction of carbon and erosion through tree planting (**69%**).
14. **Two-thirds** of residents reported **no change** in their level of concern about climate change **due to COVID-19** (66%).

The top 3 perceived challenges in New Zealand were **drinking water**, **economy**, and **climate change**.

90% believed climate change is already occurring.

75% felt informed about actions they can take every day to limit the impact of climate change.

41% considered the Hawke's Bay Regional Council responsible for actions on climate change.

33% agreed the Regional Council is doing enough to prevent and reduce the impact of climate change, and another **31%** disagreed.

80% felt personally involved with activities or behaviours to reduce their impact on the environment.

64% participated in 8 or more environment-related activities in the last 12 months

55% were prepared to pay more through a specific method to combat the impacts of climate change

62% felt concerned about impact of climate change in Hawke's Bay

Concern for future generations was the main driving force to take actions

Top actions taken

- Recycling
- Reusable products
- Energy saving products
- Composting

Residents believed that climate change in Hawke's Bay could lead to

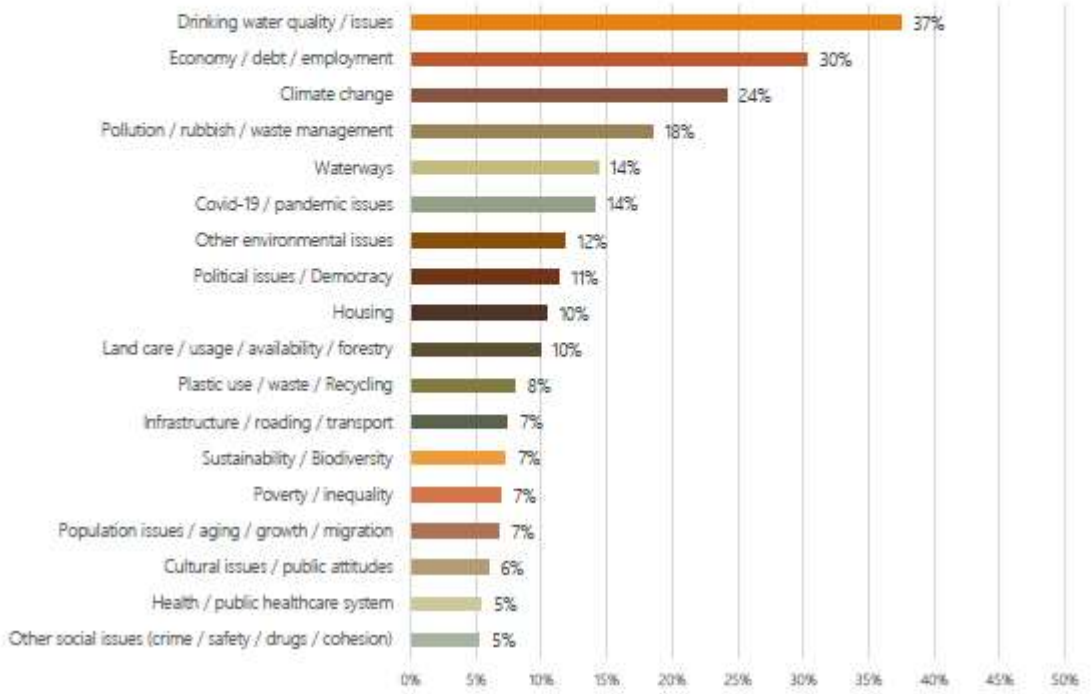
- ⇒ Drought/lower rainfall
- ⇒ Water shortage
- ⇒ Sea level rise/coastal erosion
- ⇒ Impact on crop production
- ⇒ Extreme weather events

SIL Research | 5

MAIN CHALLENGES

Hawke's Bay perceptions of main challenges in New Zealand

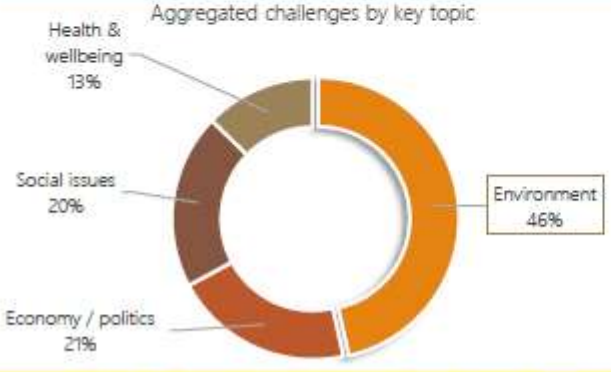
Residents were asked: "*What would you say are the most important challenges facing New Zealand in the next 20 years?*". Open-ended comments sorted into categories. Totals may exceed 100% owing to multiple responses for each respondent.



5% and above comments are shown

- When asked what challenges are facing New Zealand in the next 20 years, half of Hawke's Bay residents expressed their concern about the environment (46%).
- Climate change itself was mentioned (unprompted) by one-quarter of residents (24%).
- Residents aged 18 to 39 were more likely to identify climate change as a future challenge (compared to older residents).
- The single most mentioned challenge was '*Drinking water quality/issues*'. Drinking water concerns were more noticeable in the Central Hawke's Bay area.
- Overall, water continued to be of highest concern to the community (also named top environmental concern in 2019 and 2017).
- While the environment was the most mentioned topic of concern overall, over half of residents highlighted other issues or challenges.

Aggregated challenges by key topic



It is important to note that factors such as the COVID-19 outbreak often affect the ratings that residents give.

Higher than usual level of comments about pandemic, economy/debt and employment could be a result of such an effect.

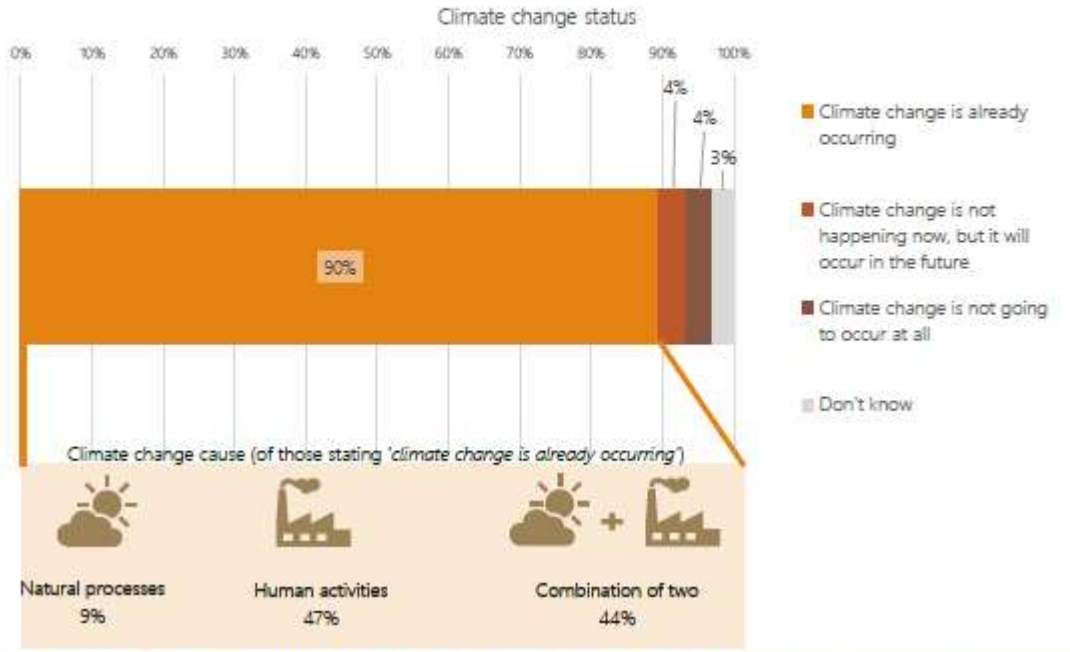
SIL Research | 6

n=418. UNPROMPTED (OPEN-ENDED) RESPONSES ONLY (CLIMATE CHANGE WAS NOT MENTIONED WITHIN THE SURVEY PRIOR TO THIS QUESTION).

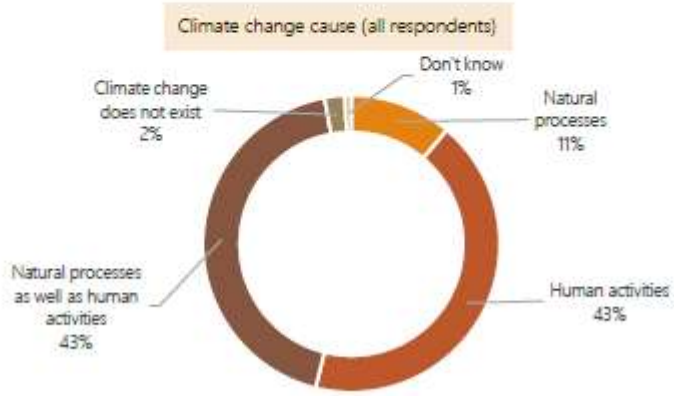
AWARENESS AND PERCEPTIONS

Climate change statements

Residents were asked: *"Which one of the following statements about global climate change do you most agree with?"* and *'What, in your opinion, is the main cause of climate change?' (single forced choice questions).*



- Across all respondents, 9-in-10 believed that climate change is already occurring (90%); 4% believed it is not going to occur at all, and 3% were unsure.
- Of those stating '*climate change is already occurring*', the main perceived cause of climate change was divided between human activities alone (47%) and a combination of natural processes and human activities (44%).
- At the same time, among all Hawke's Bay residents, just 2% stated '*climate change does not exist*', and 1% were unsure.
- Residents aged 18 to 39 typically believed human activities (57%) are the main cause of climate change; in contrast, older residents (aged 65+), and 15 to 17 year olds, considered a combination of human activities and natural processes were responsible (55% and 64% respectively).



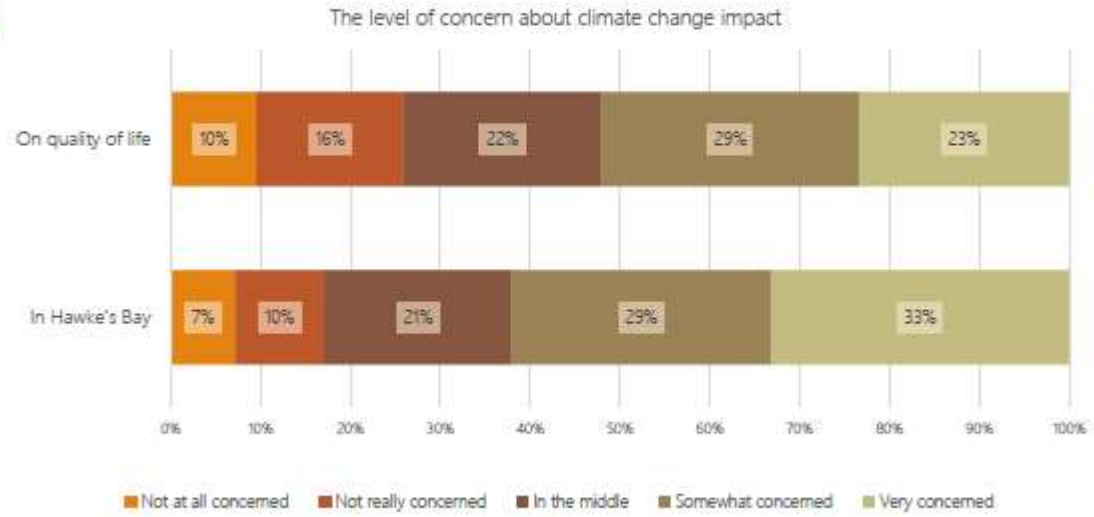
SIL Research | 7

n=835.

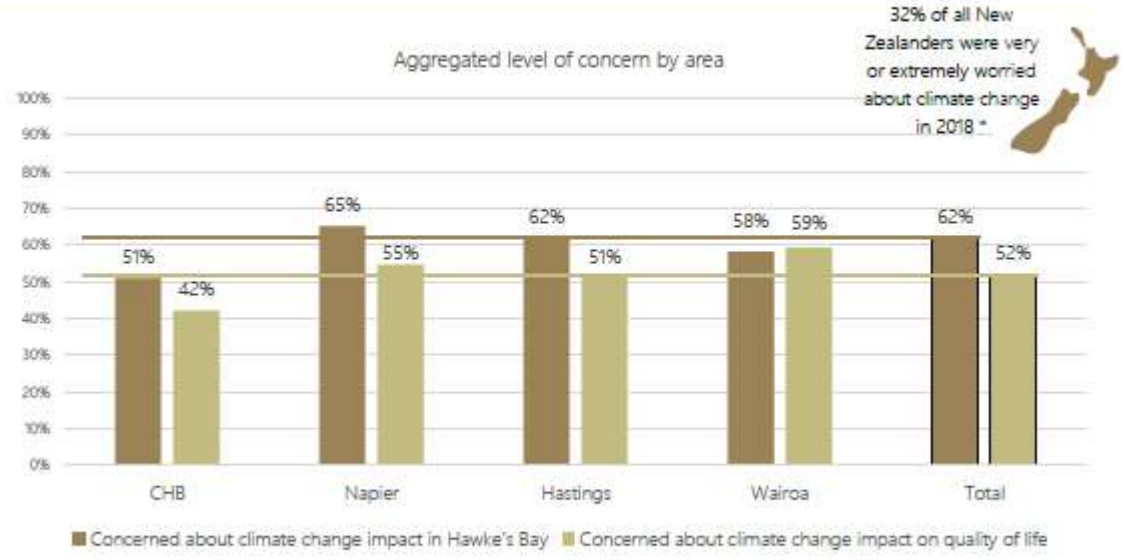
AWARENESS AND PERCEPTIONS

Level of concern

Residents were asked: *"How concerned are you about the impact of climate change in our region?"* and *'How concerned are you about the impact climate change may have on your quality of life?' (rating questions).*



- Overall, 62% of residents were concerned to some degree about the impact of climate change in Hawke's Bay (similar to 65% in 2019), and over half (52%) were concerned it may have an impact on their quality of life, though 18-39 year old residents expressed greater level of concern about climate change on their quality of life (64%).
- Despite minor variations, there were no significant differences in the level of concern by area.



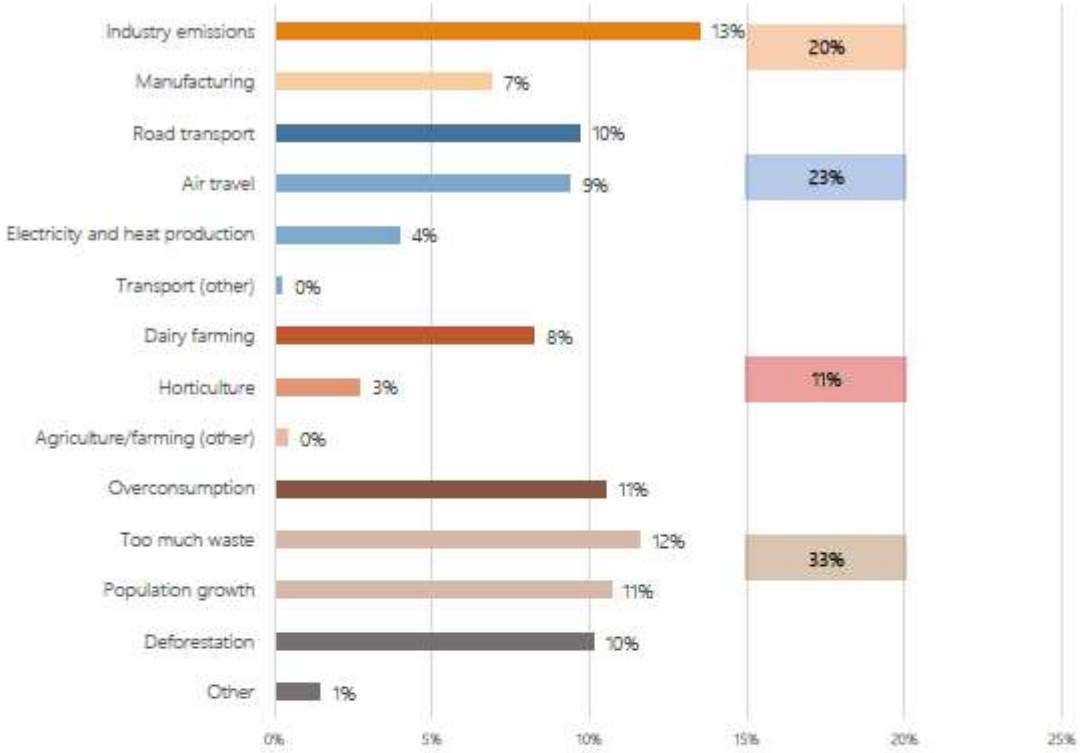
SIL Research | 8

n=835. *COLMAR BRUNTON. (2018). ENVIRONMENTAL ATTITUDES BASELINE (NATIONAL COMPARISON).

AWARENESS AND PERCEPTIONS

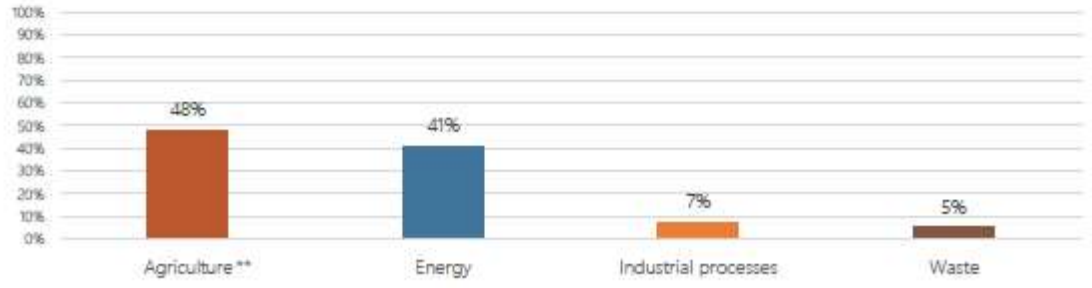
Climate change – where residents thought Hawke's Bay emissions come from

Residents were asked: *"Which of the following has the most harmful impact on climate change?"* Multi-choice question with *'Other'* option.



- According to the Ministry for the Environment, New Zealand's emission profile in 2018 showed that the Agriculture and Energy sectors were the two largest contributors to greenhouse gas emissions.
- In comparison, just 1-in-10 survey respondents (11%) identified an agricultural contribution towards climate change.
- Respondents' three main perceived contributors were population growth/waste (33%), energy/transport (23%) and industrial processes (20%).
- About 8% of residents stated that all the sources have some impact on climate change, and 2% stated *'none of them'* have an impact.

National comparison: New Zealand's greenhouse gas (total) emissions by source*



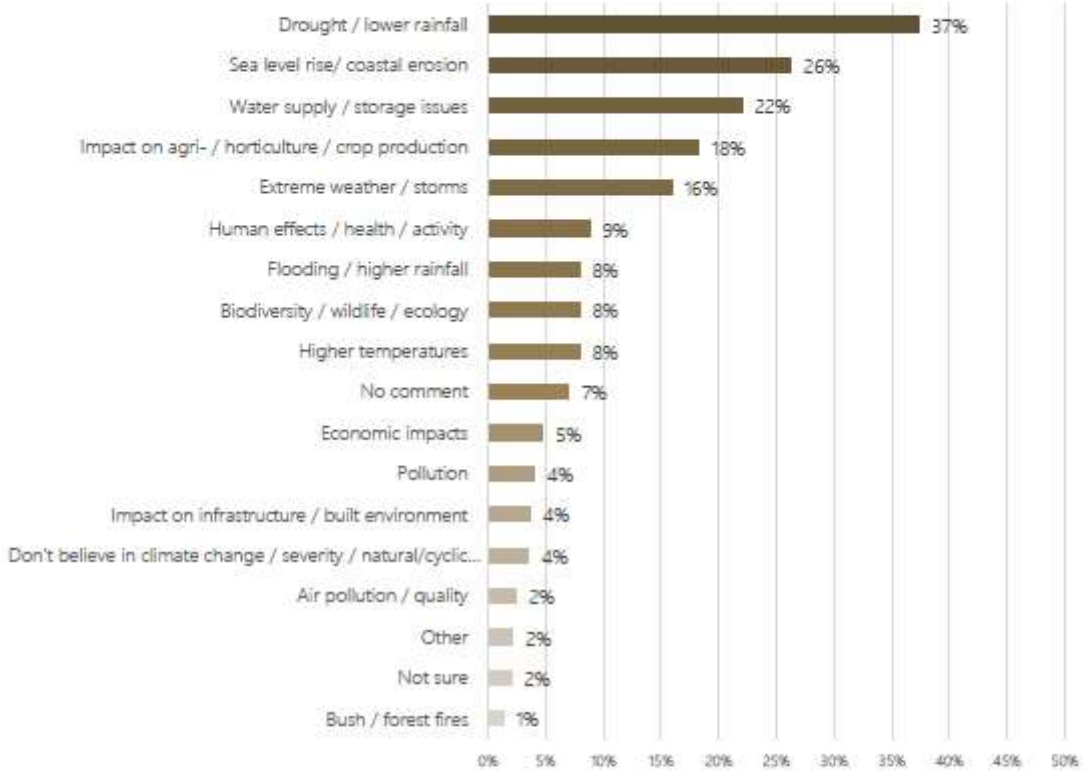
**Hawke's Bay's industry emissions profile was largely made up of agriculture (80%)

n=828. MULTIPLE RESPONSES WERE ALLOWED, PERCENTAGES OF IMPACT WERE ADJUSTED TO EQUAL 100%.
*MINISTRY FOR THE ENVIRONMENT. (2020). NEW ZEALAND'S GREENHOUSE GAS INVENTORY 1990-2018.

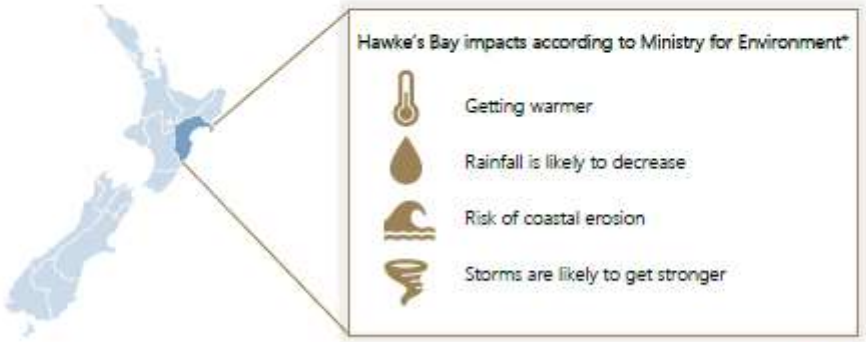
AWARENESS AND PERCEPTIONS

Negative impacts of climate change in Hawke's Bay

Residents were asked: *"What, if anything, do you think will be the most noticeable negative effects or impact of climate change in Hawke's Bay?"*. Open-ended comments sorted into categories. Totals may exceed 100% owing to multiple responses for each respondent.



- Almost 2-in-5 residents (37%) named *'Drought/lower rainfall'* as the main negative outcome of climate change in Hawke's Bay. This was followed by sea level rise (*'Sea level rise/coastal erosion'*, 26%) and water shortage (*'Water supply/storage issues'*, 22%).
- Residents in coastal Napier and Wairoa showed greater concern for *'sea level rise'* and *'coastal erosion'* compared to Hastings and Central Hawke's Bay residents.



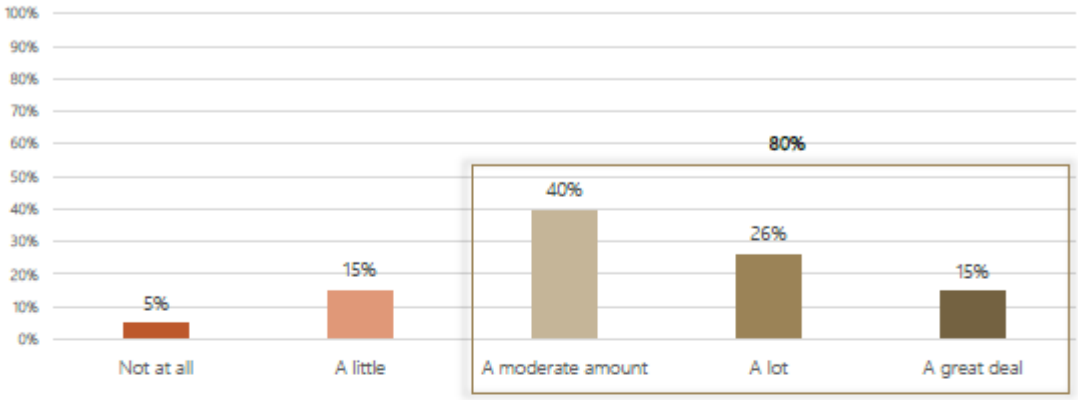
SIL Research | 10

n=836. *MINISTRY FOR THE ENVIRONMENT. (2018). CLIMATE CHANGE PROJECTIONS FOR GISBORNE AND HAWKE'S BAY REGION (NATIONAL COMPARISON).

ENVIRONMENTAL ATTITUDES

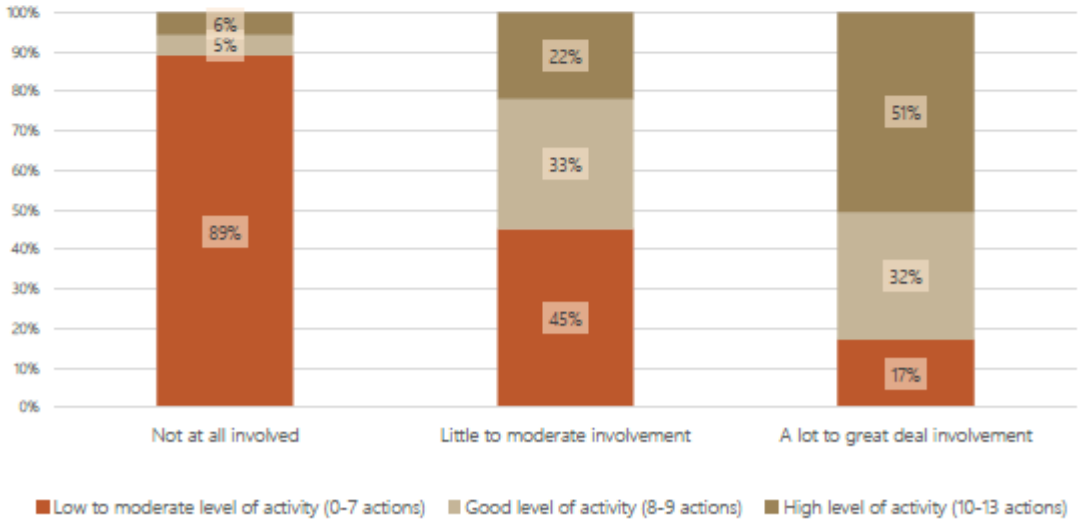
Personal involvement with activities or behaviours to reduce the impact on the environment

Residents were asked: *"How personally involved or engaged are you with activities or behaviours to reduce your own impact on the environment?" (rating question).*



- 8-in-10 residents said they had been moderately to greatly involved with activities or behaviours to reduce their impact on the environment.
- Residents aged 18 to 39 expressed the greatest commitment; only 3% believed they had no involvement at all, and 51% had been involved a lot or a great deal.
- The level of perceived involvement in environmental activities matched with actual reported actions fairly well.
- Residents could select up to 13 specific actions they had taken in the past 12 months.
- Half of those who believed they had been *'a lot'* or *'greatly'* involved reported 10 to 13 specific actions taken; another 32% reported taking 8 to 9 actions.
- In contrast, residents with low perceived involvement reported fewer specific actions taken.

Perceived involvement vs. actions taken in the past 12 months



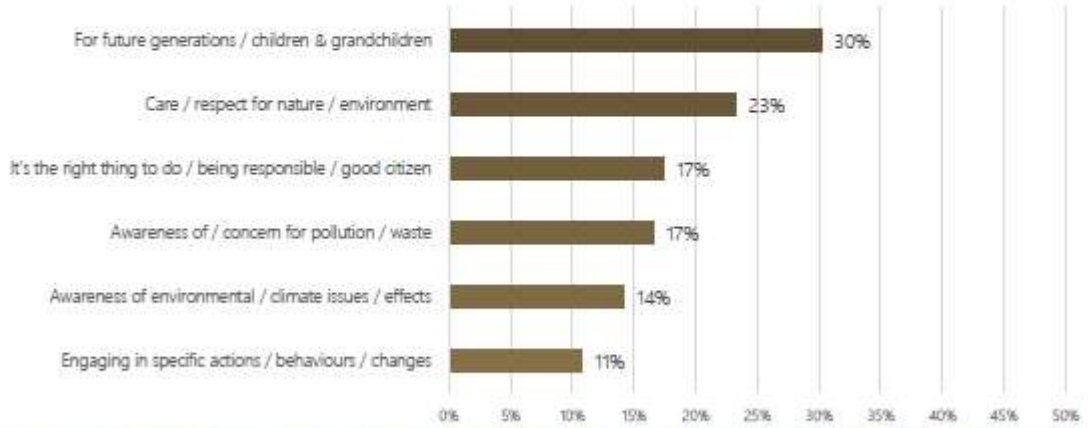
n=836.

ENVIRONMENTAL ATTITUDES

Main triggers and driving forces

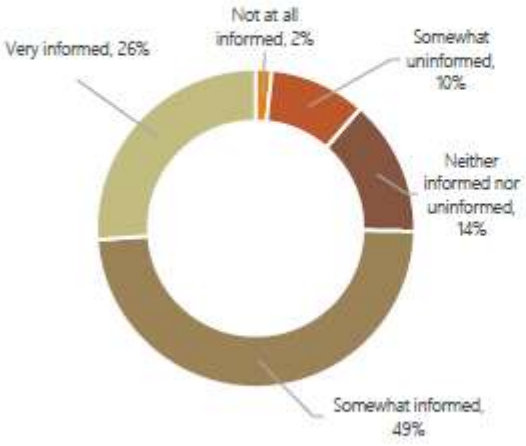
Residents were asked: *"What are the main triggers or driving forces that encourage you to engage in activities that reduce your impact on the environment? What motivates you to do those sorts of things?"*. Open-ended comments sorted into categories. Totals may exceed 100% owing to multiple responses for each respondent. Also, residents were asked: *"How informed do you feel about actions you can take every day to limit the impact of climate change?" (rating question).*

Top 6 named triggers (all residents)

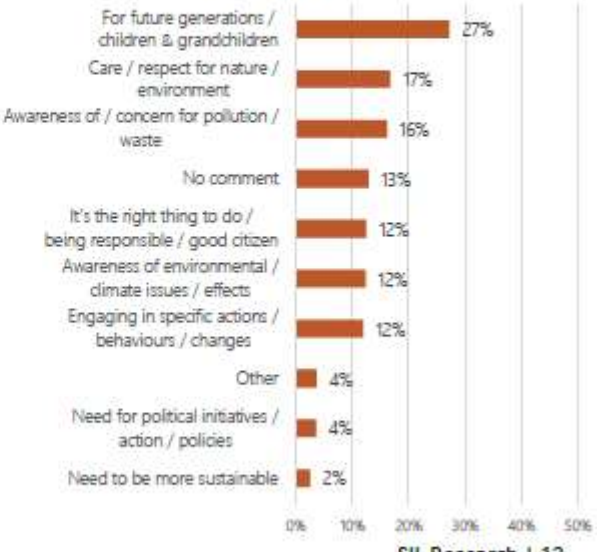


- Concern for future generations was the main driving force for engaging in environmental activities (30%).
- Residents who stated they were less involved with activities to reduce their own impact on the environment named similar triggers, however they were overall less likely to provide a comment.
- 3-out-of-4 residents (75%) felt informed about actions they could take every day to limit the impact of climate change. Feeling well-informed significantly correlated with actual involvement in environmental activities.
- Residents from rural locations, and property owners, tended to feel more informed.

How informed do you feel about actions you can take every day to limit the impact of climate change?



Top 10 triggers named by residents who are personally less involved with activities or behaviours to reduce their own impact on the environment



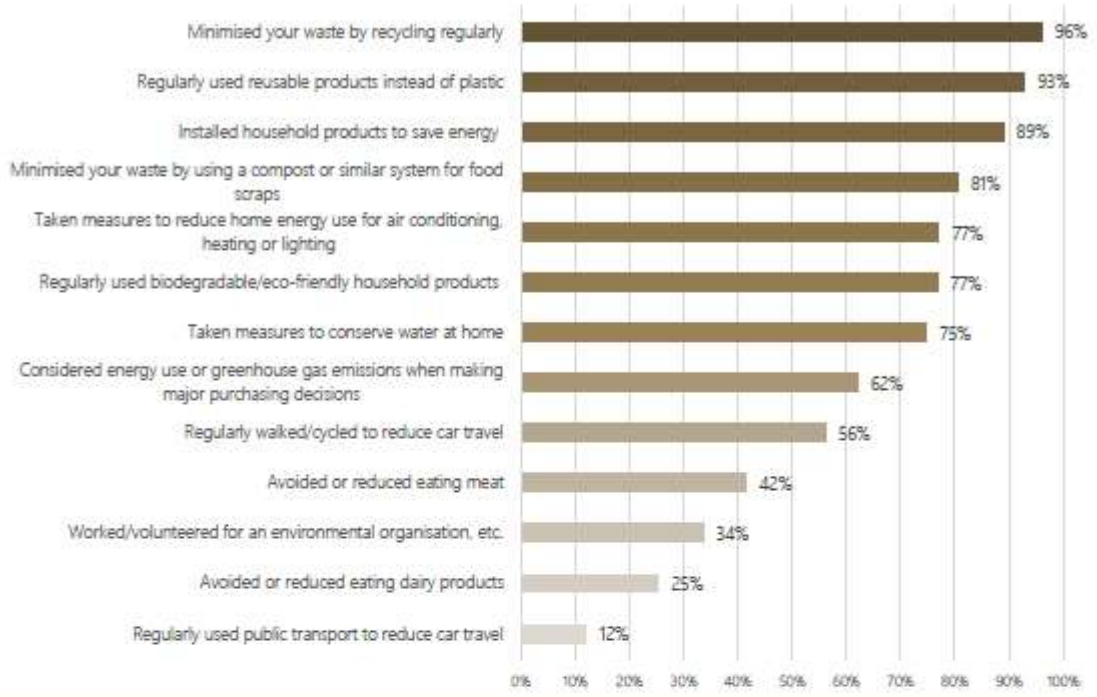
SIL Research | 12

n=836.

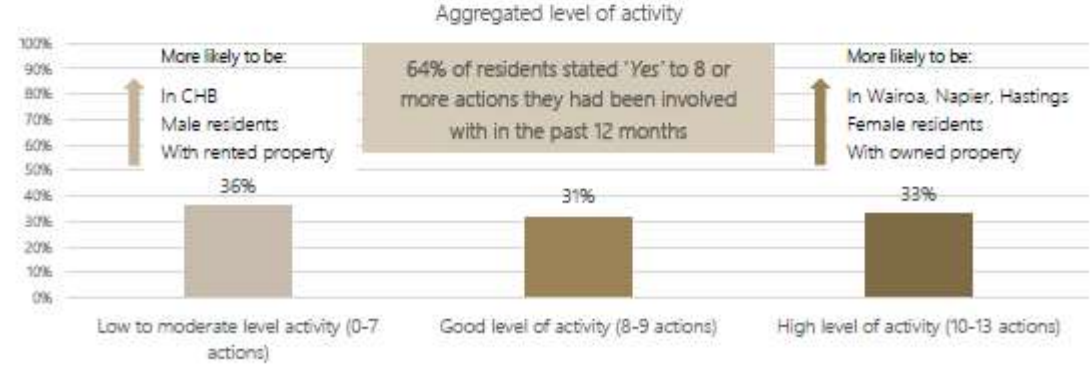
ENVIRONMENTAL ATTITUDES

Current actions taken – environment-related activities in the past 12 months

Residents were asked to state '*Yes*' or '*No*' to the list of activities they had taken in the past 12 months.



- Almost all residents stated they had minimised their waste by recycling regularly (96%); this service is currently provided by Councils in most urban areas.
- Reusable products (93%), energy saving household products (89%) and composting to minimise waste (81%) were the other three leading activities.
- Only 12% of residents mentioned they had regularly used public transport. However, this service is only available in Hastings and Napier.
- The usage of composting or similar systems was greater in Central Hawke's Bay, but volunteering or regular walking/cycling to reduce car use was lower.
- Residents aged 40 to 64 were more likely to consider energy consumption (e.g. reduce home energy use and install energy saving products).
- Younger residents (18 to 39) were more likely to avoid or reduce eating meat (50%) or dairy products (33%).

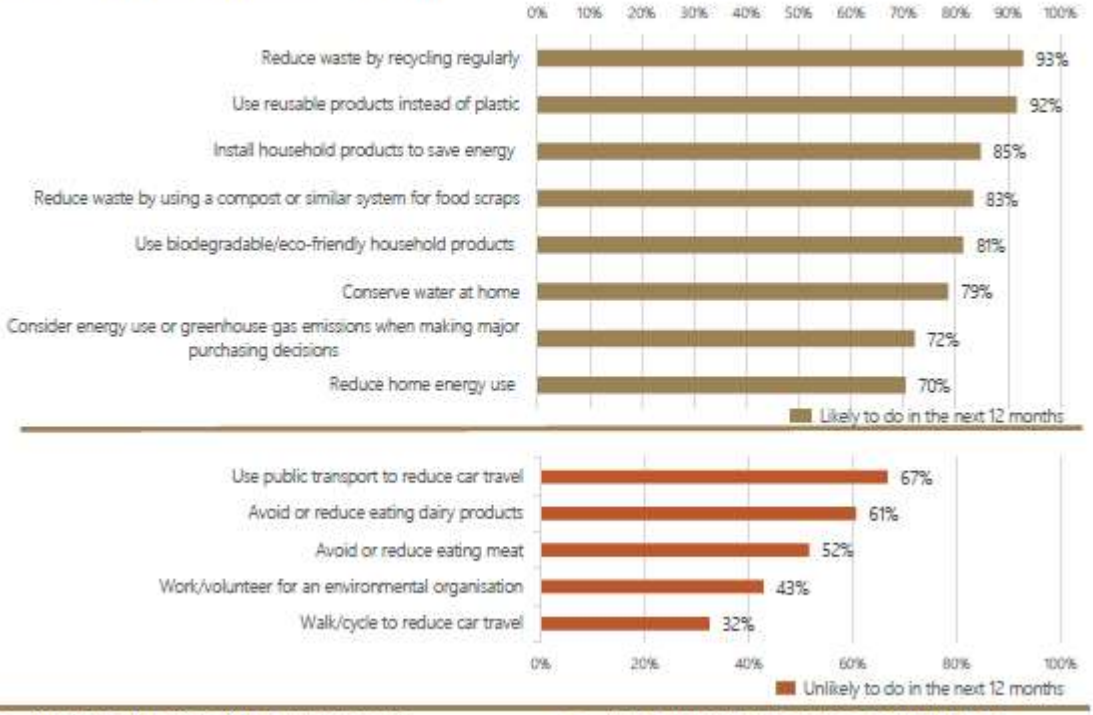


SIL Research | 13

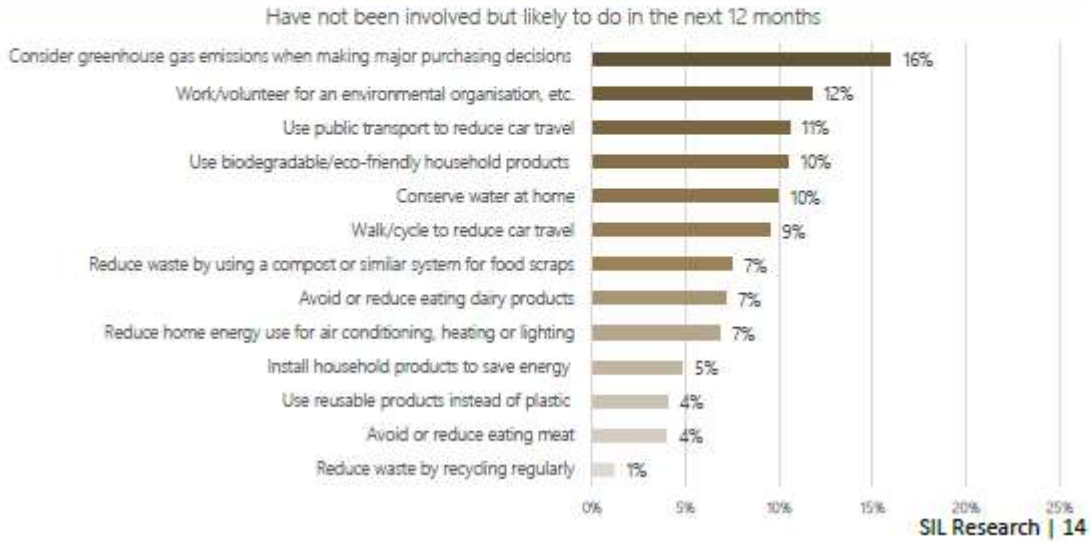
n=832-836. THE PERCENTAGE OF POSITIVE ('YES') RESPONSES IS SHOWN. LIST OF POSSIBLE ACTIONS WAS DRAWN BASED ON MINISTRY OF ENVIRONMENT RECOMMENDATIONS.

ENVIRONMENTAL ATTITUDES

Possible future involvement (in the next 12 months)



- The level of possible future involvement in environmental activities strongly related to current level of engagement; residents already engaged in a given activity were more likely to continue this activity in the next 12 months. Lower-adoption activities were public transport usage, reduced meat/dairy consumption, and volunteering for environmental organisations.
- Areas of most likely change or growth were identified. In particular, 16% of residents who had not considered products' energy use or greenhouse gas emissions before were likely to consider this when making their next major purchasing decisions.

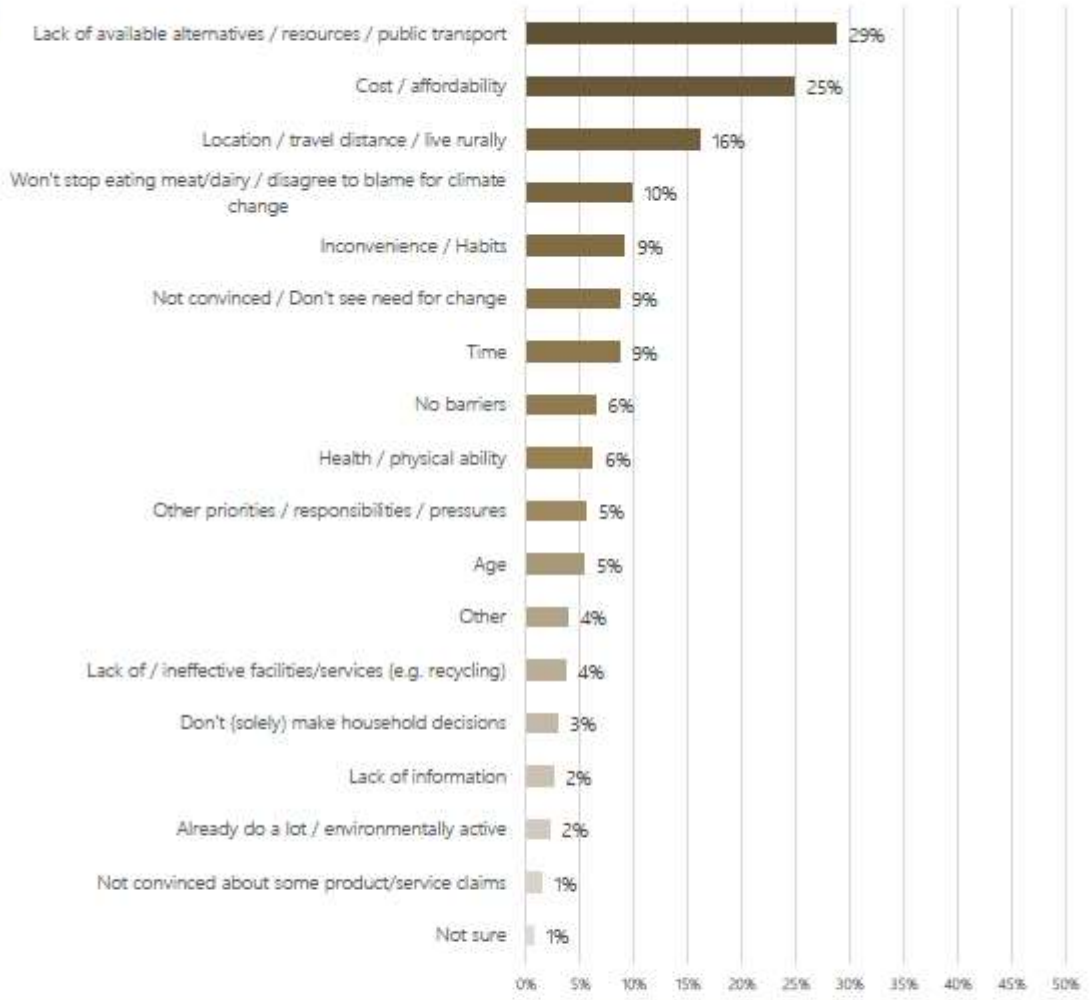


SIL Research | 14

ENVIRONMENTAL ATTITUDES

Main barriers to active engagement

Residents were asked: "*What are the main barriers for you to engage in these activities?*". Open-ended comments sorted into categories. Totals may exceed 100% owing to multiple responses for each respondent.



- Only 6% of residents felt they had no barriers to engage in environment-focused actions.
- Lack of alternatives or resources (29%) and cost (25%) were the two main cited barriers that stopped residents from being more engaged in environment-related activities.
- Lack of alternatives/resources/public transport was cited more in Wairoa (42%) and CHB (35%) compared to Napier and Hastings (27%).
- Cost and affordability were greater concerns for residents aged 18 to 39.
- Older residents (65+) were more likely to cite age and health/physical ability as their main barrier, compared to younger residents.
- More 15-17 year old residents referred to *'Inconvenience/Habits'* and *'Don't (solely) make household decisions'* (compared to older residents).

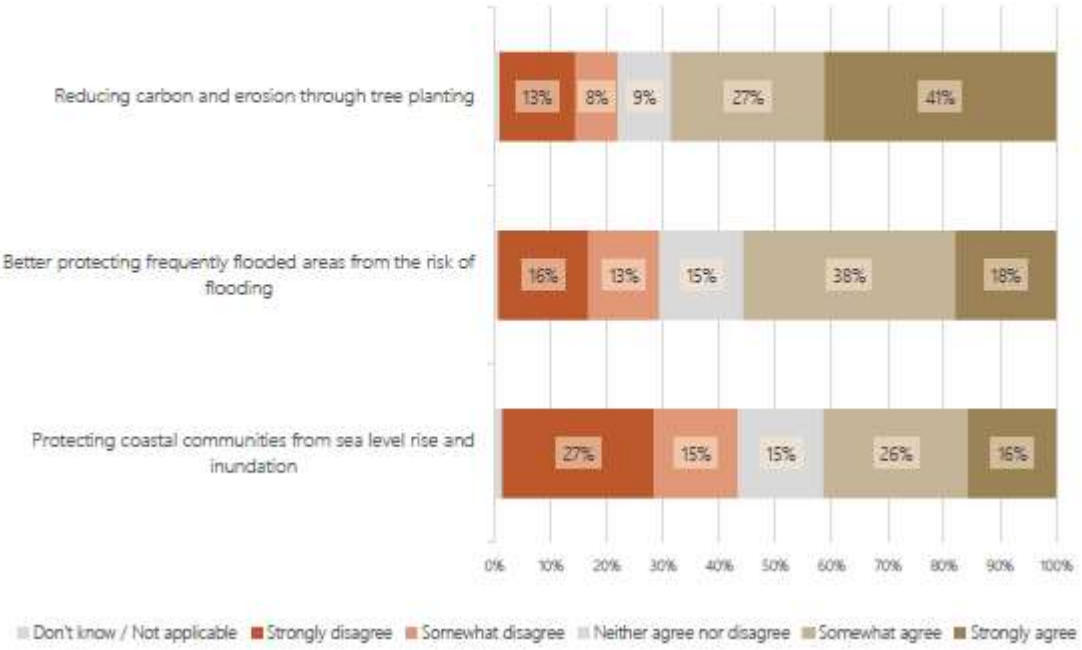
SIL Research | 15

n=570.

SUPPORT FOR ACTION

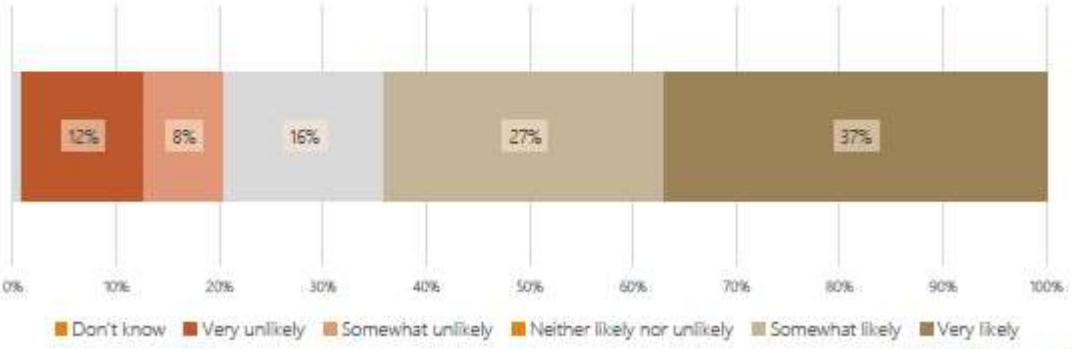
Prepared to pay more for specific initiatives

Residents were asked how prepared they were to pay more for specific climate change-focused initiatives (rating questions).



- On average, 55% of residents were prepared to pay more, for example in taxes, rates, or levies, to minimise the impact of climate change through specific initiatives.
- 3-in-4 (75%) agreed with at least one initiative. One-third of residents supported all three initiatives (34%), and one-quarter disagreed with paying more at all (25%).
- The most supported method was reduction of carbon and erosion through tree planting (69%). Younger residents (15-39) were more likely to agree with reducing carbon and erosion through tree planting.
- 64% were willing to pay higher prices for everyday products or services that offer a comparable quality or performance but are better for the climate than competing products.
- Support for coastal protection was greater in Wairoa, and for tree planting in Napier.

Willingness to pay higher prices for everyday products or services

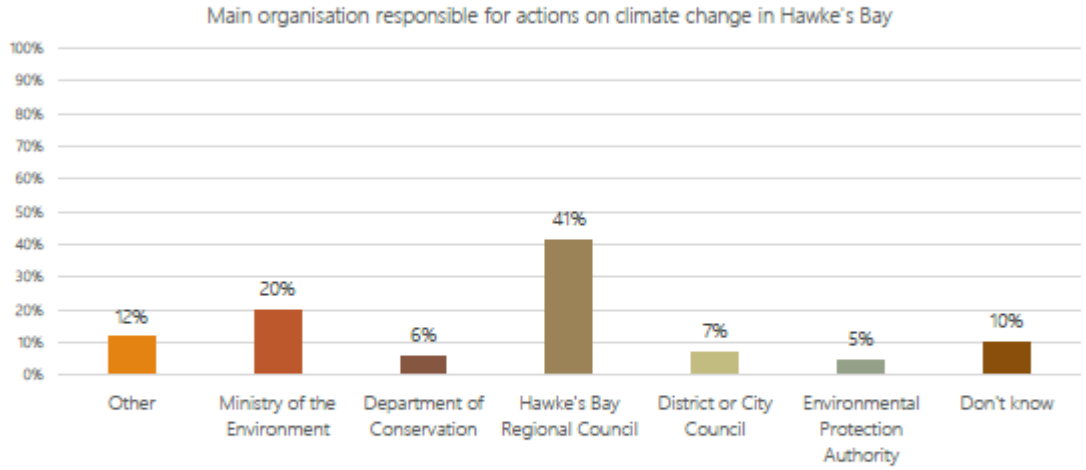


SIL Research | 16

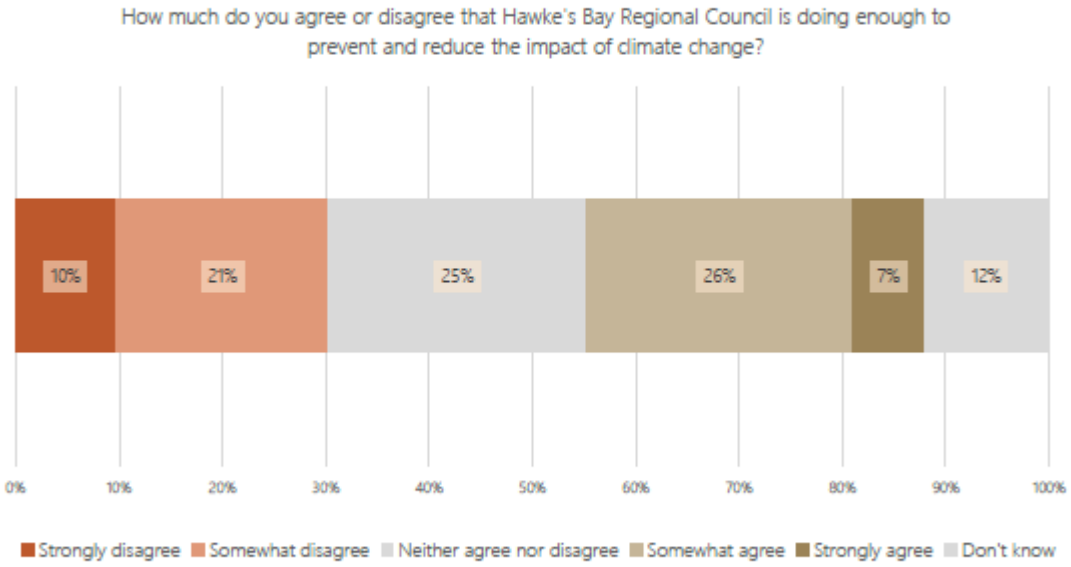
n=820-834

LEADING ROLE IN CLIMATE CHANGE

Residents were asked: *"When you think about responsibility for actions on climate change in Hawke's Bay, which main organisation do you think of?"*. Multi-choice question with *'Other'* option.



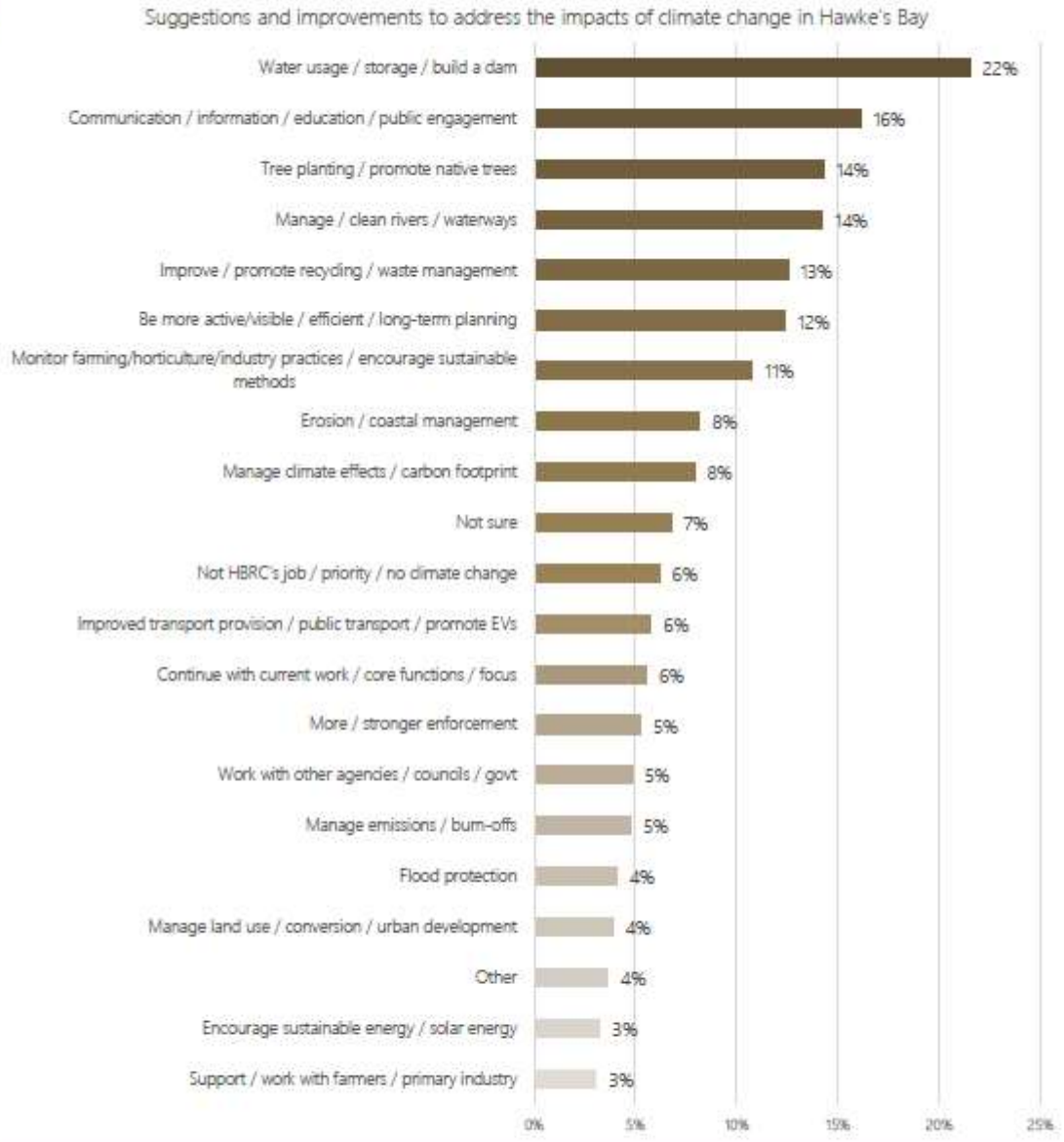
- 41% of residents identified the Regional Council as the organisation mainly responsible for actions on climate change in Hawke's Bay. This was below the 77% identification of the Regional Council as the main environmental organisation responsible for land, water, air and coast in 2019.
- One-third of residents (33%) agreed that Hawke's Bay Regional Council is currently doing enough to prevent and reduce the impact of climate change; this was slightly higher among residents who associated the Regional Council with main responsibility for climate change actions (37%).
- However, a greater share of residents (37%) were still generally unsure or neutral (*'Don't know'* and *'Neither agree nor disagree'*) about the extent of the Regional Council's current actions.



n=812-822.

LEADING ROLE IN CLIMATE CHANGE

Residents were asked: "*In your opinion, what should or could HBRC be doing to address the impacts of climate change in our region?*". Open-ended comments sorted into categories. Totals may exceed 100% owing to multiple responses for each respondent



- The top mentioned improvement was to address the main identified impacts of climate change in Hawke's Bay – water usage and storage.
- Communication and public engagement/education were also considered relatively important.

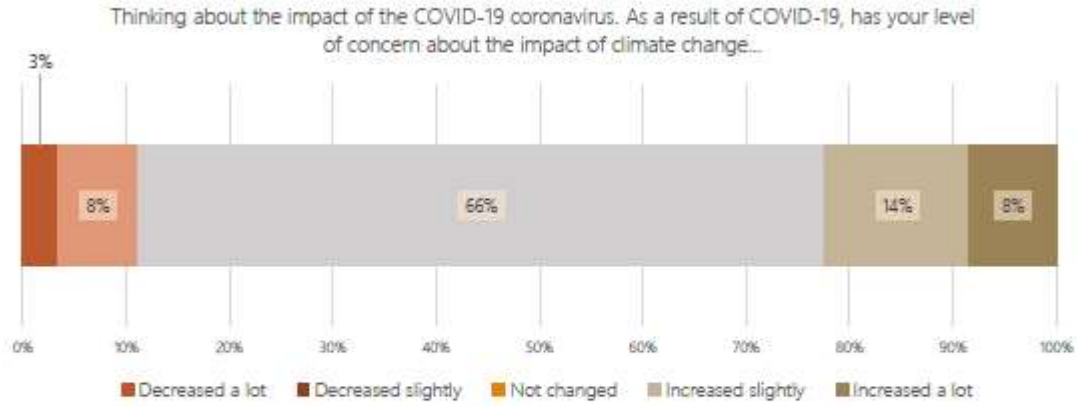
SIL Research | 18

n=687. TOTALS MAY EXCEED 100% OWING TO MULTIPLE RESPONSES FROM SOME RESPONDENTS.

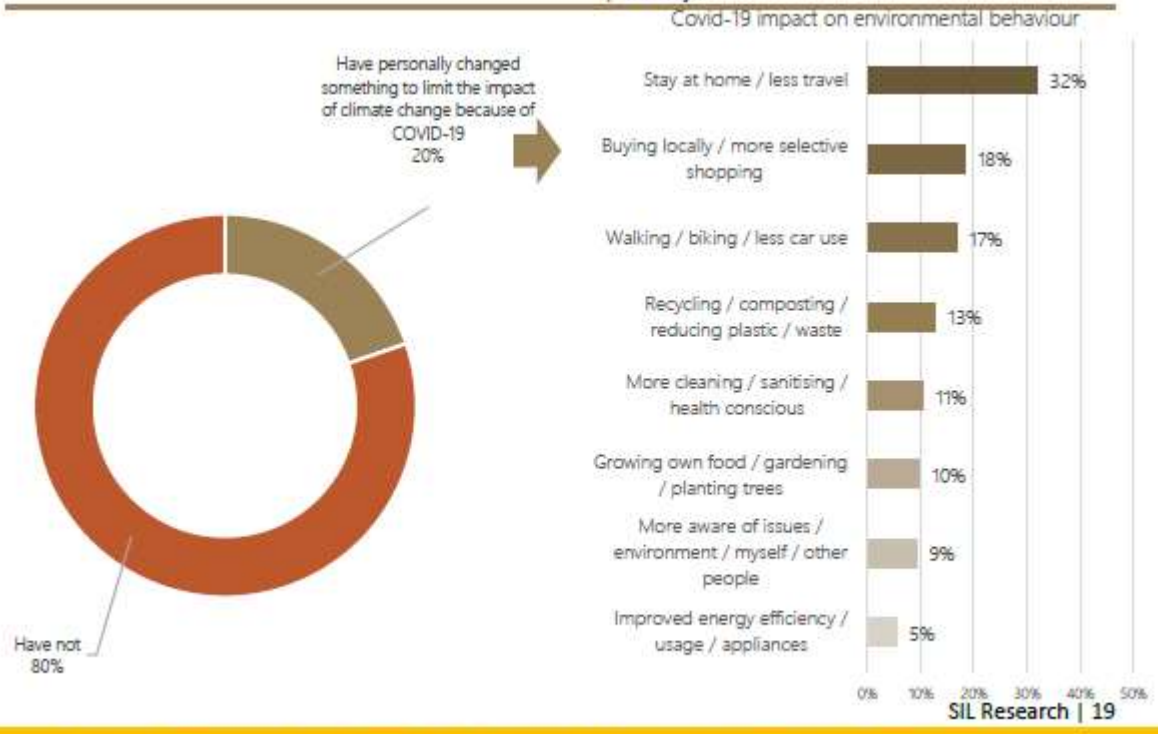
COVID-19 IMPACT

Level of concern about climate change and COVID-19

Residents were asked about their level of concern about climate change and COVID-19



- Two-thirds of residents reported no change in their level of concern about climate change due to COVID-19 (66%). However, 22% felt their climate-related concerns had increased as a result of the pandemic.
- 1-in-5 residents (20%) reported COVID-19 impacting on their environmental behaviour; about one-third of these residents (32%) indicated that staying at home was a positive impact (e.g. less car usage), with a further 17% walking or biking while using their car less.
- Many of the remaining 80% may have engaged in the same behaviours without recognising those as having a positive benefit for the environment or climate change specifically.



SIL Research | 19

n=817-822. TOTALS MAY EXCEED 100% OWING TO MULTIPLE RESPONSES FROM SOME RESPONDENTS.

METHODOLOGY

BACKGROUND AND OBJECTIVES

The purpose of this research was to investigate Hawke's Bay residents' attitudes towards the environment, especially relating to climate change. It was designed to better understand the drivers of current attitudes, beliefs and perceptions surrounding climate change, actions taken in response to this issue, and barriers to further action.

QUESTIONNAIRE AND PROJECT SPECIFICS

SIL Research together with HBRC, developed the Hawke's Bay 2020 Environment Survey questionnaire (Climate Crisis Survey).

The survey incorporated existing work completed locally and internationally, including Ministry for the Environment suggestions and initiatives on reducing the impact on climate change.

The questionnaire was reviewed and tested prior to full-scale data collection to ensure the survey was fit for purpose.

DATA COLLECTION

Research was conducted between 06 July and 31 August 2020. Multiple data collection methods were utilised to ensure residents were adequately represented and that collection methods were as inclusive as possible. A mixed methods approach included:

(1) Telephone survey. Respondents were randomly selected from the publicly available telephone directories within specified territorial units;

(2) Social media (available via SIL Research social media platforms, such as Facebook). The invitation advertisement was randomly promoted to Hawke's Bay residents;

(3) Postal survey. 1000 survey forms were sent to randomly selected Hawke's Bay households.

In addition, the survey was available via HBRC's online resources (e.g. Youth Council, Facebook).

A total of n=836 surveys were used in the final analysis.

DATA ANALYSIS AND QUALITY CONTROL

Surveys were conducted proportional to the population in each of HBRC's sub-regional geographical areas.

Table 1 Responses by area

	n and % of responses	% Population
Wairoa	40 (5%)	5%
Hastings	404 (48%)	48%
Napier	320 (38%)	38%
CHB	72 (9%)	9%

Responses were statistically weighted to reflect the area, age and gender group proportions as determined by the Statistics New Zealand 2018 Census.

The main scope of this research was focused on residents aged 18+ years old. A small number of responses was provided by residents aged between 15 and 17; these responses were also included in the analysis.

SIL Research ensured quality control during the fieldwork period. In addition, a quality control check was performed using follow-up calls across randomly selected respondents (10% of those who agreed to the follow up) to verify the key responses.

Further checks included, but were not limited to, removal of incomplete responses and responses coming from outside of Hawke's Bay.

The main resident demographics groups analysed in this report were: area, age, gender, property ownership and property type (see Appendix). During the analysis stage of this report, two sets of statistical testing were employed while reviewing data findings. Chi-square tests were used when comparing group results in tables, and ANOVA tests were used when comparing statement means across groups. The threshold for reporting any statistically significant differences was a p-value of 0.05 (corresponding to a confidence level of 95%). Where differences were outside this threshold (less than 95%), no comments were made; where differences were within this threshold, comments have been made within the context of their practical relevance to the Regional Council.

Overall results are reported with a margin of error at a 95% confidence level (see Table 2).

Table 2 Margin of error

	Reported percentages	
Responses n=	50%	80% or 20%
800	±3.45	±2.76
700	±3.69	±2.95
600	±3.99	±3.19

The maximum likely error margin occurs when a reported percentage is close to 50%.

NOTES ON REPORTING

The term '*Resident*' has been used to represent respondents who participated in the survey.

Combined (e.g. '*Agree*') percentages represent positive responses (ratings of 4-5).

The term '*unprompted*' refers to the type of question and the way it was asked. Generally, open-ended questions (e.g. with no predetermined choices) are considered unprompted as respondents are free to provide their own response.

Due to rounding, figures with percentages may not add to 100%. Reported percentages were calculated on actual results not rounded values.

Where applicable, results are compared to New Zealand overall findings (anecdotal comparison to publicly available research results).

When reading this report, it is important to note that factors such as the timing of unusual or one-off events often affect the ratings that residents give, particularly if they occur close to the time when the survey data is being gathered.

In February 2020, the first cases of a new strain of coronavirus (COVID-19) were reported in New Zealand. By the end of March 2020, the national lockdown was announced by the New Zealand Government as a response to the COVID-19 outbreak (Alert Level 4 in New Zealand's epidemic response process). This survey was conducted after the national lockdown but during the subsequent Alert Level 1 and 2. COVID-19 is having a significant impact on people's lives, both nationally and locally.

APPENDIX

Survey participants

Table 3 Age groups

	Frequency	Percent
15-17	26	3.1
18-39	244	29.1
40-64	362	43.3
65 +	205	24.5
Total	836	100.0

Table 4 Gender

	Frequency	Percent
Male	403	48.2
Female	433	51.8
Total	836	100.0

Table 5 Area

	Frequency	Percent
CHB	72	8.6
Napier	320	38.2
Hastings	404	48.3
Wairoa	40	4.8
Total	836	100.0

Table 6 Property type

	Frequency	Percent
Other	17	2.0
Urban	571	68.3
Rural	248	29.7
Total	836	100.0

Table 7 Property ownership

	Frequency	Percent
Other	10	1.2
Own	710	84.8
Rented	88	10.6
I'd rather not say	29	3.4
Total	836	100.0

NOTE: RESULTS WERE STATISTICALLY WEIGHTED. RESULTS MAY NOT ADD UP DUE TO ROUNDING.

HAWKE'S BAY REGIONAL COUNCIL

ENVIRONMENT AND INTEGRATED CATCHMENTS COMMITTEE

Wednesday 04 November 2020

Subject: DISCUSSION OF MINOR MATTERS NOT ON THE AGENDA

Reason for Report

1. This document has been prepared to assist Committee members note the Minor Items to be discussed as determined earlier in Agenda Item 5.

Topic	Raised by