

Meeting of the Cyclone Recovery Committee

Date: 21 June 2023
Time: 9.00am
Venue: Council Chamber
Hawke's Bay Regional Council
159 Dalton Street
NAPIER

Agenda

Item	Title	Page
1.	Welcome/ Karakia/ Housekeeping/ Apologies	
2.	Conflict of interest declarations	
3.	Confirmation of Minutes of the Cyclone Recovery Committee meeting held on 24 May 2023	
Information or Performance Monitoring		
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21 June 2023

Subject: Rapid Rebuild projects update

Reason for Report

1. This item introduces a verbal update on the status of the Rapid Rebuild programme of work, which will provide a summary of the forward-looking programme of work as well as some context around where work yet to be completed is located.

Executive summary

2. This paper and the attached situation report summarise the focus of the Rapid Rebuild team in terms of work yet to be completed.

Background

3. The status of the Rapid Rebuild programme as of 7 June 2023 is summarised in the attached Situation Report. In summary, 42 breach and scour repairs have been completed, with a further 11 actively under investigation or in construction.
4. As previously presented, the scope of the rebuild is now widening to include other rebuild/repair works associated with flood control schemes.
5. More focus is now being placed on finalizing Completion Reports for the repairs that have been finished to date.

Decision Making Process

6. 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 Cyclone Recovery Committee receives and notes the *Rapid Rebuild projects update*.

Authored by:

Jon Kingsford
Project Manager

Approved by:

Chris Dolley
Group Manager Asset Management

Attachment/s

- 1 [1](#) 9 June 2023 SITREP Rapid Rebuild Projects



RAPID REBUILD PROGRAMME PROJECTS UPDATE

Date:	09 June 2023		Programme Status	Green = on track according to Recovery Action Plan	Orange = issue could result in change of scope or timing but is being managed	Red = issue no longer manageable and need help
Report #:	# 45		Green = on track according to Recovery Action Plan			
Distributed to:	EXEC and EXTERNAL - Wednesday & Friday					
Prepared by:	Stacey McMaster					
Signed off by:	Jon Kingsford	Rapid Rebuild Workstream Manager				

Link to flood infrastructure repair map <https://www.hbrc.govt.nz/our-council/cyclone-gabrielle-response/flood-infrastructure-repairs/>

EXECUTIVE SUMMARY:

The last of our Ngaruroro and Tūtaekurī breach repairs will be completed by end of this week. Majority of the current work programme is now associated with repairing scour and erosion. 5 Pods are now active in Central Hawkes Bay, working on both Scours and Breaches. Weather is delaying work and some completion timeframes.

KEY PRIORITIES:

- Archaeological authority underway for Springfield Upper
- Continuing to seek sources of suitable material
- Continuing to work at pace in anticipation of a cold winter
- Final breach sites nearing completion

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Site Name	Stopbank Repair	Status	Daily Update
Omahu Lower - Chesterhope	Scour	Execution	commenced work 13,14,15 16 on hold due to weather
Raupare Lower - Scours	Scour	Planning	expect to start next week
Omarunui - Lower Scours	Scour	Planning	Site visit completed awaiting feedback gaylene and TK. contractors onsite next week
Dartmoor Upper - 407 Dartmoor	Scour	Execution	at full height, small section still pending
Dartmoor Upper - 415 Dartmoor	Scour	Execution	At height - wont top soil until other scours are completed
Dartmoor Upper - Cherry Orchard	Scour	Execution	silt removal still in progress
Dartmoor Lower	Breach	Execution	Full height, currently being top soiled
Dartmoor Upper -Apple orchard	Scour	Execution	removing silt underway
Dartmoor Upper - Upper	Scour	Planning	start by 16/06
Walker Road	Breach	Execution	Topsoiling now, weather dependant
Springfield Road Upper - 3	Scour	On Hold	Archaeological artifacts found - Heritage NZ process. Document sent, awaiting confirmation Temporary fencing around trench
Springfield Road Upper - Obriens Drain	Breach	On Hold	issue with culvuts and waiting for update
Waiohiki Outer	Breach	On Hold	Assessment TBC by AIP
Farndon Lower	Scour	Planning	HES starting on site this week. working on scour 1
Franklin	Breach	On Hold	New to be discussed by team

Hawkes Bay Regional Council

Tikokino Road Lower	Breach	On Hold	technical advice required
Tapairu Road Upper	Breach	Execution	Mobilising to site
Stableford	Breach	Execution	Work underway filled in scour holes and theyre at ground level
Waipawa Upstream Mangaonuku	Breach	On Hold	New to be discussed by team
Waldrom	Breach	On Hold	New to be discussed by team On hold - Ownership to be confirmed by CHB and HBRC asset teams
Waipawa Scours	Scour	Planning	Due to start work at the end of next week 12/06
Kings	Breach	On Hold	Need to deprioritise this to allow for review of original SB alignment
Pakowhai NG	Scour	Execution	underway
Pakowhai TK	Scour	Execution	underway
Waipawa Township	Scour	Planning	onsite
Ebbetts	Breach	Investigation	surveying done
Allen Road	Breach	Complete	Completed!
Taradale	Breach	Complete	Completed!
Brookfields Lower (Awatoto)	Breach	Complete	Completed!
Omahu - Upstream	Breach	Complete	Completed!
Maraenui Golf course - 1	Breach	Complete	Completed!
Maraenui Golf course - 2	Breach	Complete	Completed!

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Powdrell Road stockpile (New Asset)	Breach	Complete	Completed!
Waipawa - Stevensons	Breach	Complete	Completed!
Waipawa - Under SH2	Breach	Complete	Completed!
Omahu Lower - D.S of Bridge	Breach	Complete	Completed!
Moteo - CH500	Breach	Complete	Completed!
Springfield Road Upper - 1	Breach	Complete	Completed!
Moteo - Vicarage Road	Breach	Complete	Completed!
Dartmoor Upper	Breach	Complete	Completed!
Raupare Upper - Site 2 (Fernhill)	Breach	Complete	Completed!
Omarunui - Main breach	Breach	Complete	Completed!
Omarunui - Upper breach	Breach	Complete	Completed!
Omahu lower - Scours 9	Scour	Complete	Completed!
Springfield Road Upper - 2	Breach	Complete	Completed!
Walker Road Downstream End	Breach	Complete	Completed!
Omahu lower - Scour 7	Scour	Complete	Completed!
Tikokino Road Upper	Breach	Complete	Completed!
Omahu lower - Scour 8	Scour	Complete	Completed!
Waipawa - Coronation Park	Breach	Complete	Completed!
Pan Pac	Breach	Complete	Completed!
Omahu Lower - Moffetts 1- Breach 3	Breach	Complete	Completed!
Omahu Lower - Moffetts 2- Breach 4	Breach	Complete	Completed!
Omahu lower - Scour 4	Scour	Complete	Completed!
Springfield Road Lower	Breach	Complete	Completed!

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Omarunui - Lower Site	Breach	Complete	Completed!
Moteo - Upperstream	Scour	Complete	Completed!
Moteo - Middle	Scour	Complete	Completed!
Moteo - Downstream	Scour	Complete	Completed!
Omahu Lower - Taylors- Breach 5	Breach	Complete	Hydroseeding expected today (30/5) Completed 01/06
Omahu lower - Scour 1	Scour	Complete	Hydroseeding expected today completed (01/06)
Omahu lower - Scour 2	Scour	Complete	Hydroseeding expected today (01/06)
Omahu lower - Scour 3	Scour	Complete	Hydroseeding expected today Completed (01/06)
Omahu lower - Scour 5, 6	Scour	Complete	Hydroseeding expected today (01/06)
Omahu lower - Scour 10,11	Scour	Complete	Hydroseeding expected today Completed (01/06)
Stockade Road	Breach	Complete	Work underway expected completion 2/6
Pakowhai Outer (TK & NG Confluence)	Breach	Complete	Full height, currently being top soiled. Hydroseed 02/06
Raupare Upper - Site 1 (Fernhill)	Breach	Complete	Hydroseeded expected 01/06 and moving onto scours

Subject: Silt and Waste Recovery Taskforce

Reason for Report

1. This report provides an update on the status and progress of the Silt and Waste (debris) Recovery Taskforce (Taskforce).
2. Recent funding announced from central government on 3 May 2023 allocated \$70.6m to Hawke's Bay to deliver the recovery works through a vehicle like the taskforce; this report aims to outline the operations of the Taskforce.
3. Hawke's Bay Regional Council is the administering authority of the funding received and is therefore the agency to which the Taskforce is responsible.

Background

4. The objective in March 2023 was to establish a sustainable Taskforce model for the recovery and management of silt (sediment) and waste (debris) deposited across the wider Hawke's Bay whenua.
5. The Taskforce, alongside Council officers, established the following priorities once it was established:
 - 5.1. To create a taskforce model to sustainably manage the silt recovery including resourcing appropriate expertise
 - 5.2. To secure funding to support the ongoing Taskforce recovery programme
 - 5.3. To support local contractors to collect silt deposited and manage silt deposit sites
 - 5.4. To establish deposit sites to manage the silt recovered, with permanent end uses as the preferred outcome
 - 5.5. To manage the activities undertaken to recover silt within regulatory and other required legislation
 - 5.6. To provide confidence to the community in respect of environment controls, silt management and recovery methods
 - 5.7. To provide clear communications and information to the community on the silt recovery Taskforce work programme
 - 5.8. To work in with internal and external stakeholders to ensure best for region outcomes.
6. The scope of the Taskforce covers calls received through the 0800 108 838 number and an [online form](#), and as otherwise directed to the Taskforce via email to waste@hbrc.govt.nz, the information within this report relates to that data captured. The first calls were received on 23 February 2023.
7. The Taskforce is not responsible for the silt collections in the Napier urban area or the Wairoa area.
8. The Taskforce currently manages calls related to silt (sediment) and waste (debris and wood) and the detail below provides detail on the recovery and management underway.

9. What is covered by sediment and debris?

- 9.1. *Sediment* - means sand, silt and clay particles deposited as a result of Cyclone Gabrielle. In the context of cyclone sediments, the deposition may also include gravels (larger particles, up to the size of boulders). Sediment may also be clean or contaminated with other materials. The type and nature of contamination may affect how the sediment is managed, where some form of management is pursued.
- 9.2. *Debris* - means the likes of horticultural and agricultural flood waste such as netting, packaging, chemicals, vehicles, equipment, caravans, sheds and building materials from damaged housing. This includes some woody debris, which in this context generally refers to fence posts, vegetation, and trees such as shelterbelts, riparian plantings and orchards that have been picked up by flood waters. In some cases, woody debris will include a percentage of forestry slash that will be in scope.
- 9.3. *Council-Owned Property* – includes properties where there is a clear public interest in the Recipient undertaking the Agreed Purposes on these properties. This could include activities taken on land that posed a significant health hazard but where restrictions on the land may have prevented other parties from taking action to address these.

The Response and Recovery

- 10. The establishment of the Taskforce resulted in increased collaboration between Hawke's Bay Regional Council and Hastings District Council, and the ongoing support of Napier City Council, Central Hawke's Bay District Council and Wairoa District Council.
- 11. The Taskforce implemented a zoning system to better respond and serve our community with the recovery of silt piled for collection. This system still operates to date and has 18 contractors collecting silt.
- 12. Deposit or stockpile sites were needed, and as close to the affected communities as possible. These are serving the recovery well, and we continue to refine how we use these sites and where they are located for future needs.
- 13. The Severe Emergency Weather Legislation Bill while allowing additional time to lodge consents and notify of emergency activities, doesn't offer much other support to the Taskforce.
- 14. A significant amount of silt was quickly identified to be largely 'clean' – free from debris. While largely free from debris, a significant portion of silt was mixed with debris (organics and inorganics) and this varies area by area.
- 15. Estimates are that there are multi millions of cubic metres of silt deposited across our whenua.
- 16. A testing regime was established to test the silt at deposit sites, three times a week; this regime is still in place
- 17. Engagement with community, sector and mana whenua is vital to the recovery, and a communications plan and strategy has been developed and is implemented across the region.
- 18. The service model was built for silt but is able to be replicated across other areas. We are considering incorporating other waste streams to ensure that we are collecting all relevant information to enable the use of this model to drive and prioritise our work.

Engagement

- 19. We continue to regularly update the community with social posts and videos from the Taskforce covering the latest statistics, silt deposit sites, potential uses for silt, and more. We're getting positive responses and hundreds of views on the videos.

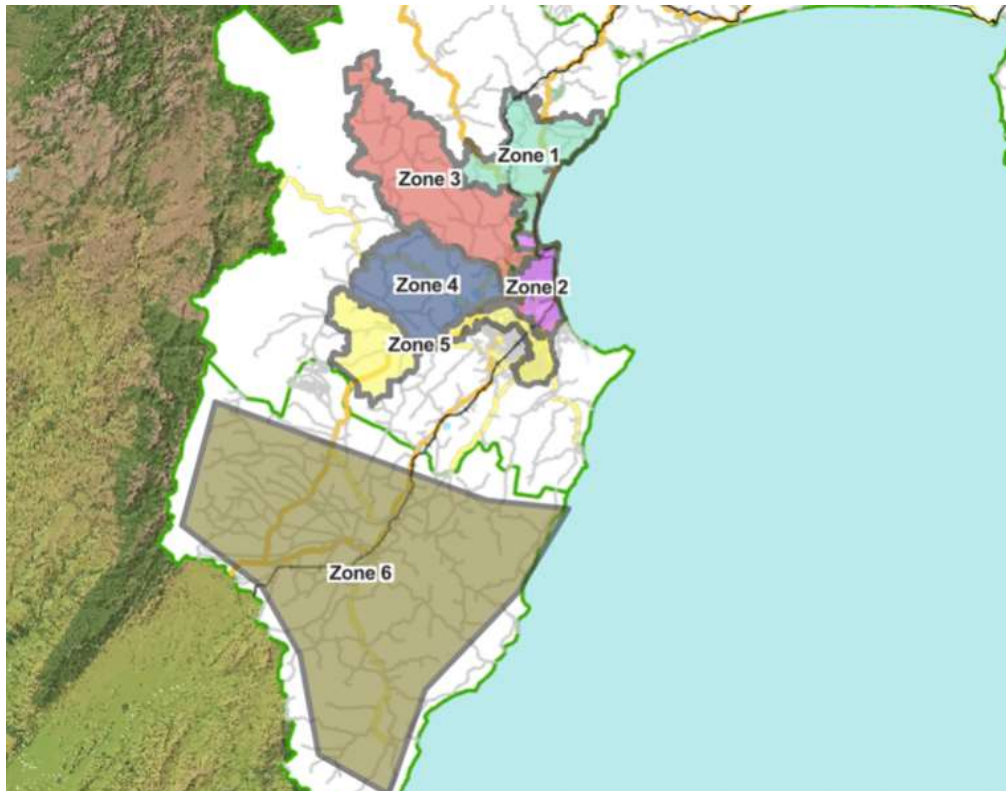
Prioritisation of workload

20. All calls logged through the 0800 number or online platform are assessed either by a council or contractor assessor to help prioritise each individual job logged.
21. Assessors are looking for whether the silt poses a direct health and safety risk to person or property, noting in a lot of cases the how the damage has occurred to see if this is impeding cleaning up efforts.
22. Assessors are looking for whether the silt or debris is impeding business activities.
23. Assessors are looking for whether the silt is impeding access to a property.
24. Assessors investigate the silt/ waste stream and how well sorted or ready for collection the piles are, and whether we have an end use site for them.
25. Using all of these factors we prioritise which jobs our contractors respond to.

Silt

26. Since calls were first received from 23 February 2023, the following 'jobs' have been logged.
 - 26.1. **Rural Hawke's Bay:** The predominant recovery focus for the Taskforce with 413 silt collections logged since 23 February 2023.
 - 26.2. **Napier City:** 24 silt collection jobs logged through the Taskforce channel. We understand 23 jobs were logged direct to NCC using their Ahuriri alliance contractor Downer to collect.
 - 26.3. **Hastings Urban:** 21 silt collection jobs logged for the Hastings Urban area to date, primarily in Havelock North.
 - 26.4. **CHB Urban:** CHB has had minimal jobs through the Taskforce channels, but we understand silt on property has and is being dealt with in Waipawa and Porangahau, along with some impacts to the rural areas.
 - 26.5. **Wairoa Urban:** Wairoa has been managing their own recovery of silt, with an estimated 20,000 tonnes of silt collected and managed from residential properties.
27. We anticipate across these logged jobs to the Taskforce that we have circa 1,000,000m³ still to collect.
28. To date over 350,000m³ has been shifted from property, and a higher amount from roads and accessways.
29. The Taskforce zoned the wider Hastings, Napier and CHB areas to make the collection process easier to manage and coordinate – see next page for detail on the zones.

Zones



Impact by Zone

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Other	Total
Needs assessment	7	9	12	21	13	1		63
Assessed	41	11	9	20	9			90
Contractor assigned								0
Programmed		19	2	3				24
In progress	4	10	8	12	2			36
Completed	2	17	33	27	28			107
On hold	1	17		5	1			24
No further action required	15	40	11	9	7	1	1	84
No status	1	1						2
Total	71	124	75	97	60	2	1	430

Management of silt – where does it go?

30. The Taskforce has established nine deposit sites across Hawke's Bay to receive 'clean' silt that is collected by our contractors.
31. These sites are strategically as close as possible to the affected communities
32. These sites are mainly permanent. The early established sites were temporary in nature and have since ceased receiving silt.

What will we do with all this silt?

33. A number of end uses are in place and each of these add different options for the Taskforce, including:
 - 33.1. Filling land voids within large properties

- 33.2. Recontouring and shaping land depressions
- 33.3. Use in aggregate and basecourse production
- 33.4. Use in future land development
- 33.5. Backfill material for borrow sites (typically used for stopbank repairs)
- 33.6. Use in creation of topsoil and compost for future land replenishment
- 33.7. Stockpiles for any of the above.

Woody debris

- 34. The recovery of woody debris across our land, in waterways, around our assets remains a significant challenge
- 35. We are well resourced by contractors to tackle this task – with the Hawke’s Bay Forestry Group, mobilising early with funding support of \$1.5m from HBRC to begin recovery and clean-up in the Omarunui, Dartmoor, Arapoanui, Tangoio and Esk Valley areas.
- 36. Silt mixed with wood remains a challenge, we are working with our contracting teams to manage this. Some can be managed on site, other needs to be sent to our processing sites, of which we have three – in Omarunui, Dartmoor and Esk Valley.
- 37. A particular focus on wood recovery is being applied in the Wairoa District, with many known issues identified following meetings and time with Wairoa staff. Areas of focus are located at (not limited to):
 - 37.1. Mahia, Opoutama, Taylors Bay
 - 37.2. Nuhaka
 - 37.3. Whakamahia
 - 37.4. Railway Bridge
 - 37.5. Opouiti Bridge
 - 37.6. Willowflat Road
 - 37.7. Mangawharangi Stream
 - 37.8. Mangawhio Lagoon.
- 38. Napier coastal areas continue to be a focus with woody debris present at Bayview, Westshore, Ahuriri, Marine Parade and Tangoio.
- 39. Central Hawke’s Bay has reported that a clean-up required of woody debris is required at Kairakau; further information is needed in CHB.

Progress to date

- 40. 63 jobs for wood collection have been called through the 0800 number, of which 24 have been resolved. Staff are aware there is far more wood present and a combination of the 0800 number and our local information is required to deal with the wood recovery.
- 41. The Taskforce estimates to date 100,000m³ of woody debris has been recovered from land.

Mixed silt with waste

- 42. Our most challenging area to deal with is the silt that has engulfed property, equipment, vineyards, orchards and other such material
- 43. Separating this is an extremely manual and slow process to separate, which requires some separation on property for the larger material, and the balance transported to a processing facility to be screened to be separated.

44. We have since established two 'processing sites' to separate silt mixed with waste (debris) in Pakōwhai and Esk Valley.
 - 44.1. Typically silt, once free from debris, will be tested and then transported to a deposit site.
 - 44.2. Once debris is removed from silt it will be sorted into waste and recycle piles to either be recycled or sent to landfill.
45. We continue to learn and find solutions to deal with the waste (debris) streams; some examples are:
 - 45.1. **Extenday:** following trials it is anticipated that *Extenday* horticultural fabric material can be turned into posts by a company called Future Post based in Waiuku.
 - 45.2. **PVC tanks:** following a small trial in Waipawa, we have found a solution to collect damaged water tanks and send them to be recycled.
 - 45.3. **Flood damaged windows:** a process has been developed with construction and demolition teams at council.
 - 45.4. **Tanalised timber posts:** Ongoing efforts to salvage damaged orchard and vineyard posts include onsite trials to separate these, with our teams working with companies like Repost to try to salvage these posts from being burnt, chipped or sent to landfill.
46. We, along with other council waste teams, are working to try to find solutions for waste and to reduce the volume of waste going to landfill. This will likely involve targeted campaigns on specific waste streams as we work to collect these materials.
47. Omarunui landfill received a significant increase in volume, with approx. 15,000 tonnes of additional waste going to landfill in February, March and April from flood-affected household goods.

Commercial waste

48. Waste from commercial businesses is a challenge and as described in the silt mixed with waste section remains a slow process.
49. Funding for commercial properties that has opened recently to support the clean-up. Our service delivery model will support this waste stream, where a business cleans up their property, and calls through for collection.
50. The processing sites we have and are setting up will be able to manage the many waste streams with support from other territorial authorities. For example, Hastings District Council has recently released a *flood damaged goods disposal guide* (<https://www.hastingsdc.govt.nz/assets/Document-Library/Waste-Resources/Cyclone-Gabrielle-Flood-Damaged-Disposal-Guide>).

Government funding

51. The government funding announced for territorial authorities on 3 May 2023, covers the following activities:
 - 51.1. Processing and management of sediment and debris resulting from Cyclone Gabrielle, including but not limited to testing, recycling, processing, transporting, shredding, chipping, containment, or disposal of sediment and debris
 - 51.2. Maintenance of existing disposal facilities that are receiving significant quantities of sediment and debris, or the establishment of new sediment and debris processing, stockpiling and disposal sites
 - 51.3. The collection and management of sediment and debris resulting from Cyclone Gabrielle within the public interest, such as on/in Council-Owned Property or other assets and/or where there is a health or environmental risk, and not otherwise funded or able to be funded

- 51.4. The collection and transport of sediment and debris from residential properties, including clearing of accessways, and
- 51.5. The Recipient may perform administrative and operational actions to support the Agreed Purposes, and its costs for these may be claimed to the extent payable as Eligible Costs.

Commercial business funding

- 52. Part of the funding announced on 3 May 2023 included a commercial grant of \$62.6million for businesses impacted in Hawke's Bay. The objective of this fund is to support businesses to return their land to production and an economic state.
- 53. The fund is to be administered by the Hawke's Bay Regional Council within an agreed design brief by DIA which outlines the eligibility and criteria which applications need to meet and be prioritised within.
- 54. The applications to this fund opened on 6 June 2023.

Resourcing the Taskforce

- 55. The Taskforce is resourced through a cross council and external supplier team.
- 56. The Taskforce has engaged over 25 contractors, over 90% local to Hawke's Bay, and all Tier 2 and below.
- 57. The Taskforce has worked to streamline options for landowners recovering and cleaning up their land with a recent collaboration with Insurance Council NZ and EQC to create a shared authorised contractor list whereby a contractor can work for a landowner to clean up silt / debris on property, and also be engaged by the Taskforce to transport to a deposit/ processing site in the place of engaging a Taskforce contractor to be programmed to collect a pile.

Risks and Challenges

- 58. Meeting community needs and expectations within funding available.
- 59. Impact of land classification (zoning) on clean-up efforts.
- 60. Land form change impacted by further silt removal inconsistency.
- 61. Catchment changes and impacts due to silt deposited onto land impacting flow paths.
- 62. Impact of abandoned vehicles, machinery and houses on the clean-up efforts.
- 63. Regulatory restrictions and pressures:
 - 63.1. Operating within traditional resource management requirements, e.g. a resource consent required for all deposit sites to be lodged 160 days from date of Section 330 notification.
 - 63.2. Operating with within Waste Minimisation Act (WMA) requirements places a burden on the Taskforce to report all loads entering our facilities and a requirement to report these to MfE monthly. Regulations under the WMA do not provide flexibility to update waste tonnage information after the reporting deadline has passed (except for facilities that have been approved to report annually).
 - 63.3. It should be noted an Order in Council is proposed to support the challenges identified in 63.2 above and is expected to be enacted in late June 2023 to allow wash up of data, and flexibility on reporting.
- 64. Delivering an equitable service to all communities.
- 65. The volume and transactional nature of contract management required to deliver the recovery works.
- 66. Resourcing a cross-council Taskforce for an extended period of time while not detracting from business-as-usual demands and expectations.

Funding and Expenditure to date

67. The Taskforce of Hastings District Council and Hawke's Bay Regional Council estimates to have expended \$9.7m to the end of May 2023.
68. The Napier City Council, Central Hawke's Bay District Council, Wairoa District Council and Hawke's Bay Regional Councils estimate to have expended \$12.063m to 30 June 2023 on non-Taskforce related activities (such as drain clearance).
69. Moving forward a budget will be assigned to Napier City Council (urban and Awatoto silt management) and Wairoa District Council (silt management) to continue to undertake these activities for their communities. The balance of the activities that fall within the sediment and debris remit will be delivered by the Taskforce.
70. A back-to-back agreement is to be executed by the councils to agree on this commitment to collaborate and work together to deliver on the outcomes of the funding agreement and community needs.

Next Steps

71. The government funding is to be spent by 30 June 2024, the Taskforce continues to monitor progress against expenditure and will continue to report into the Group Managers on a monthly basis via a status report and verbal update.
72. The Taskforce will continue to support the community with the existing service delivery model as outlined in government operating parameters (paras 51.1 – 51.5).
73. The Taskforce will communicate and engage with the community to provide reassurance and confidence the clean-up efforts are a priority, and that we are making progress.
74. Support for whenua Māori is still being finalised, but funding will be available to be used for costs related to the clean-up of silt, sediment, and debris. Te Puni Kōkiri will be leading engagement with key entities and affected communities to better understand the needs of landowners and the location of affected whenua.

Decision Making Process

75. 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 Cyclone Recovery Committee receives and notes the *Silt and Waste Recovery Taskforce* staff report.

Authored by:

Natalie Brown
Senior Business Analyst

Darren De Klerk
Silt And Waste Recovery Taskforce Lead

Approved by:

Chris Dolley
Group Manager Asset Management

Attachment/s

- 1 [📄](#) Silt & Waste Recovery Taskforce Status Report 5



Status Report

Overall Status: **AT RISK**

Project Name: Silt and Waste Recovery Taskforce

Date: Friday 09 June 2023

Report # 5

Frequency: Monthly

Prepared by: Darren de Klerk

Status Code Legend

- On Track: Project is on schedule
- High Risk: At risk, with a high risk of going off track
- At Risk: Milestones missed but date intact
- Off Track: Date will be missed if action not taken

Objective

To establish a sustainable taskforce model for the recovery and management of silt (sediment) and waste (debris) deposited across the wider Hawke's Bay whenua.

Priority

1. To create a taskforce model to sustainably manage the silt recovery including resourcing appropriate expertise
2. To secure funding to support the ongoing taskforce recovery programme
3. To support local contractors to collect silt deposited and manage silt deposit sites
4. To establish deposit sites to manage the silt recovered, with permanent end uses as the preferred outcome
5. To manage the activities undertaken to recover silt within regulatory and other required legislation
6. To provide confidence to the community in respect of environment controls, silt management and recovery methods
7. To provide clear communications and information to the community on the silt recovery taskforce work programme
8. To work in with internal and external stakeholders to ensure best for region outcomes

Executive Summary

To date 438 silt collection jobs received, 115 are complete, 84 require no further and 126 in progress either assessed, programmed or started. 26 new jobs have been received in the last fortnight. A data cleanse took place and identified a number of double ups, hence the increase in 'no further action required.'

On the 03 May 2023, Central government announced a \$133.2m funding package to Hawke's Bay for the ongoing clean up and recovery of land from sediment and debris. \$70.6m of that is to go to local authorities to continue to fund our existing service delivery model and allow Napier City and Wairoa District to continue to provide their services in respect of silt (sediment) clean up. The fund does include a wide brief for debris, and mixed waste and woody debris fall within this. The taskforce will take an overarching coordination of woody debris across all area.

For the commercial sector (businesses impacted by Cyclone Gabrielle, of the \$133.2million, \$62.6m has been set aside for affected business to apply for a grant of \$40k, with a further \$210k available if a 50/50 cost share is applied. Focus has been on meeting government requirements to open the application process and to finetune the eligibility and criteria to ensure those most affected receive the funds. The release of the applications to the commercial category funding – opened to businesses on the 06th June 2023.

Resourcing of the taskforce is progressing with some contract management and wood coordination making good progress in the last 2 weeks. Along with the appointment of a dedicated management accountant to support the management of the budget and the payment to suppliers.



On the ground in the last month, further sites were closed at Puketapu Road, Waiohiki Golf Course and Omarunui River Site, while three more large sites commenced operation at 451 Omarunui Road, 1016 Dartmoor and Waipunga Road in Esk Valley. Engagement with community and the sector remains a focus, with regular time out in the Esk area, and HB Growers getting focus. Mixed waste remains a focus with a new site coming online in Esk to sort mixed debris.

Scope

The scope of the Taskforce covers calls received through the 0800 108 838 number and [online form](#), or as otherwise directed to the Taskforce via email and other means, the information within this reports relates to that data captured. The first calls were received on 23 February 2023. The Taskforce is not currently covering the Napier Urban area – unless a call has been noted as rural.

These calls and those within the Awatoto cordon area are being managed by Napier City Council. This report also excludes the roading recovery works, and it should be noted a significant amount of silt has been cleared from roads since the 14th February 2023 event, with 90 roading crews working across the Hastings District since the event – a broad estimate is in the excess of 1 million cubic metres of sediment, debris and silt has been shifted. Some deposit sites act as roading and private silt sites.

Key Information at 09 June 2023

Jobs received to date	438 417 – HBRC RURAL 21 – HDC URBAN	Jobs completed No further action Jobs assessed/ in progress	115 84 126
Oldest/ First Job received	23-Feb-2023	Silt collected to date Silt Estimated to be collected	350,000m3 – Estimate ~1,000,000m3 – Estimate
Capacity at Live Sites Remaining Capacity at Live Sites	1,200,000m3 - Estimate 450,000m3 - Estimate	Trucks movements Crews working	Average 900 per day 19 contractors engaged 30 crews – Estimate
Number of Live Sites Sites In Preparation Sites at Feasibility	8 3 17	Silt Samples collected	550 – Planned Samples 6 – On Request
Costs to date:	<u>Region</u> Taskforce HBRC Napier CC Hastings DC Wairoa DC CHB DC TOTAL	<u>To 30 June 2023</u> \$5.2m \$4.3m \$4.8m \$3.7m \$3.0m \$0.15m ~\$21.225m	<u>To 30 June 2024</u> \$35.6m Taskforce \$7.2m Taskforce \$6.4m Taskforce ~\$49.37m

Consenting: Sites under S330 notification Consents being prepared Consents lodged Consents approved Consents declined	Eight Six Two Zero Zero	Compliance Concerns Complaints	Silt against stop banks <ul style="list-style-type: none"> Dust Silt on Road Speeding Septic Tank Waste
Issues to be escalated & Risks to Highlight	<ul style="list-style-type: none"> ● Waste Levy implications ● Scope that the taskforce is operating within – how much silt do we collect? ● Public perception and patience with working through backlog ● Supporting residents to remove silt, reduce double handling ● Consenting sites including iwi engagement ● Hydrology understanding of new deposit sites, and issues created by removing silt 		
Milestones accomplished since taskforce stood up:	<ul style="list-style-type: none"> ● Released online apps, data received back ● Streamlined customer service function and process including online form ● Engagement with Esk Community ● Clarity on consenting with HBRC ● Engagement with MfE, ICNZ, EQC, and other agencies to support the recovery ● Release Commercial Category Funding 		
Milestones planned for next week:	<ul style="list-style-type: none"> ● Implement Dashboard to provide live snapshot into progress to date ● Improve Silt Website information and Strengthen general communications and messaging ● Identify, negotiate further sites and bring these sites online ● Financials, and POs standardized through the Taskforce ● Resourcing in general across the team ● Contractor agreements ● Improve coordination of debris and wood 		

Key Decisions

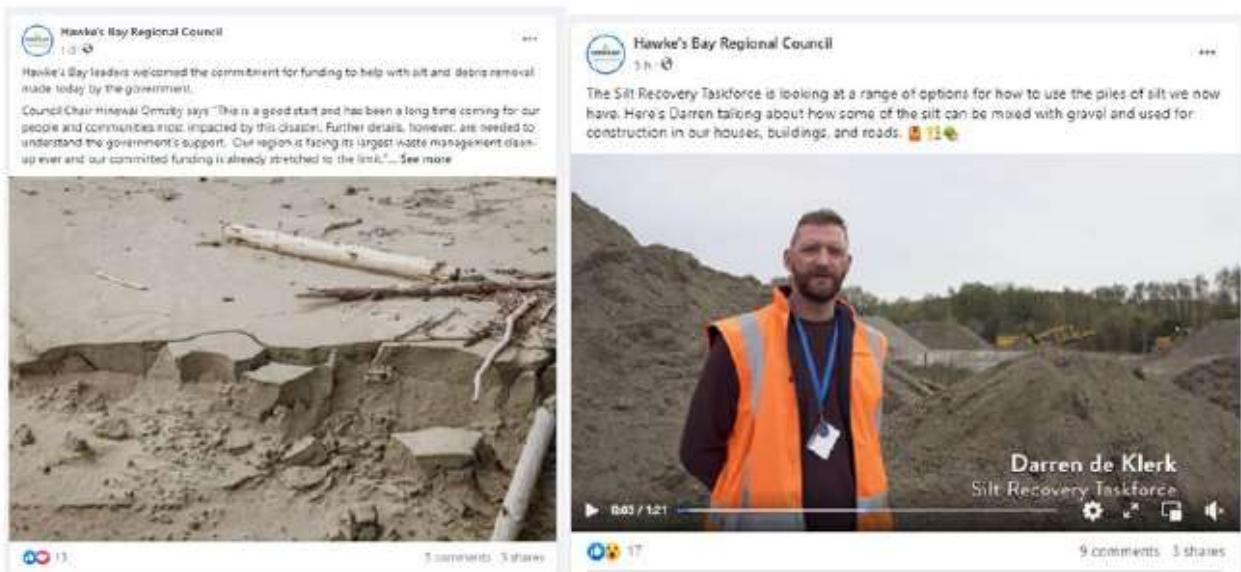
Decision	Details	Date Made	Authorised by
Establish taskforce	Following an outline case for change – gain approval to establish a regional taskforce across the two predominant affected areas/ councils	22/03/2023	Craig Thew / Chris Dolley
Introduce Zone Areas for collections	To split the collection areas into zones – to improve collection timeframes, efficiencies and ownership of area	28/03/2023	Silt Recovery Lead
Bring on new contractors to service collections	To widen the contractor base to better resource the zoning and share workload	29/03/2023	Silt Recovery Lead + James Feary
Establish new sites to receive silt	To combine existing sites regardless of council responsibility, and investigate new sites that are strategically placed close to affected communities	27/03/2023	Silt Recovery Lead + James Feary + Graeme Hansen
Resourcing the Taskforce	To resource the Taskforce with the appropriate skills to support a sustainable model	27/03/2023	Ongoing
Government funding announcement	Government released funding announcement – HERE Funding Agreement signed with HBRC as lead agency	03/05/2023	Cabinet DIA
MfE LGOIMA	MfE comfortable with LGOIMA response and information provided, next step to register and report on sites	15/05/2023	MfE

SILT RECOVERY TASKFORCE

Silt Specific Communications and Engagement Activities (last 2 weeks)

- 26 April 2023 – Interview with Future Farming Trust
- 27 April 2023 – Havelock North Community Meeting
- 28 April 2023 – Site Visits with MfE Officials
- 28 April 2023 – Interview with Radio NZ
- 02 May 2023 – Meeting with HDC Councillors
- 03 May 2023 – Meeting with Esk community
- 03 May 2023 – Webinar with DIA/ MfE on Funding
- 04 May 2023 – Interview with One News
- 05 May 2023 – Interview with Rural Exchange Radio
- 17 May 2023 – Meeting with Esk community
- 19 May 2023 – Zoom with Growers-Commercial Fund
- 24 May 2023 – Interview with HB App
- 24 May 2023 – Presentation to Engineering NZ
- 31 May 2023 - Meeting with Esk community

We continue to regularly update the community with social posts and videos from the taskforce covering the latest stats, silt deposit sites, potential uses for silt, and more. We're getting positive responses and hundreds of views on the videos.



We sent out a media release related to commercial funding, and have had interest from media in getting updates to the community. Darren was interviewed by HB App recently who wanted a general update on the work of the Taskforce, and plans.

We have sent out two newsletters to community leaders, mana whenua, and councillors. This has more detailed updates of the Taskforce's mahi, funding, latest statistics, and helpful links. We also release a regular newsletter to our contractors, with two of these released to date.

Silt Collections Logged by Area

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Other	TOTAL
Needs Assessment	7	9	12	21	13	1		63
Assessed	41	11	9	20	9			90
Contractor Assigned								0
Programmed		19	2	3				24
In Progress	4	10	8	12	2			36
Completed	6	19	35	27	28			115
On Hold	1	17		5	1			24
No Further Action Required	15	40	11	9	7	1	1	84
No Status	1	1						2
TOTAL	71	124	75	97	60	2	1	438

Zones for Silt Collection

Zone	Area	Job by Zone
Zone 1	EskValley, Whirinaki, Bayview, Glengarry, Tangoio	74
Zone 2	Awatoto, Napier, Meanee, Taradale, Pakowhai, Clive, Whakatu	126
Zone 3	Puketapu North, Rissington, Dartmoor, Poraiti, Puketitiri	77
Zone 4	Puketapu South, Waiohiki, Omahu, Fernhill, Pukehamoamo, Crownthorpe, Sherenden, Moteo + plus rural areas between rivers	97
Zone 5	Twyford, Clive, Whakatu, Tomoana, Hastings, Havelock North, Maraekakaho, Tukituki	61
Zone 6	CHB – Otane, Waipawa, Wallingford	1
TOTAL		438

SILT RECOVERY TASKFORCE

Other Waste Streams – Jobs

Waste Stream	# Jobs logged	# jobs completed	Comments
Orchard and Vineyard Waste	32	TBC	Integrated into silt collections, with clean up focus on property to separate
Animal Carcass	46	TBC	Berketts in place collecting
Wood Debris	63	24	Bin Hire, DGL, and Pro Arbore engaged
Hazardous	6	4	3 R in place to collect
General Waste	9	TBC	Back to councils or Works Group
HDC – Household Effects	508	487	HDC managing household effects
NCC Silt Jobs	21	TBC	NCC managing urban collections
HBRC Silt Jobs	417	115	Taskforce coordinating and managing collections
HDC Silt Jobs	20		Taskforce coordinating and managing collections

Environmental Compliance and Testing

SILT RECEPTOR SITE SAMPLING AND ANALYSIS DASHBOARD

	CHESTERHOPE	287 DARTMOOR	604 PUKETAPU	WAIOHIKI GC	BRIDGE PA	McLEOD	OMARUNUI RIVER	1016 DARTMOOR	Class 5 (cleanfill) waste acceptance criteria, with source references
Running summary of results (Note individual tests for time assessment have been made)	Heavy Metals (LJCL 95th for all samples at each site)								
	Asbestos	0.1	4.1	4.0	5.0	0.1	0.0	0.0	9 a
	Cadmium	0.07	0.06	0.06	0.06	0.07	0.10	0.06	0.7 a
	Chromium	10.0	10.2	10.3	11.1	10.2	11.5	10.0	24 a
	Copper	12.7	5.4	7.0	10.1	10.0	20.0	7.5	32 a
	Lead	17.0	0.7	0.7	23.5	20.7	20.0	0.0	21 a
	Nickel	10.3	10.0	11.0	10.2	11.0	11.0	0.0	17 a
	Zinc	01.4	00.3	00.7	00.0	01.7	00.1	00.0	100 a
	Petroleum Hydrocarbons								
	C ₁₀ -C ₁₃	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	190 b
	C ₁₄ -C ₁₇	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	10 b
	C ₁₈ -C ₂₁	20.3	4340.0	Not detected	Not detected	Not detected	Not detected	Not detected	40 c
	Total TPH (C ₁₀ -C ₂₁)	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	80-80 c
	Polycyclic aromatic hydrocarbons	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	0.5 d
	Polychlorinated biphenyls	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	2 e
	Pesticides and Herbicides								
	Carbofuran	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	0.02 f
	DDT	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	0.7 f
	Other DDT	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	–
	Other DDT	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	–
	Other DDT	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	–
	Other DDT	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	–
	Other DDT	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	–
	Other DDT	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	–
No. of sampling events									
Year sampling collected									
Results over 'whole of fill' comply with Class 5/cleanfill criteria									
Results over 'whole of fill' exceed Class 5/cleanfill criteria									

Waste acceptance criteria source references

a: Hawke's Bay Region: Background soil concentrations for managing soil quality, Landcare Research, 2014

b: Technical Guidelines for Disposal to Land, Rev 3, Waste Management Institute of New Zealand (WasteMINZ), October 2022

c: For contaminants with no value published in reference a, b or d, the detection limit for the analysis has been adopted as background/class 5 criteria

d: Ambient concentrations of selected organochlorines in soil, MfE 1998, Table F2 Ruahine Forest Park/HB/East Coast

Silt Deposit/ Disposal Sites at 09 June 2023

OPERATIONAL SITES

Site Name/ Location	Site Status	Contractor	Land Area ha	Site Capacity	Pile Height	Capacity Left	Site Visits this week
23 Shaw Road	Operational	Hicks	2 ha	50,000m3	2.5m	100%	2
2 Waipunga Road	Operational	Hicks	2 ha	50,000m3	2.5m	80%	2
Chesterhope Station	Operational	ACM	5.6 ha	60,000m3	1m	20%	1
287 Dartmoor Road	Operational	Fulton Hogan/ Topline	5.6 ha	56,000m3	1m	30%	2
504 Puketapu Road	Closed	Berketts	8 ha	160,000m3	2m - 4m	0%	2
626 Omarunui Road	Operational	Pro Arbore/ Hogfuel	N/A	Processing site only	N/A	N/A	2
Omarunui Road - Bearsley	Operational	Goodmans/ Gairs	9.5ha		0.5m - 5m	98%	2
1016 Dartmoor Road	Operational	Galbraith Earthmovers	11.8 ha	177,000m3	1.5m	97%	2
555 Esk Road	Operational	Compost NZ	7 ha	N/A	0.5m	N/A	2

INVESTIGATED SITES

Site Name/ Location	Site Status	Contractor	Land Area ha	Site Capacity	Pile Height	Capacity Left	Site Visits this week
316 Hwy 5 Esk	For Review	Compost NZ?	25 ha	255,000m3	1m	100%	1
Caravan Park Esk	TBC	Hick Bros	2.5 ha	24,412m3	1m	100%	1
Strawberry Farm Esk	For Review	Compost NZ?	TBC	N/A	TBC	TBC	0
Johnny Appleseed	TBC		15 ha	TBC	TBC	TBC	1
335 Dartmoor Road	TBC		1.8ha X 3	N/A	N/A	N/A	1
335 Dartmoor Road	TBC						

NEW SITES (UPCOMING)

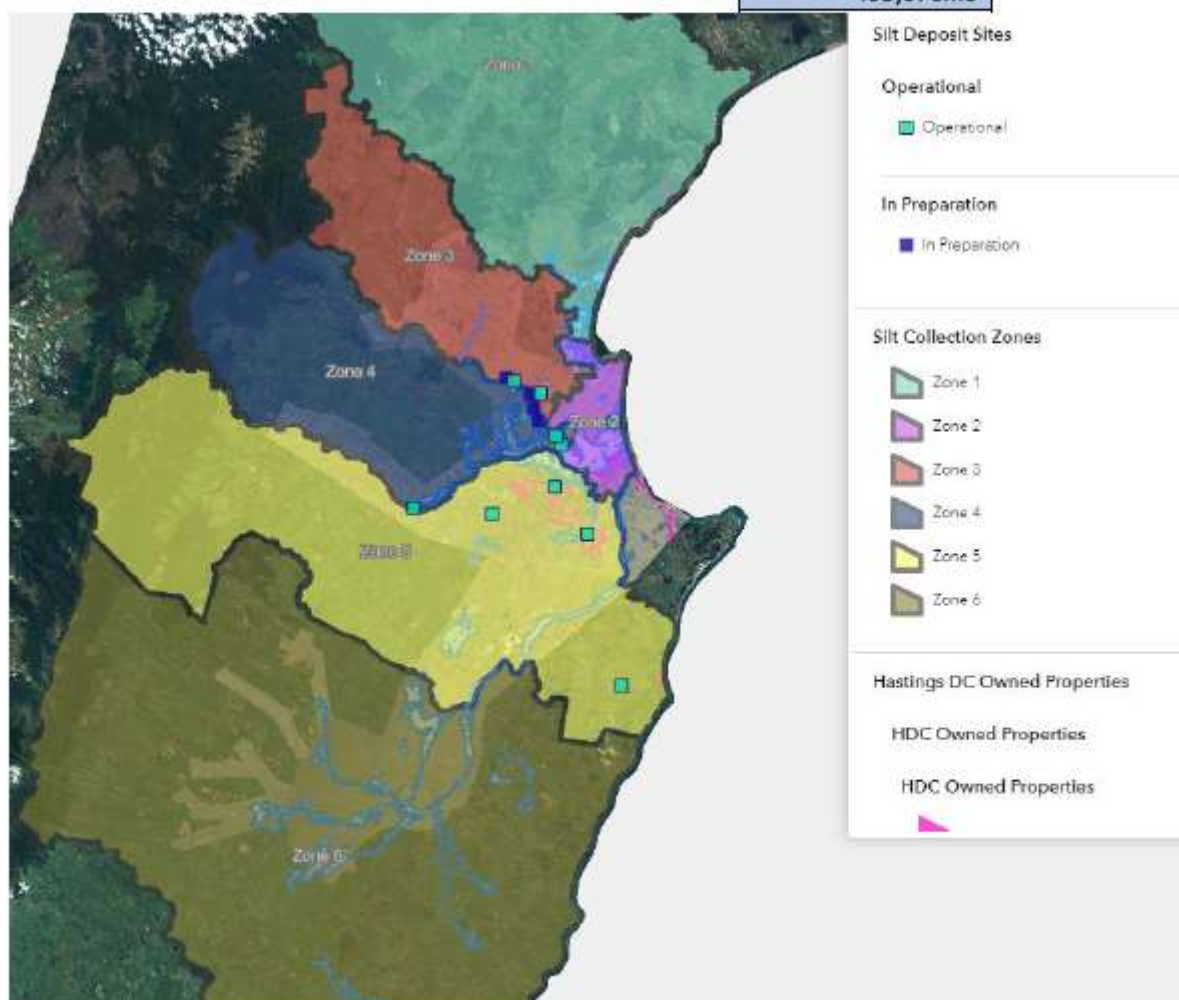
Site Name/ Location	Site Status	Contractor	Land Area ha	Site Capacity	Pile Height	Capacity Left	Site Visits this week
Moteo Pa Road	TBC	Bare Knuckle	N/A	TBC	N/A	100%	0
355 Dartmoor	In Preparation	Berketts	10 ha	N/A	N/A	N/A	1
2099 Pakowhai	In Preparation	Bin Hire	6 Ha	N/A	N/A	N/A	1

CLOSED SITES

Site Name/ Location	Site Status	Contractor	Land Area ha	Site Capacity	Pile Height	Capacity Left	Site Visits this week
Omarunui River Site	Closed	HB Civils	2.1 ha	31,500m3	1m-1.5m	N/A	N/A
Omarunui Landfill - Valley E	Cancelled	HB Civils	N/A	Processing site only	N/A	N/A	N/A
Waghiki Golf Course	Closed	HB Civils	1.2 ha	24,000m3	1.2	TBC	N/A
Bridge Pa Quarry	Cancelled	Downer		N/A	N/A	N/A	N/A
72 Tait Road	Cancelled	Composting NZ*		N/A	N/A	N/A	N/A
McLeod Road	Closed	Berketts	3.3 ha	Unknown	N/A	N/A	N/A

Site Overview (Survey Volume)

Site	Survey 1 - onsite volume	Survey 2 - onsite volume	TOTAL
504 Puketapu Road	49,277.06	105,194.89	
Waiohiki Golf Course	8,382.54	20,392.7	
Franklin Rd – Chesterhope Station	18,418.69	33,986.19	
287 Dartmoor Rd	22,307.73	47,456.28	
Omaranui Rd – River Site	8,168.04	34,450.67	
McLeod Rd, Awatoto	9,645.19	13,395.19	
Bridge PA	29,047.89	closed	
355 Dartmoor Rd	72,115.58		
451 Omarunui Road (Bearsley)	64,452.74		
2 Waipunga Road/ 23 Shaw Road	103,631.94		
1016 Dartmoor Road – Sacred Hill			
555 SH5, Esk			
			495,076m3



Spend to Date – Taskforce and HDC only

Activity	Costs to date to end May 2023	Estimate to June 2024
Silt Collection	\$3,039,035.54	\$18,466,732.00
Silt Site Management	\$4,461,051.89	\$7,500,000.00
Leases	None to date	\$635,929.50
Wood Collection	\$854,447.01	\$5,000,000.00
Consultant Support	\$407,983.85	Incl. above
Staff	\$10,316.00	\$706,000.00
Other	\$855.00	
Debris Mgmt		\$4,000,000.00
TOTAL	\$8,773,689.29	\$35,672,732.00

Wood Debris Management

HB Forestry Group were engaged by HBRC to undertake clean up – 2 weekly updates provided, anticipate to date approx. 100,000m3 of wood has been cleaned up across Hawke's Bay

Objective: To create a funding pathway for HBFG to prioritise and coordinate the removal of LWD from private properties relating to the mixture of Large Woody Debris (LWD) associated with Cyclone Gabrielle to expediate the recovery for the communities affected across Hawke's Bay. Agreement between Hawke's Bay Regional Council (HBRC) and Hawke's Bay Forestry Group (HBFG) acknowledging suitability for forest contractors in LWD clean-up and cost sharing as a matter of public and private concern.

Funding pathway established between HBRC and HBFG to begin works under a Memorandum of Understanding (MOU) from April 11. Work prior covered under various emergency works projects. Work within the MOU recognizes the capacity for the HBFG to provide coordination.

- \$100,000 Pan Pac contribution
- \$40,000 Rayonier-Matariki contribution
- \$35,000 FMNZ contribution

Payment in-kind:

- 1 x FTE Pan Pac
- 1 x FTE FMNZ
- 1 x FTE Rayonier-Matariki

Cost incurred to date by Taskforce : \$646,245



Aropaoanui

- Logs stacked in burn piles along riverbank ready for burning
- Logs stacked in burn piles along beach ready for burning
- 2 x 48hr burn periods required with FENZ firefighting oversight. Est. cost \$22,560
- Cost to date: \$45,985

Esk

- Sector 1 (Waipunga) virtually completed. Some hogging to continue before hogger moves into riverside clean-up. Log stockpile (boiler fuel) uplifted to Pan Pac and silt site works began this period.
- Sector 2 (Ellis Wallace) Culvert clearing work completed. Costs TBD.
- Sector 3 (Lower Esk) New sector aimed at capturing the Esk Delta area. Area from SH2 to SH5 to Waipunga. Works are well underway with log stockpiles sold export for landowners'. Boiler fuel stockpiles soon to be uplifted to Pan Pac. Stump grinder mulching large debris piles and stumps. Hogger to arrive as it progresses downstream on true right bank and crosses to true left bank before carrying on past Pan Pac Mill forest.
- Cost to date: \$406,296



Dartmoor Road

- Stopbank hogging taking longer than anticipated.
- Morice's and Evan's properties completed. Mulch removal underway. Mulch taken to locals willing to accept mulch. Further sites needed.
- Wilson's properties large debris work begun. Hogging to come after Stopbank work completed.
- Campbell's hogging nearly completed and freeing up second hogger (blue and white wheeled)
- Crew working down both sides of road towards Puketapu.
- Estimated 10 – 20,000 t log stockpiles.
- Cost to date: \$174,951



Silt Recovery Taskforce Structure

Role	Responsibility
Silt Recovery Lead	Overall leadership, coordination for the silt recovery activity across HBRC and HDC
Process Lead and Project Support	To tie in process with implementation, and assist the team to build a sustainable delivery model. To implement process improvements like dashboarding, online forms.
Communications & Engagement	Communication to the community via website, FB, key stakeholders – Mayor/ Chair. Support engagement with affected communities
Customer Experience Project & Admin Support	Lead the process for incoming enquiries Support to overall activity, includes regular reporting to be setup and fall back for process management including action plan
Consenting	Team to manage s330 notification, consenting sites, helping to identify future site consenting risks, engagement support related to consenting
Env Management / Compliance, Testing Volume Monitoring	Support to ensure compliance with consents – testing of silt and sites, mgmt. plans Drone Survey to measure volumes Material testing
Site Identification & Development	Identification of new sites, management of landowner relationships – development of sites to facilitate silt; Management of contractors operating sites including environmental controls and other consenting considerations
Site Management	Management of contractors operating sites including environmental controls and other consenting considerations
Contractor Collection Coordination	Management and coordination of contractors engaged to collect silt and transport to disposal sites including link to customer service.

Circulation List

Group	Email
Councillors	HDC and HBRC Councillors (revised version)
Executive Teams	HDC and HBRC Exec Teams
Recovery Groups	gabriellerecovery@hdc.govt.nz ; Annette Hilton; Louise McPhail; Julie-Anne McPhee; Richard Wakelin
Internal Stakeholders	Carly Price, HDC Env Waste Team, HDC Roading Team, CX Teams
External Stakeholders	Mfe, MPI, Rural Advisory, Iwi Partners, Regional Waste teams, NZ Apples and Pears, Horticulture NZ

Photos

Chesterhope Station – Franklin Road (05-04-2023) and (05-05-23)



Waiohiki Golf Course – Omarunui Road (05-04-2023) and (05-05-2023)



Dartmoor Road – HDC Land (13-04-2023) and 11-05-2023



504-540 Puketapu Road (13-04-2023) and 11-05-2023



451 Omarunui (Beardsley) (21-04-2023)



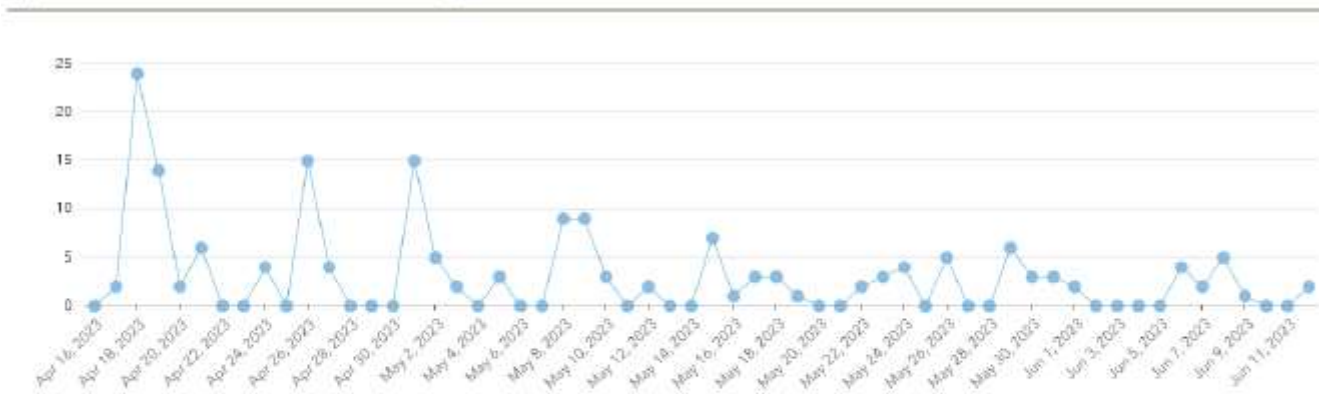
1016 Dartmoor Road (Sacred Hill) – 17/05/2023



Waipunga Road, Esk Valley – 11/05/2023



Appendices – Information from Online System – New Jobs Received



Appendices – Process for Authorised Contractors and Demarcation with EQC/ Insurance Council



Within 8m of house footprint and up to 60m of driveway access	EQC/ Insurance cover
Clean up outside the 8m footprint or 60m driveway/ accessway	Landowner Cost
Loading and carting from collection point and transport to deposit site	Taskforce/ Council cost

**There will be times where there is no collection point as the contract loads into a truck and has authorisation to take straight to Council/ Taskforce deposit site. A cost share will be agreed here.*

Hawke's Bay Regional Council

Cyclone Recovery Committee

21 June 2023

Item 6

Subject: HBRC Recovery update

Reason for Report

1. This item provides an update on the various HBRC recovery activities underway.

Cyclone Recovery Committee: Recovery Activity Reporting for May 2023

Recovery work carried out by teams across the Council will be overseen by the Recovery Team. This is to support regional recovery coordination between the Regional Recovery Agency and territorial local authorities and provide the HBRC Cyclone Recovery Committee with a monthly update.

This report will follow the regional recovery framework set by the Regional Recovery Agency.

The Recovery Programme is the overarching project management framework used to support the work of HBRC’s Recovery Team. Teams leading recovery workstreams will provide supporting updates on key activities achieved during this reporting period.




N.B. Not all recovery workstreams are fully active at this stage. Changes to the recovery initiatives are also expected since the release of the first edition of HBRC’s Environmental Resilience Plan (Apr 2023).

Performance Indicators (RAG): Red = Off Track Amber = At Risk Green = On Track (Grey = Not started/On hold)

*Risk is inherent vs residual risk (i.e., RAG status prior to mitigations and controls implemented).

Status Change Keys:

➡	Unchanged since last report
⬇	Worsened since last report.
⬆	Improved since last report

	Recovery Workstream	Comments			Date
1	HBRC’s Recovery Programme	Schedule	Risks*	Budget	9 June 2023
					
		<div>Recovery Team</div> <div> <div>1.1 Communications and engagements for the Future of Severely Affected Localities (FOSAL) has been the focus this reporting period. The Regional Recovery Agency (RRA), HBRC and TLAs worked closely together to develop a region-wide communications plan to deliver provisional information on land categorisation to affected households. Community engagement with these communities will follow the completion of the assurance process.</div> <div>1.2 While the focus on FOSAL has taken priority, work is being done to progress the development of the next edition of the environmental plan (due 1 Sep) and the recovery programme plan. Recovery initiatives and funding bids are under review. Māori Partnerships team are talking with iwi leaders to understand how they want to</div> </div>			

	Recovery Workstream	Comments	Date
		<p>be represented in future plans. Social Pinpoint is being developed to be used as a survey tool to enable wider community engagement.</p> <p>1.3 HBRC teams supported the review of the Regional Recovery Plan Pou chapters and provided feedback. RRA is expected to submit the first edition of the plan by Jun 30, 2023.</p> <p>1.4 2023 Budget announcements made by central government did not provide clarity on how the recovery initiatives will be funded. The reconciliation analysis will help determine the status of planned recovery work outlined in the Environmental Resilience Plan against known budget/funding and how much more is still needed, the outcome of which will help prioritise initiatives and resources.</p> <p>1.5 Present risks are the shortening timeline to engage with the community/ mana whenua on the next edition of the plan, which may be a more comprehensive/ longer-term view of recovery. RRA guidance on the next plan has not yet been received, and uncertainty on funding means key recovery initiatives cannot start.</p> <p>1.6 The Recovery Team will include an update on the funding status of recovery initiatives in the next plan. Catchment overviews are also being worked on to focus the plan on those communities to better understand how they were impacted and their recovery priorities.</p>	
2	Environmental Resilience: Catchment Management	<p>Catchment Operations</p> <p>2.1 Erosion control scheme: Catchment Management Advisors continue to work with landowners to understand the extent to which completed erosion control works have been impacted and committed yet-to-be-started works can proceed, based on site viability and the landowner's appetite for reinstatement. Many existing projects are being rolled into next financial year.</p> <p>2.2 Soil Nursery: While our Pakowhai Poplar and Willow Pole nursery crops withstood flood inundation, considerable damage occurred to nursery infrastructure and equipment. Repair and replacement have progressed well, and pole harvest is now underway with the assistance of RSE labour.</p> <p>2.3 We have made progress in our post-cyclone efforts to increase the number of poles. In May, we effectively utilised the silt deposited on the paddock to till back into the ground, resulting in the successful planting of an additional 7,000 stools on 1 ha. These should produce poles of the right size in 2-3 years time.</p> <p>2.4 Currently, our focus is on tilling the silt that was removed during the yard clean-up process. This effort will not only level the ground but also improve drainage, enabling us to plant another 1.5-hectare area that is estimated to accommodate approximately 8,000 to 10,000 stools.</p> <p>2.5 Additionally, we have planned to add another 10,000 stools in our Harris block. These planting activities are expected to be completed by the end of the current planting season 23/24.</p> <p>2.6 Nursery expansion: We need to expand and develop nurseries across the region to meet the increasing demand for poplar and willow poles. We are also contemplating supporting broader North Island supply. We have a dedicated staff member working on a project to identify options and outline the scenarios for HBRC to scale-up the production of appropriate poplar and willow species pole supply to meet the current and future demands within our region and the North Island. The project will also seek to identify opportunities to partner with mana whenua in the development and operation of pole nurseries.</p>	9 June 2023

	Recovery Workstream	Comments	Date
		<p>2.7 Biosecurity, contaminated gravel: In early April, we implemented a controlled area notice for a section of the Tukituki and Waipawa Rivers to allow small-scale gravel extraction within limits for on-farm recovery. To date, we have received 6 applications from 4 landowners; only one application was approved, and extraction was completed. One application was denied as the landowner applied with an ineligible address. This landowner then reapplied with an eligible address, while still wanting to move gravel to the first address. This was also denied. One other applicant was denied based on their proposed extraction point being outside of the Controlled Area. This landowner has reapplied with a suitable extraction point.</p> <p>2.8 Eligibility was determined by distance from the river's edge (500m), with the principle being to keep this gravel within the Tukituki/Waipawa catchment.</p>	
3	Environmental Resilience: Resource Management & Land Use	<p>Science Team</p> <p>3.1 The Environmental Science team has been working with Manaaki Whenua Landcare Research to look at landslide analyses based on land cover, soil type, geology etc. HBRC Science team have been working on assessment of the effectiveness of erosion control measures on land slide analyses.</p>	9 June 2023
4	Environmental Resilience: Indigenous Ecosystems, Biodiversity, and Conservation	<p>Catchment Operations</p> <p>4.1 The biodiversity team has been working with rural landowners to assess the extent of cyclone damage along with the feasibility and remediation costs of all previously completed and planned projects within the Priority Ecosystem and Protection and Enhancement Programmes. Once this assessment is complete on ground remediation of sites that are practical and cost effective to repair will begin.</p>	9 June 2023
		<p>Science Team</p> <p>4.2 The Environmental Science team have been meeting with the Department of Conservation and Manaaki Whenua Landcare Research to increase efficiencies and reduce duplication of effort. Increased monitoring frequency has been implemented for key habitats.</p>	9 June 2023
5	Environmental Resilience: Climate Change	<p>Climate Ambassador</p> <p>5.1 Regional climate change risk assessment stage 1 presented to joint committee for Climate Action 22 May 2023. Need to establish next steps collaboratively (e.g., data gaps commissioned) and to establish cross-council funding model for next meeting.</p> <p>5.2 Emissions reduction plan progressing to be presented to joint committee for climate action on 31 July.</p>	9 June 2023
		<p>Science Team</p> <p>5.3 Science team is working with Asset Management on an application to MfE for funding for nature-based solution for climate resilience, looking at feasibility studies for the Heretaunga Plains and Upper Tukituki. This will look at options for building flood retention into the catchment using nature-based interventions such as reforestation/afforestation, wetland restoration (scales), flood plain restoration and other nature-based mitigations.</p>	9 June 2023

	Recovery Workstream	Comments	Date
6	Environmental Resilience: Waste	<p>Operational Response Team</p> <p>6.1 The waste area has received the first tranche of funding from the DIA for removal of silt and other debris from public land.</p> <p>6.2 All 5 councils within the Hawke's Bay have agreed to operate silt and wood debris removal through the Taskforce.</p> <p>6.3 Silt removal is going well and over 300,000m3 of silt has been removed so far. Further disposal areas are coming online, with 11 available to the team currently. These encompass both silt and wood removal.</p> <p>6.4 A wood waste team within the Taskforce has been created and this has started taking over from the operational response teams for wood removal in waterways.</p> <p>6.5 The process for receiving applications for grants from commercial organisations has been created and comes into effect next week. There is expected to be some significant interest in this process.</p> <p>6.6 Outside of the Taskforce – wood waste in key areas around Dartmoor, Esk, Omaranui and Awatoto are being collected by the HB Forestry Group in partnership with HBRC. Roughly half of the wood waste has been collected so far.</p>	9 June 2023
7	Environmental Resilience: Water Security & Health	<p>Science</p> <p>7.1 A project is underway funded by MBIE Extreme Weather Science Funding to look at the impact of flood inundation on groundwater quality by GNS. First stage monitoring has been conducted and second stage is in the planning phase.</p> <p>7.2 A project is underway funded by MBIE Extreme Weather Science Funding to look at the impact of the silt and burning on air quality by NIWA.</p>	9 June 2023
8	Primary Sector: Land Use Recovery	<p>Rural Recovery Team</p> <p>8.1 Rural Recovery Team (RRT) is collaborating with the Rural Advisory Group (RAG) to organise and deliver a series of recovery workshops. Workshops are being held in Porangahau (13 June), Elsthorpe (14 June), Waikare (21 June), Patoka (26 June) and Ashley Clinton (27 June). The focus is on land use recovery planning, planting, and farmer experiences.</p> <p>8.2 RRT has been meeting with growers/landowners in Pakowhai, Twyford, Patoka, Puketitiri, Wairoa and Central Hawke's Bay to gather recovery insights and prioritisation</p> <p>8.3 Weekly meetings with Rural Advisory Group and Horticulture Advisory Group attendance and contribution where appropriate. Also presented to and participated in Hawke's Bay Forestry Group meeting</p> <p>8.4 Meeting/planning options for collaborative research and development programme with LandWISE, AgResearch and Massey University for SILT sampling programme, land recovery options and next stage extension models</p> <p>8.5 Discussions with Irrigation industry on anticipated needs and planning for efficient use (resilient planning)</p> <p>8.6 Contracted AgFirst HB to undertake in-depth case study of large-scale mixed horticulture and cropping business to understand detail of immediate and longer-term business impact.</p> <p>8.7 Outputs from the HBRC Impact Analysis (presented to Cyclone Recovery Committee 24 May 2023) have been distributed to Rural Advisory Group members and being further analysed for an HBRC impact report.</p>	9 June 2023

	Recovery Workstream	Comments	Date
9	Resilient Infrastructure: Flood Protection	Operational Response Team 9.1 A timeline for the production of work packages was presented to Council which demonstrated that all of the minor works packages, and the majority of major works packages, will be completed and passed onto the delivery teams by the middle of July. 9.2 Clearance of waterways (Ngaruroro and Tūtaekurī) of woody materials has been completed by the Works Group. Further clearance of waterways is now being undertaken by the silt task force, with the Te Ngarue, Wairoa, Nuhaka and Tukituki underway. 9.3 Reviews of major schemes and pumpstations are in progress. These will link in with nature-based solution options in conjunction with the Science team.	9 June 2023
		The Capital Delivery Team (Rapid Response) 9.4 Remediation of all breaches on the Ngaruroro and Tūtaekurī have now been completed. Five pods are active in CHB targeting breach and scour sites. Poor weather is impacting completion timeframes for active construction sites. Project managers are working with geotechnical consultants in relation to AsBuilts and project completion reports	9 June 2023
10	Resilient Infrastructure: Transport (Cycleways)	Operational Response Team 10.1 70% of cycleways are open with some damage. A significant amount of work has been undertaken in inspecting, analysing, and prioritising damage to the cycleways. 10.2 Agreement has been obtained with MBIE regarding funding for the repair and increased resilience of the cycleway network. 10.3 Medium term goals (within 6 months) are to open lower sections of the Ngaruroro and Tūtaekurī river corridors and repair underpass areas in river corridors on the Karamu, Tūtaekurī and Ngaruroro, and to resurface stopbanks repaired by the rapid rebuild team. 10.4 Longer term activities include the underpass in Waitangi in collaboration with NZTA/KiwiRail and the Tūtaekurī at Springfield Road in conjunction with NZTA and HDC. 10.5 Total cost of repair is estimated at \$2.3m and is expected to be completed by June 2024.	9 June 2023

Item 6

Recovery Workstream Initiatives (as outlined in the Environmental Resilience Plan – edition 1)	
1	Catchment Management: (Catchment Operations/ Science) 1.1 Erosion Control: Erosion Control Scheme re-establishment 1.2 Land for Life 1.3 Build nursery capability 1.4 Sediment & erosion control 1.5 Biosecurity, pest & predator control 1.6 Effectiveness of existing erosion control work 1.7 Erosion Control Scheme – post-cyclone project audit 1.8 Hapara Takatu (shovel ready) fencing repairs 1.9 Biosecurity post-cyclone auditing 1.10 Contaminated gravel
2	Resource Management & Land Use: (Science) 2.1 LiDAR capture 2.2 Quantification of land damage

Recovery Workstream Initiatives (as outlined in the Environmental Resilience Plan – edition 1)	
3	Indigenous Ecosystems, Biodiversity, and Conservation: (Science & Catchment Operations) <ul style="list-style-type: none"> 3.1 Cyclone impact assessment on natural environment (freshwater, lakes, marine & coast, terrestrial ecosystems) 3.2 Biodiversity Protection and Enhancement programme recovery design 3.3 Implementation of Priority Ecosystem Programme 3.4 Implementation of Protection and Enhancement Programme
4	Climate Change (Science & Climate Ambassador) <ul style="list-style-type: none"> 4.1 Flood frequency analysis 4.2 Greenhouse gas inventory 4.3 Natural attenuation potential 4.4 Regional climate change vulnerabilities assessment 4.5 Assess impacts on air quality
5	Waste (Asset Management: Operational Response Team) <ul style="list-style-type: none"> 5.1 Silt 5.2 Woody debris 5.3 Mixed waste
6	Water Security & Health (Science & Regional Water Security Programme Manager) <ul style="list-style-type: none"> 6.1 Changes in groundwater recharge dynamics 6.2 Assessment of spring feed flows 6.3 Re-assessment of low flows 6.4 Groundwater quality 6.5 Water Storage - feasibility study
7	Land Use Recovery (Rural Recovery Team) <ul style="list-style-type: none"> 7.1 HBRC Rural Recovery Strategy development 7.2 Building resilient rural businesses 7.3 Water quality for primary sector 7.4 Individual SLUI -style recovery farm plans which will transition to NPSFM freshwater planning 7.5 Incentive Scheme funding
8	Flood Protection (Asset Management: The Capital Delivery Team - Rapid Response) <ul style="list-style-type: none"> 8.1 Rapid rebuild of stopbanks 8.2 Heretaunga Plains Flood Control Scheme 8.3 Upper Tukituki Scheme 8.4 Pumpstation review 8.5 Wairoa (new scheme) 8.6 Replace and improve drainage pumpstations 8.7 Support for private land owners with river damage, edge protection, stabilisation of river course 8.8 Gravel extraction
9	Transport <ul style="list-style-type: none"> 9.1 Cycleways

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 Cyclone Recovery Committee receives and notes the *HBRC recovery update*.

Authored by:

Richard Wakelin
Manager Rural Recovery

Anna Madarasz-Smith
Manager Science

Julie-Anne Mcphee
Recovery Programme Manager

Jolene Townshend
Manager Catchment Operations

James Feary
Operational Response Manager

Jon Kingsford
Project Manager

Pippa Mckelvie-Sebileau
Climate Action Ambassador

Approved by:

Louise McPhail
HBRC Recovery Manager

Attachment/s

There are no attachments for this report.

Subject: Wider recovery update

Reason for Report

1. This item provides the means for staff to update the Committee on central government announcements and related activities.
2. This update will focus on land categorisation and Orders in Council.

Land categorisation

3. On 1 May 2023, the Government announced a three-category framework for properties in areas affected by severe weather to guide policy considerations, and to support consistent decision-making across local and central government. The risk categories are described in Table 1.

Table 1

Category	Definitions	Examples
1	Repair to previous state is all that is required to manage future severe weather event risk.	Minor flood damage to repair but no need for significant redesign/retrofitting.
2C	Community level interventions are effective in managing future severe weather event risk.	Local government repairs and enhances flood protection schemes to adequately manage the risk of future flooding events in the face of climate change effects.
2P	Property level interventions are needed to manage future severe weather event risk, including in tandem with community level interventions.	Property specific measures are necessary e.g. improved drainage, raising houses is necessary. Benefits accrue to property owners but some may face affordability issues.
2A	Potential to fall within 2C/2P but significant further assessment required.	Interventions may be required / possible but insufficient information to provide initial categorisation. (These may subsequently move between 2 categories or to categories 1 / 3.)
3	Future severe weather event risk cannot be sufficiently mitigated. In some cases some current land uses may remain acceptable, while for others there is an intolerable risk of injury or death.	In the face of enhanced climate risks the property may face unacceptable risk of future flooding. Other property could be subject to unstable land that poses an ongoing risk.

4. On 1 June, affected landowners in Hawke's Bay were notified by email of the initial land category their property is located supported by 18 provisional hazard maps. The maps were prepared using the following information:
 - 4.1. Approximate flood extents derived from air photos taken on or around 16 February 2023 (post Cyclone Gabrielle) by Skycan.
 - 4.2. Rapid building assessment data for Hastings District Council, Wairoa District Council, Napier City Council, and Central Hawke's Bay District Council.
 - 4.3. Contour information derived from LiDAR data collection November 2020.

- 4.4. Photographs of flood extents and flood damage and information supplied during public meetings and discussions with residents.
- 4.5. Information from insurance providers.
5. The provisional maps are in the process of being independently verified and peer reviewed and are due to be completed mid-June.
6. Later that day, the Government announced it will enter into a funding arrangement with councils to support them to offer a voluntary buyout for owners of Category 3 designated residential properties. It will also co-fund work needed to protect Category 2 designated properties.
7. Decisions on the details how the voluntary buyout process will work will be made in the coming weeks. This will include the criteria for valuation of Category 3 properties, the split of costs between councils and central government and the treatment of uninsured properties. Central government is aiming to conclude negotiations with local government by the end of June.
8. On 14 June, the first of 18 council-led community meetings is scheduled. This includes four mana whenua hui. This is an important step in the process to engage directly with property owners and impacted residents in each area. HBRC will be responsible for providing an area-specific summary of cyclone impact, remediation and categorisation and a high-level explanation of the process from here. More direct engagement will follow.
9. There is also likely to be HDC-organised community hubs one day per week for four weeks in Pākōwhai, Hastings Library and Taradale Library, which HBRC will staff alongside other councils.

Legislation and Orders in Council

10. On 7 June 2023, Minister for the Environment Hon David Parker announced a proposal for a temporary law change that would allow rural landowners to burn some cyclone and flood debris waste that is currently prohibited under national and regional regulations. The Minister's media release¹ says:

The proposed Order in Council under the Severe Weather Emergency Recovery Legislation Act would temporarily allow open-air burning of cyclone and flood waste in Hawke's Bay and Tairāwhiti. If approved, the Order in Council would take effect no later than 27 June, and would expire on 15 December [2023].

"The permitted activity standards accompanying this temporary law change would include:

- ☐ *Steps to separate materials, where possible*
- ☐ *Timing of the burn*
- ☐ *Weather conditions*
- ☐ *Preparation of a fire management plan*
- ☐ *Notification of parties (e.g. fire services and public health)*
- ☐ *Appropriate disposal of remaining waste material and ash*
- ☐ *Site testing and remediation, if required.*

The Order in Council is now being prepared by [MFE] officials, who will discuss its application with affected parties including councils. Public engagement on the proposal is scheduled to begin on Friday 9 June and conclude Tuesday 13 June, with information to be made available on the Ministry for the Environment website.

11. Some additional further information² about that proposal was published on MFE's website last week, but specific wording of the draft Order has not been published.
12. Meanwhile, on MFE's webpage³ about recent severe weather event recovery, reference is made to work on further orders in council, but the details are limited. Content currently says:

¹ <https://www.beehive.govt.nz/release/proposed-temporary-change-allow-mixed-waste-burning-east-coast-rural-land>

² <https://environment.govt.nz/assets/MfE-burning-waste-OIC-engagement-material-June-2023.pdf>

³ <https://environment.govt.nz/what-government-is-doing/areas-of-work/recovering-from-recent-severe-weather-events/orders-in-council-to-help-communities-continue-their-recovery/>

Tranche 4

- 12.1. *Public engagement period: 4 - 7 July*
- 12.2. *Expected enactment: August*
- 12.3. *"More detail to be available soon"*

Tranche 5

- 12.4. *Public engagement period: 25 - 28 July*
- 12.5. *Expected enactment: September*
- 12.6. *"Proposed changes to consenting timeframes and compliance timeframes for national direction under the Resource Management Act. More detail to be available soon."*

13. In the table below, is the intel we have to date on OICs in progress. Most of these apply to affected councils across the North Island (not just HB).

What	Timing
OIC for outdoor burning of mixed waste on rural land which is otherwise a prohibited activity under national regulations and/or rules in the regional plan ⁴ (see above)	Cabinet decision on 6 June and to come into effect 27 June.
<p>DIA has consulted on eight temporary amendments to local government legislation to simplify annual planning and rate setting processes and extend the statutory timeframe for approving local governance statements and triennial agreements.</p> <p>Local Government Act 2002</p> <ul style="list-style-type: none"> 13.1 Provide a three-month extension of the timeframe for affected local authorities to enter into triennial agreements, to 1 June 2023 13.2 provide a three-month extension for a local governance statement to be prepared by affected local authorities, to 8 July 2023 13.3 modify consultation requirements for annual plans so severely affected local authorities may comply with the principles of section 82 to the extent that is reasonably practicable 13.4 enable severely affected local authorities to make decisions to change services and service levels without amending their long-term plan 13.5 remove the requirement for severely affected local authorities to align funding for activities with the source of funding so they can redistribute funds to affected communities more easily 13.6 modify the consultation requirements for making additions to rates remission and postponement requirements so severely affected local authorities can publish and allow two weeks for feedback rather than doing extensive consultation <p>Local Government (Rating) Act 2002</p> <ul style="list-style-type: none"> 13.7 enable severely affected local authorities to set rates that different to what was provided for in their long-term plan <p>Local Government (Financial Reporting and Prudence) Regulations 2014</p> <ul style="list-style-type: none"> 13.8 remove the requirement for severely affected local authorities to predict their performance against financial benchmarks. 13.9 Reducing consenting requirements for new or upgraded flood protection schemes to reduce construction timeframes in Category 2 locations. 	Tranche One – comes into effect w/s 6 June (tbc)

⁴ Previously, the Severe Weather Emergency Legislation Act 2023 had amended provisions in the Resource Management Act relating to emergency work-related activities on rural land. Those amendments made many activities 'deemed permitted activities' if rules in regional plans would otherwise have required a resource consent for those activities. However the 'deemed permitted activity' amendments did not alter rules for prohibited activities.

What	Timing
<p>The DIA is exploring two options for the 2024 LTP:</p> <p>13.10 an unaudited 3-year plan</p> <p>13.11 an unaudited 10-year plan with modified content.</p>	Tranche Two – to come into effect August 2023.
<p>HBRC staff are continuing discussions with senior MfE officials on a range of ideas on RMA-related legislation which includes:</p> <p>Noting: we have not filed any formal requests for anything on this list and making a request does not guarantee an OIC will be made:</p> <p>13.12 Relaxing s360 stock exclusion regulations</p> <p>13.13 Relaxing incoming regulations for freshwater farm plans/planning in HB region</p> <p>13.14 Re-aligning Tukituki PC6 requirement for next FEMP update (due 1 June 2024) to 1 June 2025 to allow a transition to national regulations FWFP requirements.</p> <p>13.15 Streamlining interim freshwater planning (not full-on NPSFM freshwater-related Plans)</p> <p>13.16 Streamlining interim resource management planning (non-freshwater-related plan matters)</p> <p>13.17 RMA appeals on points of law only (like ECan)</p> <p>13.18 Enabling local authorities to amend default statutory timeframes for affected landowners to comply with statutory timeframes (e.g. s124 RMA timeframes)</p> <p>13.19 Enabling interim consenting processes to support rural recovery and improve water user certainty in TANK catchments while Proposed Plan Change 9 is subject to ongoing Environment Court appeal proceedings.</p>	Under discussion

Decision-making Process

14. 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 Cyclone Recovery Committee receives and notes the *Wider recovery update*.

Authored by:

Jess Bennett
Senior Manager - Finance Recovery

Desiree Cull
Executive Officer to CE

Ceri Edmonds
Manager Policy & Planning

Gavin Ide
Principal Advisor Strategic Planning

Approved by:

Katrina Brunton
Group Manager Policy & Regulation

Chris Dolley
Group Manager Asset Management

Iain Maxwell
Group Manager Integrated Catchment Management

Susie Young
Group Manager Corporate Services

Attachment/s There are no attachments for this report.

Subject: Giving rivers room

Reason for Report

1. This report introduces the *Giving rivers room* presentation by Tom Kay, Forest & Bird Aotearoa, and provides some background reading material attached.

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 Cyclone Recovery Committee receives and notes the *Giving rivers room* presentation by Tom Kay, Forest & Bird Aotearoa.

Authored by:

Allison Doak
Governance Advisor

Approved by:

Leeanne Hooper
Team Leader Governance

Attachment/s

- | | | |
|-----|--|----------------------|
| 1 ➞ | Forest & Bird Making room for rivers | Under Separate Cover |
| 2 ➞ | Reanimating the strangled Rivers of Aotearoa - Brierley (2022) | Under Separate Cover |

Subject: Lincoln Agritech Braided Rivers Recharge research project

Reason for Report

1. This report introduces a presentation on the Lincoln Agritech braided rivers recharge research, which will provide:
 - 1.1. an overview of the research programme, including revisiting the objectives and outcomes sought, timeframes, budgets and partners involved.
 - 1.2. an update on the data collected, analysis undertaken and present some of the preliminary findings.

Executive Summary

2. The Braided Rivers Research Programme is a five-year initiative (2019-2024) funded by MBIE and aimed at understanding the amount of water exchanged between braided river systems and underlying groundwater resources.
3. The research investigates how braided river systems are connected to alluvial aquifers and how changes in braided rivers (bed elevation and width) affect leakage rates. This research helps to inform river management practices and environmental limits. This knowledge will enable river managers and decision-makers to understand the effect that different river engineering interventions have on groundwater recharge and enable rivers to be managed in a more holistic manner.

Strategic Fit

4. This work underpins actions and outcomes listed in the 2020-2025 Strategic Plan as things that the council will continue to do; and will do differently:
 - 4.1. **Water** – the research by Lincoln Agritech has found that hydrologic functioning can be improved if rivers can be managed as a whole system. Rivers have traditionally been managed primarily for flood protection, and this has been at the expense of groundwater recharge, and potentially low-flow resilience (a proposed future research direction).
 - 4.2. **Land** - managing rivers in a way that optimises the annual water balance, river flows and groundwater recharge will provide resilience to climate variability and change.
 - 4.3. **Biodiversity** – the widening of river corridors not only improves hydrological function but also biodiversity.
 - 4.4. **Infrastructure and Services** – Much of the infrastructure for climate resilience is already in place (rivers and aquifers). HBRC has an opportunity to optimise existing natural infrastructure by simply changing river management.

Background

5. This research was driven by the need to better understand the interaction between braided rivers and groundwater resources. This gap in understanding was identified while investigating long-term declines in groundwater levels in the Wairau Aquifer (Wohling 2018). The declines could not be explained by the usual causes (pumping, changes in ERT, increased drainage) which lead to structural changes in the river being identified as the likely cause (Wohling et al. 2020). However, information on the interaction between braided river and aquifer settings was

scarce which prompted a research proposal being submitted to the MBIE Endeavour Fund. HBRC has been involved from the start (initiated by Thomas Wilding).

What is the budget?

6. In 2019, Lincoln Agritech Ltd was awarded ~\$8m in MBIE funding aimed at understanding the amount of water exchanged between braided river systems and underlying groundwater resources. Hawke's Bay Regional Council has provided a cash contribution of \$50,000 in 2020/21 and in-kind contribution in the form of access to existing models, access to SkyTEM data, gauging support, and staff participation in workshops and advisory groups.

Who's involved?

7. The programme includes experts from Lincoln Agritech Ltd, as well as NIWA, Lincoln University and its Agribusiness and Economics Research Unit (AERU), University of Canterbury, Waterways Centre for Freshwater Management, Flinders University (Australia), Technische Universität Dresden (Germany), and Aarhus University (Denmark).

What's being collected and where?

8. The team has used novel approaches to characterise river losses, hyporheic exchange and parafluvial flow. Techniques include fibre optics for temperature sensing, geophysical techniques to measure ground resistivity, river bathymetry, thermal imagery, isotope analysis (radon) and advanced 3D hydrological modelling.
9. The research focuses on three case-study rivers 1) Ngaruroro River (partners HBRC, Ngāti Kahungunu), 2) Selwyn/Wakirikiriri River in Canterbury (partners Te Taumutu Rūnaka, ECan, and 3) Wairau River in Marlborough (partner MDC).

Discussion

10. Reason for Report

1. This report introduces a presentation on the Lincoln Agritech braided rivers recharge research, which will provide:
 - 1.1. an overview of the research programme, including revisiting the objectives and outcomes sought, timeframes, budgets and partners involved.
 - 1.2. an update on the data collected, analysis undertaken and present some of the preliminary findings.

Executive Summary

2. The Braided Rivers Research Programme is a five-year initiative (2019-2024) funded by MBIE and aimed at understanding the amount of water exchanged between braided river systems and underlying groundwater resources.
3. The research investigates how braided river systems are connected to alluvial aquifers and how changes in braided rivers (bed elevation and width) affect leakage rates. This research helps to inform river management practices and environmental limits. This knowledge will enable river managers and decision-makers to understand the effect that different river engineering interventions have on groundwater recharge and enable rivers to be managed in a more holistic manner.

Strategic Fit

4. This work underpins actions and outcomes listed in the 2020-2025 Strategic Plan as things that the council will continue to do; and will do differently:
 - 4.1. **Water** – the research by Lincoln Agritech has found that hydrologic functioning can be improved if rivers can be managed as a whole system. Rivers have traditionally been managed primarily for flood protection, and this has been at the expense of groundwater recharge, and potentially low-flow resilience (a proposed future research direction).

- 4.2. **Land** - managing rivers in a way that optimises the annual water balance, river flows and groundwater recharge will provide resilience to climate variability and change.
- 4.3. **Biodiversity** – the widening of river corridors not only improves hydrological function but also biodiversity
- 4.4. **Infrastructure and Services** – Much of the infrastructure for climate resilience is already in place (rivers and aquifers). HBRC has an opportunity to optimise existing natural infrastructure by simply changing river management.

Background

- 5. This research was driven by the need to better understand the interaction between braided rivers and groundwater resources. This gap in understanding was identified while investigating long-term declines in groundwater levels in the Wairau Aquifer (Wohling 2018). The declines could not be explained by the usual causes (pumping, changes in ERT, increased drainage) which lead to structural changes in the river being identified as the likely cause (Wohling et al. 2020). However, information on the interaction between braided river and aquifers settings was scarce which prompted a research proposal being submitted to the MBIE Endeavour Fund. HBRC has been involved from the start (initiated by Thomas Wilding).

What is the budget?

- 6. In 2019, Lincoln Agritech Ltd was awarded ~\$8m in MBIE funding aimed at understanding the amount of water exchanged between braided river systems and underlying groundwater resources. Hawke's Bay Regional Council has provided a cash contribution of \$50,000 in 2020/21 and in-kind contribution in the form of access to existing models, access to SkyTEM data, gauging support, and staff participation in workshops and advisory groups.

Who's involved?

- 7. The programme includes experts from Lincoln Agritech Ltd, as well as NIWA, Lincoln University and its Agribusiness and Economics Research Unit (AERU), University of Canterbury, Waterways Centre for Freshwater Management, Flinders University (Australia), Technische Universität Dresden (Germany), and Aarhus University (Denmark).

What's being collected and where?

- 8. The team has used novel approaches to characterise river losses, hyporheic exchange and parafluvial flow. Techniques include fibre optics for temperature sensing, geophysical techniques to measure ground resistivity, river bathymetry, thermal imagery, isotope analysis (radon) and advanced 3D hydrological modelling.
- 9. The research focuses on three case-study rivers:
 - 9.1. Ngaruroro River (partners HBRC, Ngāti Kahungunu)
 - 9.2. Selwyn/Wakirikiriri River in Canterbury (partners Te Taumutu Rūnaka, ECan, and
 - 9.3. Wairau River in Marlborough (partner MDC).

Discussion

- 10. The rivers, mainly along the east coast of New Zealand, are gravel-bedded rivers with multiple channels that live within a corridor, but the beds are constantly realigning and shifting depending on the flows and conditions.
- 11. Much of the work has focused on understanding sediment structure beneath the three study rivers. The gravels associated with braided rivers form some of the most permeable aquifers in the world, which poses the question of why these types of rivers don't all dry up in the summer (some do, such as the Selwyn). We suspected that there must be a structural control on leakage from the river system, some kind of impedance layer which controls the rate of leakage.
- 12. In our field investigations which involved coring, sediment analysis, and a wide range of geophysical methods, we found that the gravels associated with all three braided rivers are very

loose and have a high permeability because there is a lack of fine material (silt and clay). These gravel deposits can be mapped vertically and laterally along the river and are formed over time by the flooding process and associated sediment mobilisation. The surrounding and underlying deposits are by contrast more compact and have a higher silt and clay content, which is what impedes leakage from the river. Visually, we can identify what we are calling a “braidplain aquifer” in other rivers in NZ, and more recently seen this in rivers in France and Italy.

13. We have concluded that groundwater recharge does not occur directly from the river but is mediated by the braidplain aquifer. Healthy river function and groundwater recharge rates therefore depend on the integrity of this gravel reservoir. We think the implications for HBRC are in understanding how river management practices, such as gravel extraction and narrowing of the active river corridor, affect these processes (groundwater recharge and river function).
14. We have identified that all three of these recharge mechanisms have been compromised in the main recharge reach of the Ngaruroro due to the particular river engineering philosophy adopted in NZ during the 1950s-60s, and a more recent increase in demand for river gravel. We have also identified that the river recharge function can be restored, and even enhanced, if river management practices were changed. It's important to note that this situation also applies to rivers in other regions of NZ.

Decision-making Process

15. 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 Cyclone Recovery Committee receives and notes the *Lincoln Agritech Braided Rivers Recharge research project* presentation.

Authored by:

Simon Harper
Team Leader Hydrology & Groundwater Science

Approved by:

Iain Maxwell
Group Manager Integrated Catchment Management

Attachment/s

There are no attachments for this report.