



Photo – Makirikiri lower channel clearing



## MAKIRIKIRI SCHEME MEETING

12 AUGUST 2024

# TODAYS AGENDA

1. Welcome and introductions
2. Regional overview of river and drainage management
3. Operational update 2023-24
4. The Long-term Plan & key scheme related decisions
5. The year ahead
  - Financial summary
  - Maintenance based programmes
  - Asset condition and repairs
  - Capital programme
  - Flood vulnerability assessment
6. Next steps



Photos – Moutoa Gates in the Lower Manawatū Scheme.

Moutoa Gates are a focus of the capital programme in 2024-25 with support from Central Government co-funding through the Climate Resilience Fund.

Area	River Schemes	Scheme meeting date
Northern Area	1. Forest Road	
	2. Haunui	
	3. Lower Whanganui River	31 July 9 am
	4. Makirikiri	12 August 12.30 pm
	5. Matarawa	31 July 12 pm
	6. Ohakune	
	7. Pakihi Valley	
	8. Pohangina – Ōroua	16 August 10 am
	9. Porewa Valley	6 August 12 pm
	10. Rangitīkei River	6 August 9 am
	11. Ruapehu DC	
	12. Turakina	30 July 9 am
	13. Tutaenui	30 July 12 pm
	14. Upper Whanganui	22 August 10 am
	15. Whangaehu- Mangawhero	6 August 3 pm
Central Area	16. Ashhurst Stream	
	17. Kahuterawa	
	18. Lower Manawatū	7 August 9 am
Eastern Area	19. Lower KIWITEA	16 August 1 pm
	20. Mangatainoka	20 August 10 am
	21. South-East Ruahine	20 August 3 pm
	22. Tararua	
	23. Tawataia - Mangaone	
	24. Upper Manawatū	20 August 12.30 pm
Southern Area	25. Foxton East	
	26. Himatangi	
	27. Hōkio	
	28. Koputaroa	2 August 10 am
	29. Makerua	2 August 1:30 pm
	30. Manawatū	7 August 1 pm
	31. Moutoa	21 August 10 am
	32. Ōhau Manakau	21 August 1 pm
	33. Te Kawau	9 August 1 pm
	34. Whirokino	

## SCHEME COMMITTEES

- There are 34 schemes, 21 of these have committees.
- Scheme meetings were put on hold due to covid in 2022.
- 6 scheme meetings held in 2023-24, post Cyclone Gabrielle.
- Scheme Chairs meetings 6 March and 27 June 2024.
- 21 Scheme Liaison meetings from 30 July to 22 August 2024.

### Changes since last full set of meetings

- Increased capital programme (post covid investment).
- Horizons organisational restructure. River Management now alongside other non-regulatory programmes and reporting to Councils' Integrated Catchment Committee.
- New Government legislation - Freshwater, Dams etc.
- Increased regulatory complexity and scrutiny.
- Cyclone Gabrielle, inflationary increases, staff changes, Long-term Plan process and new Infrastructure Strategy.



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# River and Drainage Schemes

Purpose is to protect people, property and infrastructure from flooding and allow for productive potential of land to be realised.

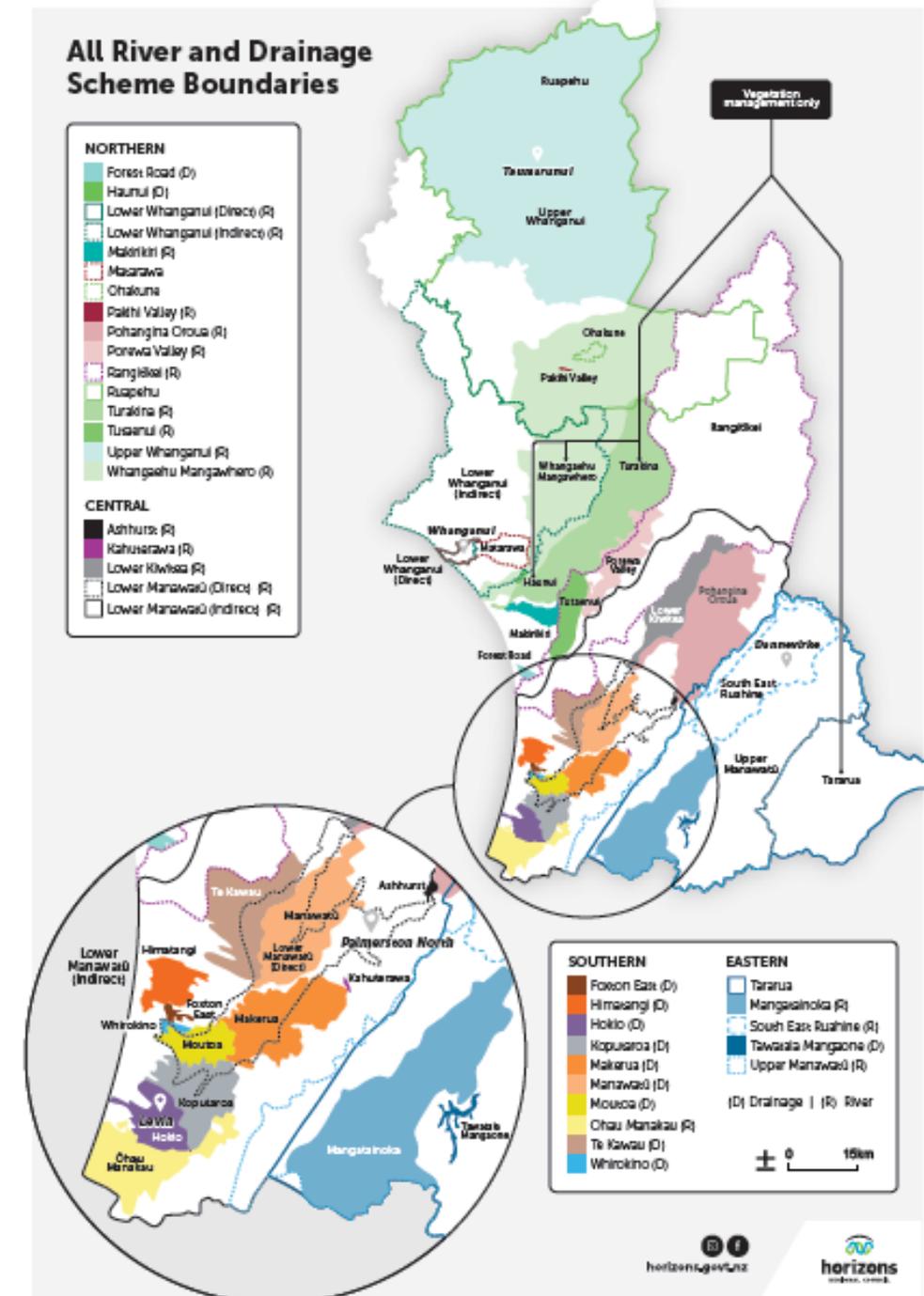
Schemes operate at a significant scale:

- There are 34 schemes: 23 river, 11 drainage.
- In 2023-24, 3,794 assets valued at approx. \$990M. Asset value has provisionally increased by over \$200M since June 2023 to \$1.2B.
- Assets include approx. 510 km of stopbanks, 746 floodgates, 802 km of river channel, 604 km of river edge protection and 1,144 km of drains.
- Operational and capital programme budget of over \$35.3M in 2024-25, with external co-funding income of \$10.9M.
- 47 staff.

Schemes have been established over time from 1940's, with many in 1960's/1970's. Challenges of ageing infrastructure in an environment where regulatory requirements and expectations have changed significantly.

Schemes and scheme activities have continued to changed over time, with new schemes, mergers, changing levels of service etc.

**Daily requests from multiple sources on where to focus effort & resourcing.**



# Delivery in 2023-24

## Maintenance / repairs

- Most schemes tracked well; some schemes were behind due to Cyclone Gabrielle works, regulatory permissions, and staff capacity.
- Maintenance based programme were developed.
- Gabrielle works - 138 jobs delivered valued at \$4.5M as at end of June 2024.

## Capital programme

- Capital spend was \$9.2M out of \$13.4M (69%).

## Asset management

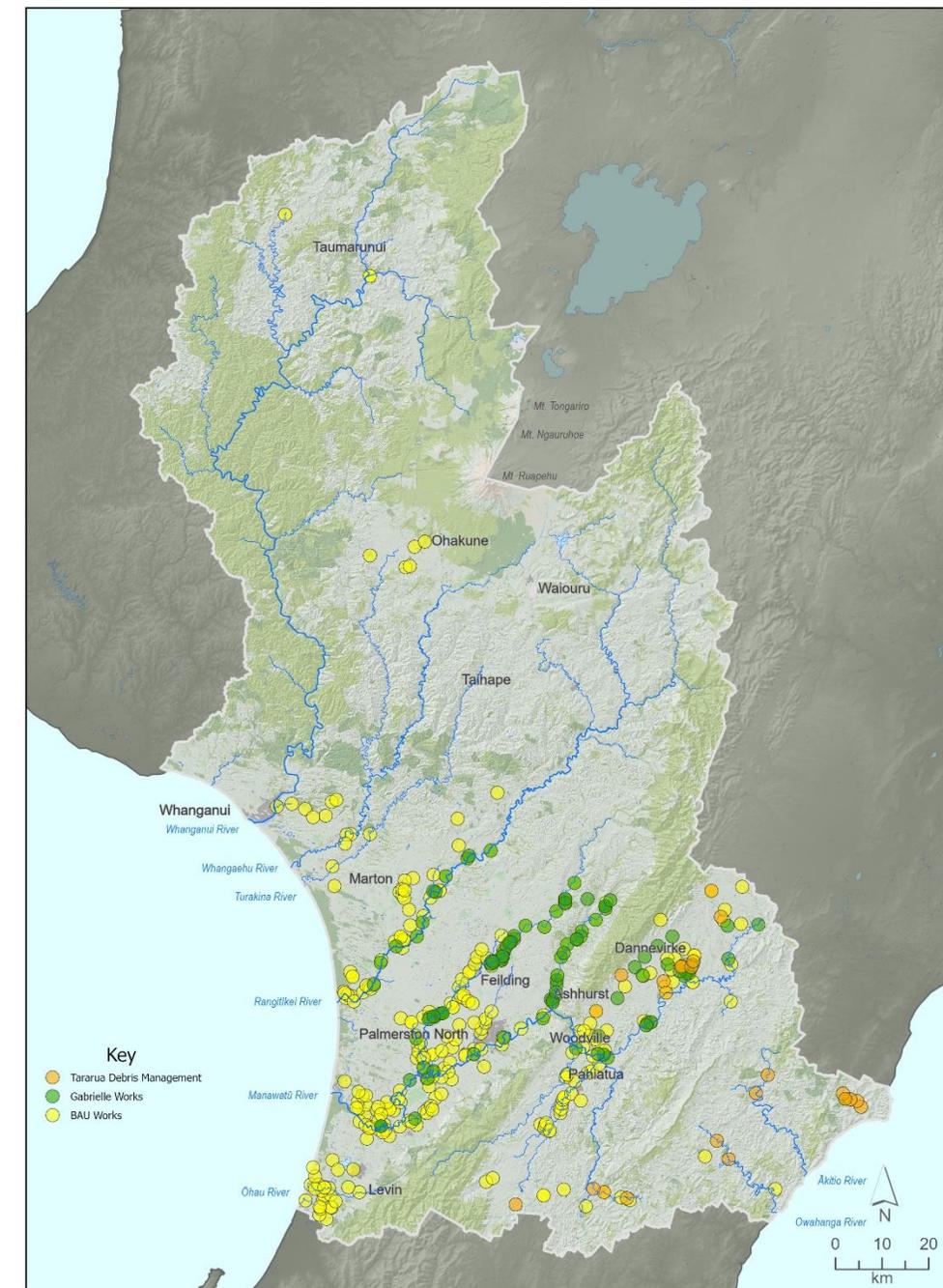
- All 1,220 (100%) high criticality assets have been inspected, 546 (21%) of the 2,616 low criticality assets inspected (target 20%).
- New Infrastructure Strategy and Long-term Plan process completed.

## Regulatory, consents and other permissions

- Stock take completed. Over 200 consents & 4,000 consent conditions.
- Over 30 applications in prep. / process. Emergency works used 3 times.
- Over 300 jobs completed via code of practice. Improved reporting.

## New government funding (approx. \$4.3M) – delivery by 30 June 2025

- Nature Based Solutions (Room for River). Local Government flood resilience fund co-investment fund: flood warning & mapping upgrades; flood vulnerability assessment; pump station power & communication upgrades; Pohangina works including Tōtara Reserve.



River Management 2024 Works Programme

Map prepared by W McKay, Catchment Operations Group on 15/07/2024

# INFRASTRUCTURE STRATEGY FOR NEXT 30 YEARS

## Key Issues

1. Affordability
2. Climate Change
3. Capital programme delivery
4. Financial planning for events
5. Improved asset management
6. Regulatory & other permissions
7. Integrated Catchment Management

## Responses

1. Maintenance based programme, loan review, less capitalisation of staff costs.
2. Complete a regional flood vulnerability assessment to prioritise future work.
3. Fewer projects: focus on Government co-funded work, Feilding, and Palm. North.
4. Same amount of insurance and reserves; plan to review insurance and reserves.
5. Increased capacity, prioritising inspections, plan to review asset renewals, and reduce from 27 Asset Management Plans to 1.
6. Reprioritised staff time (non-scheme funded) to support regulatory and other permissions. No funding provision for new dam compliance requirements.
7. Organisational Integrated Catchment Management programme; investigating “room for the river approaches”.



# LONG-TERM PLAN – SCHEME RELATED DECISIONS

## Review of Funding Policies

- Maintained drainage schemes at 80% targeted rate 20% general rate.

## Insurance

- Considered increasing amount of insurance, maintained current cover.
- Additional budget of approx. \$430k for insurance to maintain current amount of cover.

## Capital programme

- Year 1 \$17.1M, with significant government co-funding \$10.9M.
- Reduces over first few years to renewals only by year 8.

## Scheme specific

- Ruapehu District wide scheme - Added new rate funding of \$150k per annum (\$200k in year 2) and approved use of reserves up to \$120k for removal of willows etc near Matiere.
- Funding Makirikiri Scheme via reserves for 2 years. (Year 1 and Year 2 of the Long-term Plan).

## Infrastructure Strategy

- New maintenance based programme with increased budgets for works by approx. \$250k in both year 1 and year 3.
- Added two new staff for asset management activity.
- Reprioritised staff for regulatory support.
- Commitment to flood vulnerability assessment.

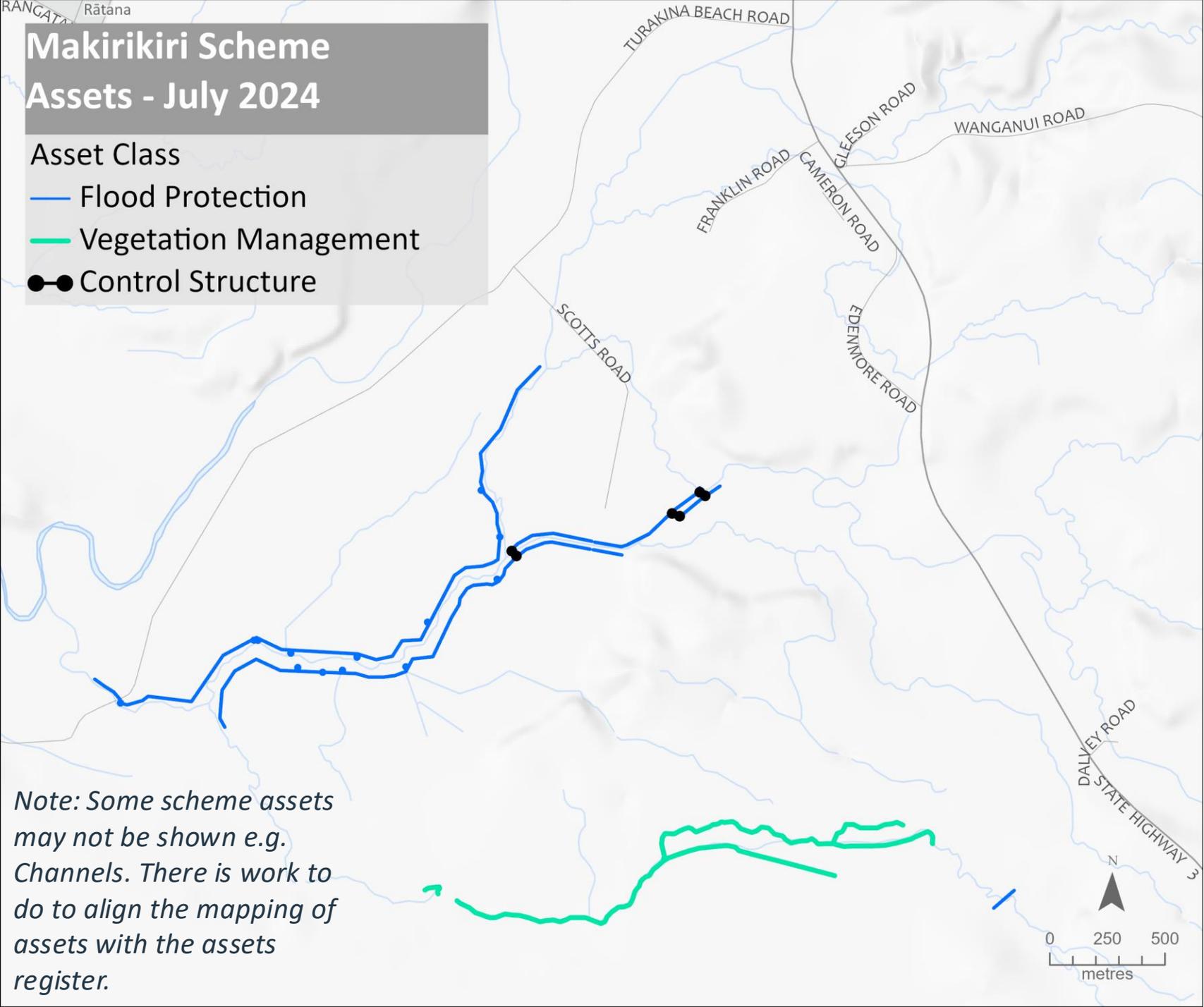
## Integrated Catchment Management

- Funded work on Integrated Catchment Management (separately funded from River and Drainage Schemes).
- Scheme Liaison Committees will be consulted on this.



# Makirikiri Scheme Assets - July 2024

- Asset Class
- Flood Protection
  - Vegetation Management
  - Control Structure



*Note: Some scheme assets may not be shown e.g. Channels. There is work to do to align the mapping of assets with the assets register.*

## Primary Purpose

The Makirikiri Flood Control Scheme is a small but complex Scheme that provides flood protection and drainage benefits (direct and indirect) to three rural properties comprising a rated area of 386 ha of highly productive land on river flats west of Turakina Township. The Scheme lies at the lower end of the Makirikiri Stream Catchment and extends some 6 km upstream from the confluence with the Turakina River to high ground approximately 1500 m downstream of the Bulls-Whanganui Highway (State Highway 3). The Makirikiri Stream is return stopbanked for some 3 km upstream from the confluence with the Turakina River, and an overflow spillway diverts flood flows at the top end of the Scheme.

## Flood Protection Standard:

- Flood flows not exceeding 50% AEP will be contained within stopbanks to protect adjoining areas and farmland.

# BUDGETS - OVERALL

Budget	2023-24	2024-25	Difference	Difference (%)
<b>All Schemes</b>				
<b>Assets</b>				
Number of assets	3,794	3,872	78	2%
Assets value*	\$990.034M	\$1.198B	\$207.836M	17%
<b>Insurance</b>	Max. claim HRC \$100M, pooled \$300M, Min. \$3M			
Number of insured assets*	1,753	1,778	25	1%
Value of insured assets*	\$811.188M	\$1.048B	\$236.660M	23%
% of assets insured*	46%	46%		
% of asset value insured*	82%	87%		
<b>Loans</b>				
Value of loans	\$42.812M	\$44.635M	\$1.823M	4%
Cost of loan servicing	\$4.352M	\$4.221M	-\$0.131M	-3%
<b>Emergency reserves (ER)</b>	Targeted Rate Component only			
Value of ER**	\$11.876M	\$12.406M	\$0.530M	4%
Target for ER	\$22.209M set in July 2021***			
% of target	54%	56%		
Net change budgeted****	\$0.530M	\$0.476M	-\$0.054M	-10%
<b>Renewal reserves (RR)</b>	Targeted Rate Component only			
Value of RR	\$0.901M	\$1.026M	\$0.125M	14%
Net change budgeted****	\$0.125M	\$0.036M	\$0.089M	-71%

Note: 2023-24 value of loans and reserves are actual closing balances from 2022-23. All other financial values are based on budgets.

\*2024-25 asset valuation and insurance information is provisional.

\*\*Some approvals not included above e.g. Cyclone Gabrielle and co-funding for Climate Resilience projects. Net change budgeted excl. interest. Emergency reserves interest: 2023-24 \$0.083M, 2024-25 \$0.083M.

\*\*\* Target is budget for 1 in 50 year event.

\*\*\*\* Excludes Interest: Interest from Emergency reserve: 2023-24 \$0.311M, 2024-25 \$0.311M.

\*\*\*\* Excludes Interest: Interest from Renewal reserve: 2023-24 \$0, 2024-25 \$0.

# Makirikiri (Dam compliance costs not included)

Budget	2023-24	2024-25	Difference	Difference (%)
<b>Makirikiri</b>				
<b>Assets</b>				
Number of assets	25	25	0	0%
Assets value	\$3.699M	\$4.321M	\$622.4k	14%
<b>Insurance</b>	Max. claim HRC \$100M, pooled \$300M, Min. \$3M			
Number of insured assets*	25	31	6	19%
Value of insured assets*	\$3.699M	\$4.408M	\$709.3k	16%
% of assets insured*	100%	124%		
% of asset value insured*	100%	102%		
<b>Loans</b>				
Value of loans	\$0	\$0	\$0	
Cost of loan servicing	\$0	\$0	\$0	
<b>Emergency reserves (ER)</b>	Targeted Rate Component only			
Value of ER**	\$34.2k	\$34.2k	\$0	0%
Target for ER	\$36.2k set in July 2021***			
% of target	95%	95%		
Net change budgeted****	\$0	\$0	\$0	NA
<b>Renewal reserves (RR)</b>	Targeted Rate Component only			
Value of RR	\$41.6k	\$45.1k	\$3.5k	8%
Net change budgeted****	\$3.5k	-\$2.1k	-\$5.6k	266%

Note: 2023-24 value of loans and reserves are actual closing balances from 2022-23. All other financial values are based on budgets.

\*2024-25 asset valuation and insurance information is provisional.

\*\*Some approvals not included above e.g. Cyclone Gabrielle and co-funding for Climate Resilience projects. Net change budgeted excl. interest.

\*\*\* Target is budget for 1 in 50 year event.

\*\*\*\* Excludes Interest: Interest from Emergency reserve: 2023-24 \$0.5k, 2024-25 \$0.5k.

\*\*\*\* Excludes Interest: Interest from Renewal reserve: 2023-24 \$0, 2024-25 \$0.

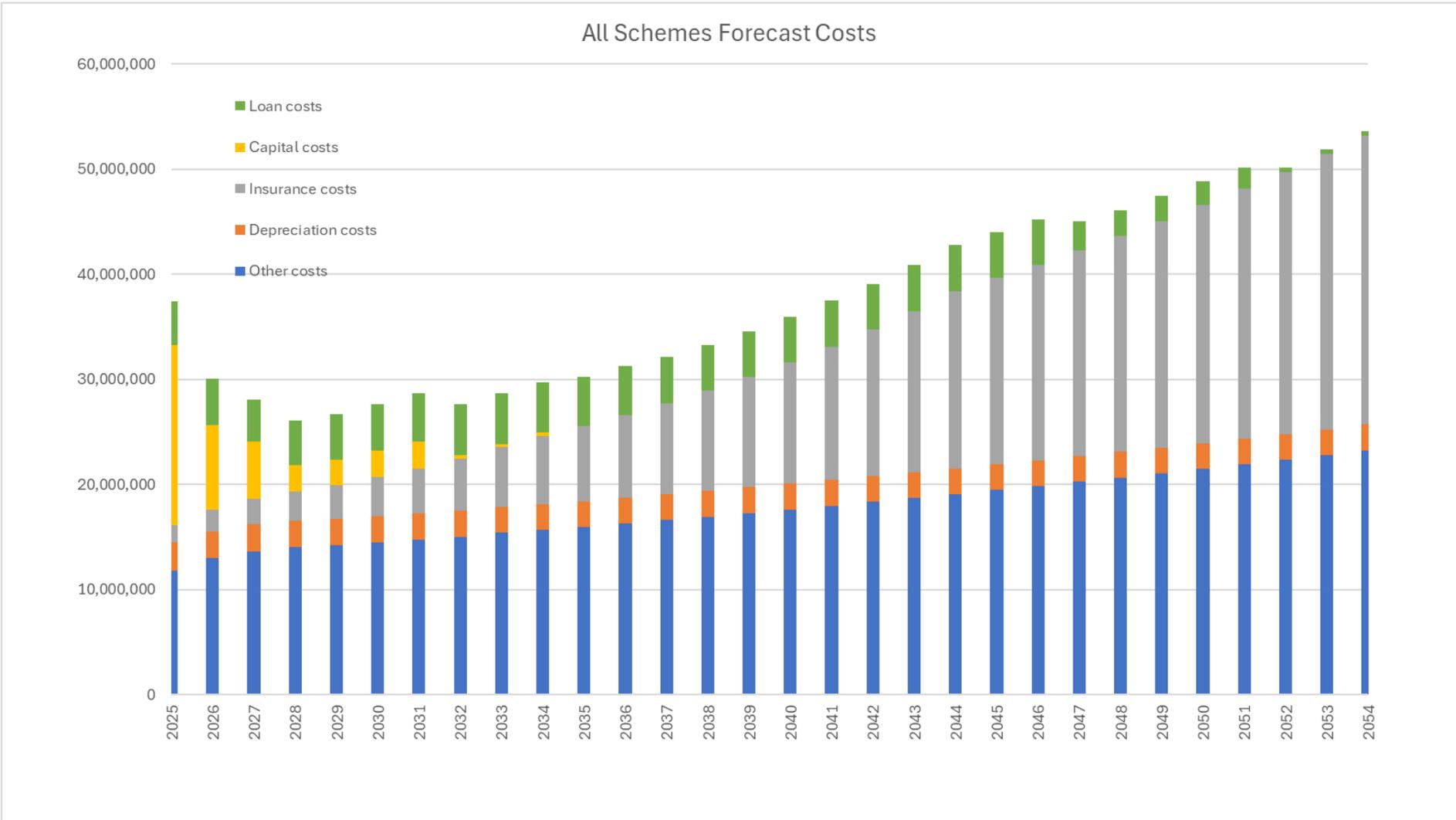
# BUDGETS - OVERALL

All Schemes	2023-24	2024-25	Difference	Difference (%)
<b>Operational</b>	<b>Expenditure(\$M)</b>			
Loan servicing	\$4.352M	\$4.221M	-\$0.131M	-3%
Insurance	\$1.270M	\$1.700M	\$0.430M	34%
Standing charges	\$0.550M	\$0.491M	-\$0.059M	-11%
Personnel	\$3.730M	\$3.891M	\$0.161M	4%
Operational	\$4.795M	\$5.663M	\$0.868M	18%
Internal costs	\$1.429M	\$1.758M	\$0.329M	23%
Emergency Reserves****	\$0.530M	\$0.476M	\$0.054M	-10%
Renewal Reserves****	\$0.125M	\$0.036M	-\$0.089M	-71%
<b>Operational Costs</b>	\$16.782M	\$18.236M	\$1.454M	9%
<b>Capital Costs</b>	\$13.477M	\$17.092M	\$3.615M	27%
<b>Total Costs</b>	<b>\$30.259M</b>	<b>\$35.328M</b>	<b>\$5.069M</b>	<b>17%</b>
Depreciation	\$1.829M	\$2.628M	\$0.799M	44%
Total cost in 2024-2025 for maintenance = \$5.117M, repairs = \$2.269M				
<b>Funding</b>	<b>Funding</b>			
Rates	\$15.102M	\$16.575M	\$1.473M	10%
Loans	\$5.189M	\$5.974M	\$0.785M	15%
Other Capital works funding (incl. Govt.)	\$8.232M	\$10.887M	\$2.655M	32%
Other Rev	\$1.736M	\$1.772M	\$0.036M	2%
Reserves	\$0	\$0.120M	\$0.120M	100%
<b>Total Funding</b>	<b>\$30.259M</b>	<b>\$35.328M</b>	<b>\$5.069M</b>	<b>17%</b>
**** Excludes Interest: Interest from Emergency reserve: 2023-24 \$0.311M, 2024-25 \$0.311M. **** Excludes Interest: Interest from Renewal reserve: 2023-24 \$0, 2024-25 \$0.				

# This Scheme - Makirikiri

Makirikiri	2023-24	2024-25	Difference	Difference (%)
<b>Operational</b>	<b>Expenditure</b>			
Loan servicing	\$0	\$0	\$0	NA
Insurance	\$4.4k	\$7.9k	\$3.6k	45%
Standing charges	\$0	\$0	\$0	NA
Personnel	\$8.0k	\$9.0k	\$1.0k	11%
Operational	\$16.2k	\$15.6k	-\$0.6k	-4%
Internal costs	\$3.5k	\$5.2k	\$1.7k	32%
Emergency Reserves****	\$0	\$0	\$0	NA
Renewal Reserves****	\$3.5k	-\$2.1k	-\$5.6k	266%
<b>Operational Costs</b>	\$35.6k	\$35.6k	\$0.0k	0%
<b>Capital Costs</b>	\$0	\$0	\$0	NA
<b>Total Costs</b>	<b>\$35.6k</b>	<b>\$35.6k</b>	<b>\$0.0k</b>	<b>0%</b>
Depreciation	\$18.5k	\$25.2k	\$6.7k	27%
Total cost in 2024-2025 for maintenance = \$9.9k, repairs = \$8.7k.				
<b>Funding</b>	<b>Funding</b>			
Rates****	\$35.6k	\$35.6k	\$0.0k	0%
Loans	\$0	\$0	\$0	NA
Other Capital works funding (incl. Govt.)	\$0	\$0	\$0	NA
Other Rev	\$0	\$0	\$0	NA
Reserves	\$0	\$0	\$0	NA
<b>Total Funding</b>	<b>\$35.6k</b>	<b>\$35.6k</b>	<b>\$0.0k</b>	<b>0%</b>
**** Excludes Interest: Interest from Emergency reserve: 2023-24 \$0.5k, 2024-25 \$0.5k. **** Excludes Interest: Interest from Renewal reserve: 2023-24 \$0, 2024-25 \$0. ***** This scheme is reserve funded for two years, no rates funding.				

# LONG-TERM PLAN – ALL SCHEMES BUDGET FORECAST



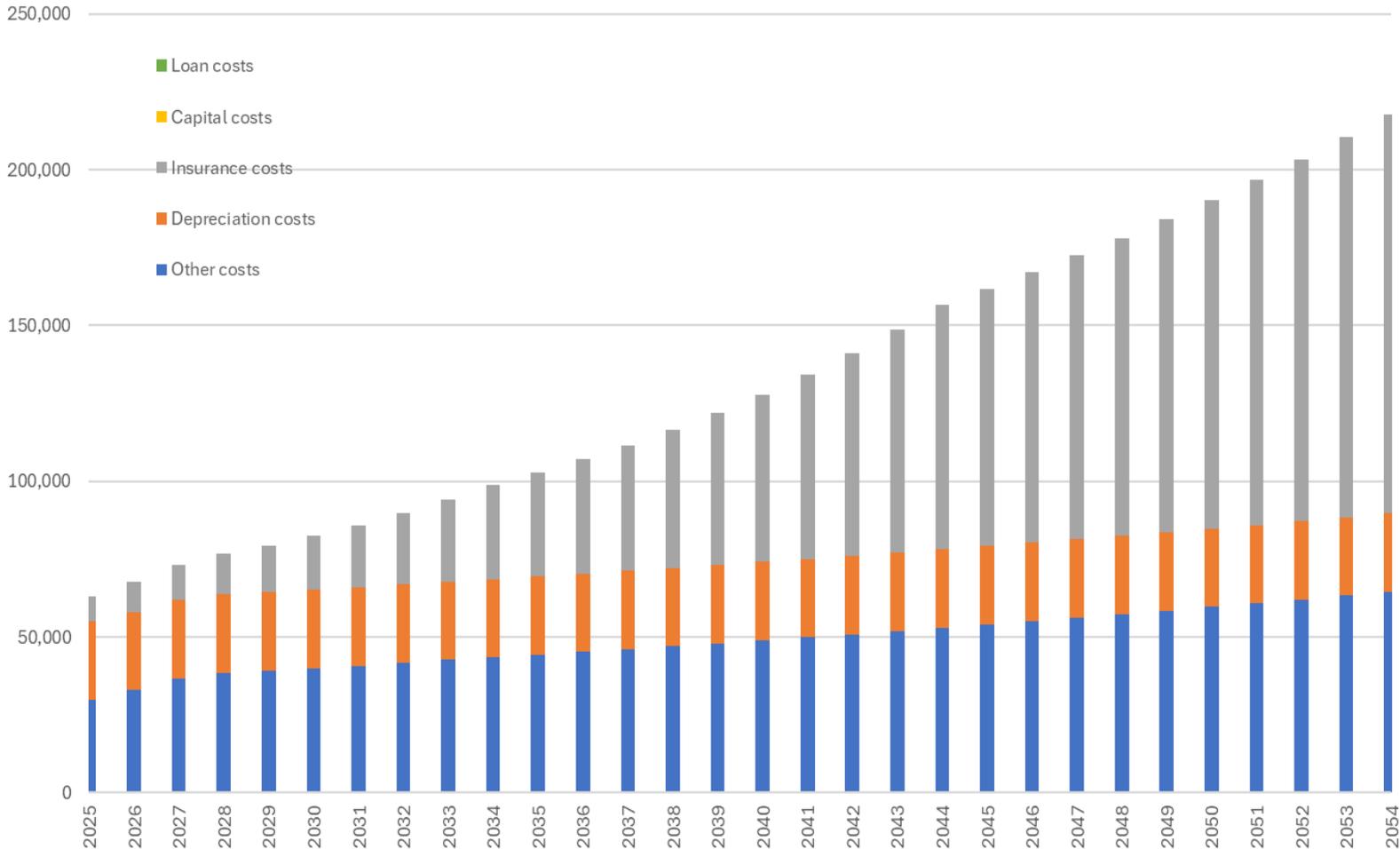
The main driver of changes over 30 years is insurance costs.

In summary:

- 5% of scheme costs in 2024-25.
- 51% of scheme costs in 2053-54.

# LONG-TERM PLAN – THIS SCHEME BUDGET FORECAST

Makirikiri Scheme Forecast Costs



The main driver of changes.

Insurance:

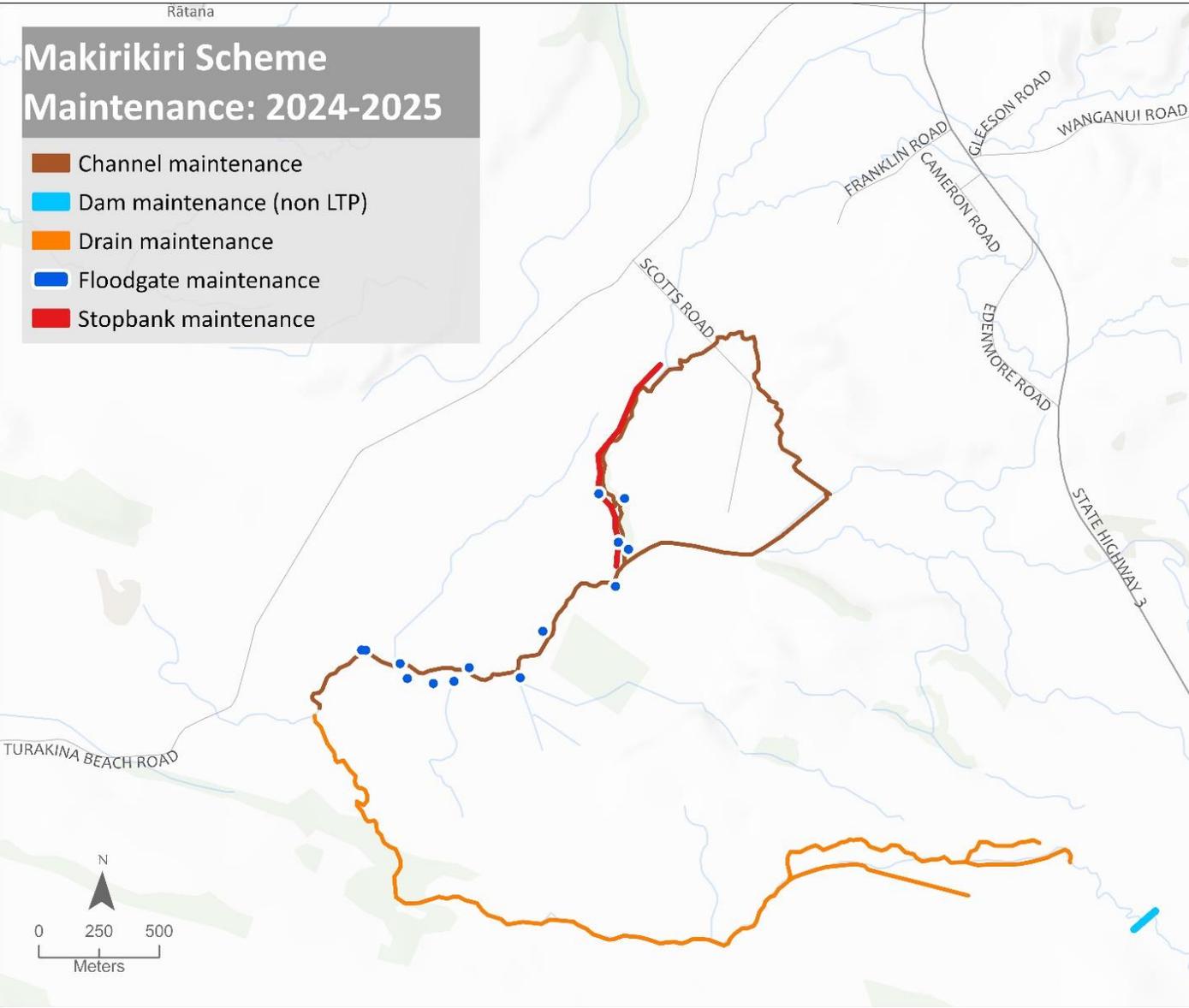
- 13% of scheme costs in 2024-25.
- 59% of scheme costs in 2053-54.

# MAINTENANCE BASED PROGRAMME

Regional (all schemes)				
Maintenance Activity	Quantity of assets*	Target**	Year 1 planned**	% of LTP target
Drain (km)	1,144	521.0	2,208.4	424%
Floodgate (No.)	746	97.0	1,182.0	1219%
Stop bank (km)	510	64.0	487.34	761%
River edge protection (km)	604	75.0	134.6	179%
Channel (km)	802	18.0	492.4	2735%
Amenity (No.)	52	1.0	0.0	0%
Weir (No.)***	63	NA	3.0	NA
Pump station (No.)***	117	NA	345.0	NA
Flood barrier (No.)***	73	NA	0.0	NA
Dam (No.)***	171	NA	345.7	NA

Makirikiri				
Maintenance Activity	Quantity of assets*	Target**	Year 1 planned**	% of LTP target
Drain (km)	0	0.0	1.9	NA
Floodgate (No.)	15	3.0	14.0	467%
Stop bank (km)	6	0.8	0.8	100%
River edge protection (km)	0	0.0	0.0	NA
Channel (km)	3	0.0	11.9	39667%
Amenity (No.)	0	0.0	0.0	NA
Weir (No.)***	0	NA	0.0	NA
Pump station (No.)***	0	NA	0.0	NA
Flood barrier (No.)***	0	NA	0.0	NA
Dam (No.)***	4	NA	4.0	NA

\*Individual components of assets are counted towards the quantity for pump stations, floodgates, weirs, and dams. This is done for valuation purposes.  
 \*\*Assets can have multiple maintenance treatments during the year, with each treatment counting towards the target e.g. a drain being chemically cleaned twice per year; in spring and then in autumn.  
 \*\*\* Not an LTP target.



# ASSET INSPECTION SUMMARY

Asset inspections are being used to inform the repair component of the programme.

## High criticality assets

- Critical to providing the service level of the scheme and require regular inspections of their condition between flood events.
- Include: dams, pump stations, stopbanks, floodgates, and weirs.
- To be inspected at least once annually.

## Low criticality assets

- Unlikely to alter between flood events and provide support to the high critical assets in providing the service level of the scheme.
- Include: drains, tied tree works, rock linings, and vegetation plantings.
- To be inspected at least once every five years i.e. 20% to be inspected each year.

In 2023-24:

- 100% of the high criticality assets were inspected.
- 45% of all assets were inspected Regionally.
- 96% of all assets inspected in the Makirikiri Scheme.

**Table:** Assets inspected in 2023-24 by criticality.

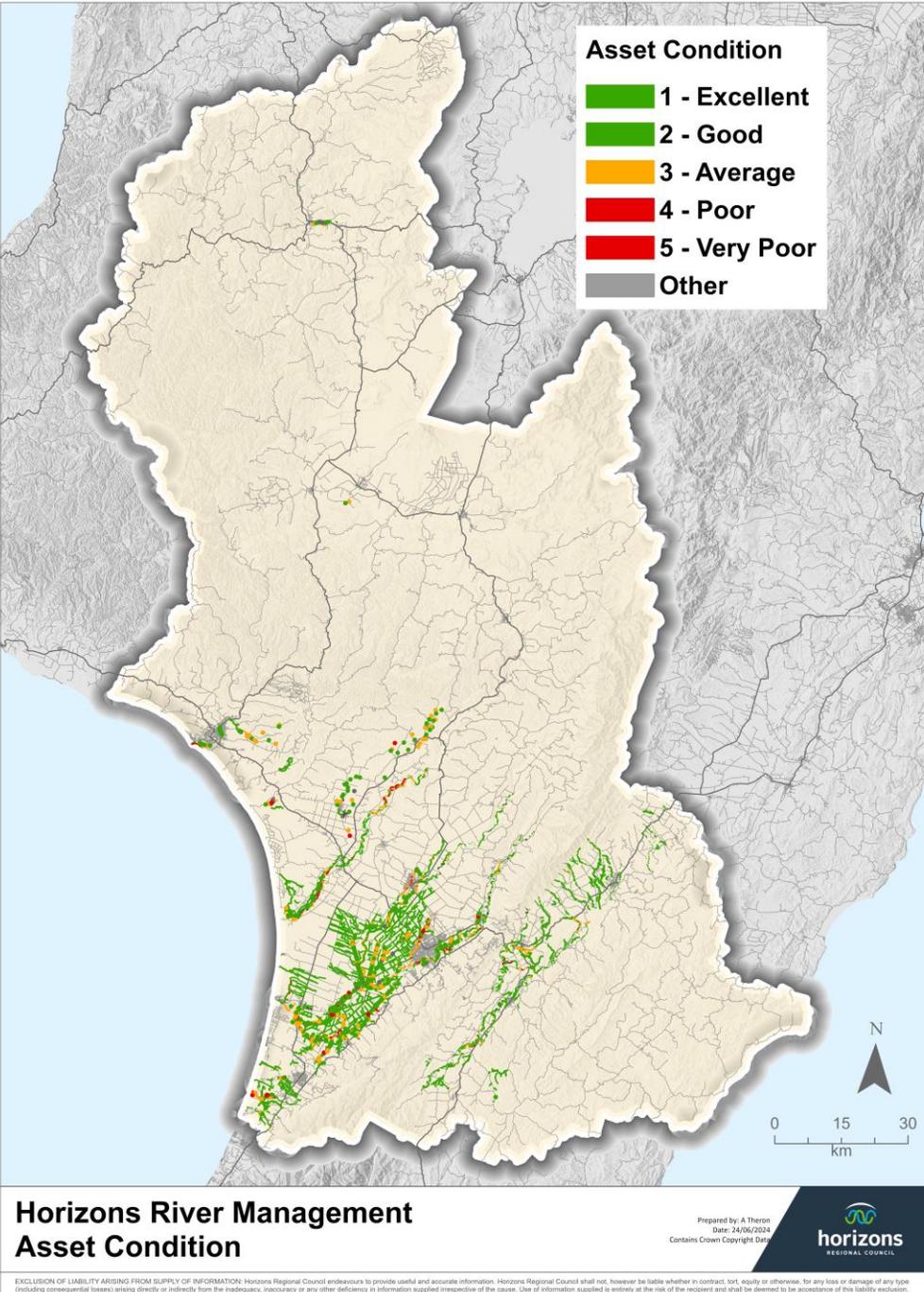
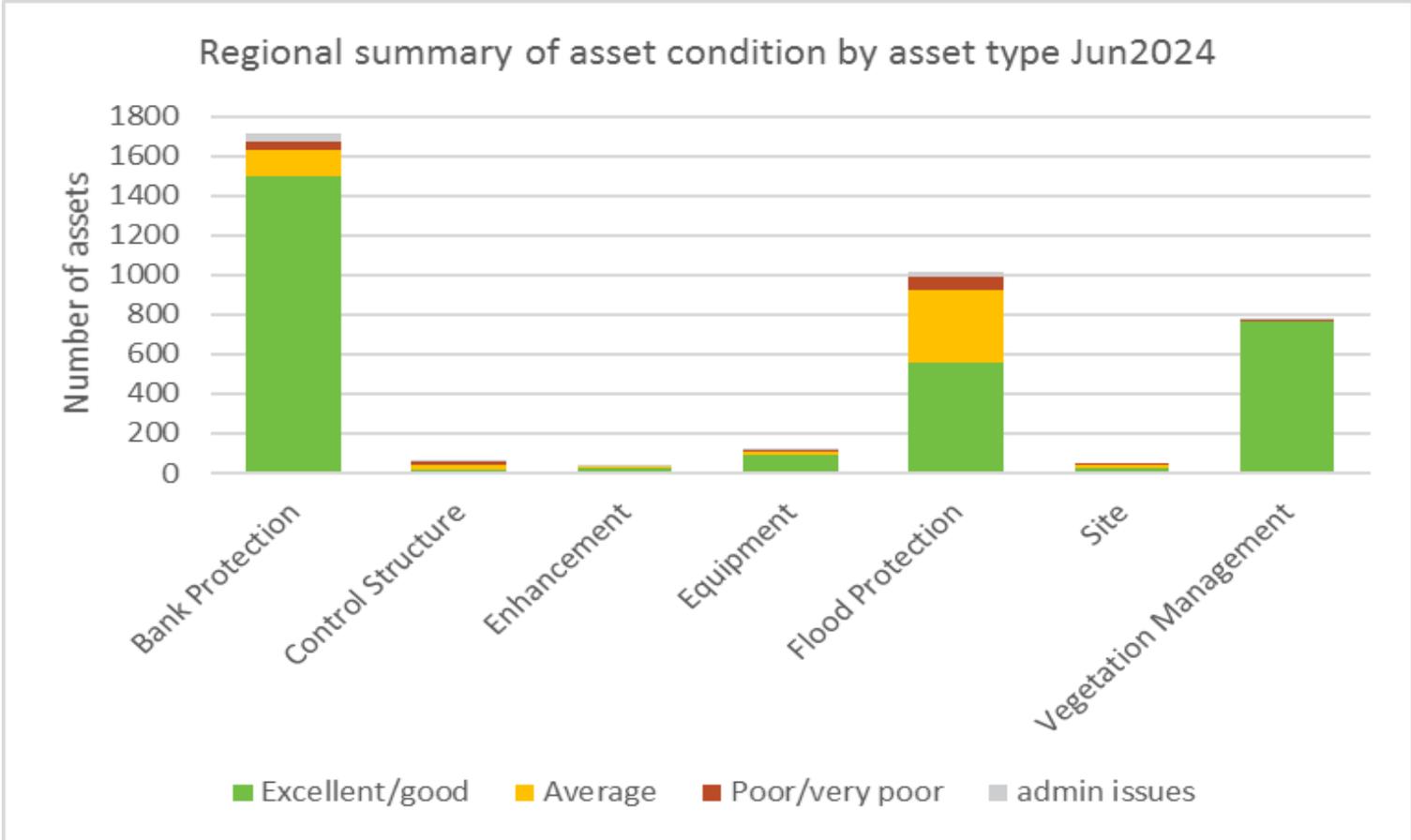
Regional (all schemes)					
Criticality	Inspected	Inspected (%)	Not Inspected	Not Inspected (%)	Total
High	1,211	100%	0	0%	1,211
Low	485	19%	2,054	81%	2,539
<b>Total</b>	<b>1,696</b>	<b>45%</b>	<b>2,054</b>	<b>55%</b>	<b>3,750</b>

Makirikiri					
Criticality	Inspected	Inspected (%)	Not Inspected	Not Inspected (%)	Total
High	22	100%	0	0%	22
Low	0	0%	1	100%	1
<b>Total</b>	<b>22</b>	<b>96%</b>	<b>1</b>	<b>4%</b>	<b>23</b>

# REGIONAL ASSET CONDITION SUMMARY

Regionally overall:

- 79% (2,975) of assets currently have an excellent/good condition.
- 15% (578) have an average condition.
- 3% (125) have a poor/very poor condition.
- 2% (72) of records have an admin issue.

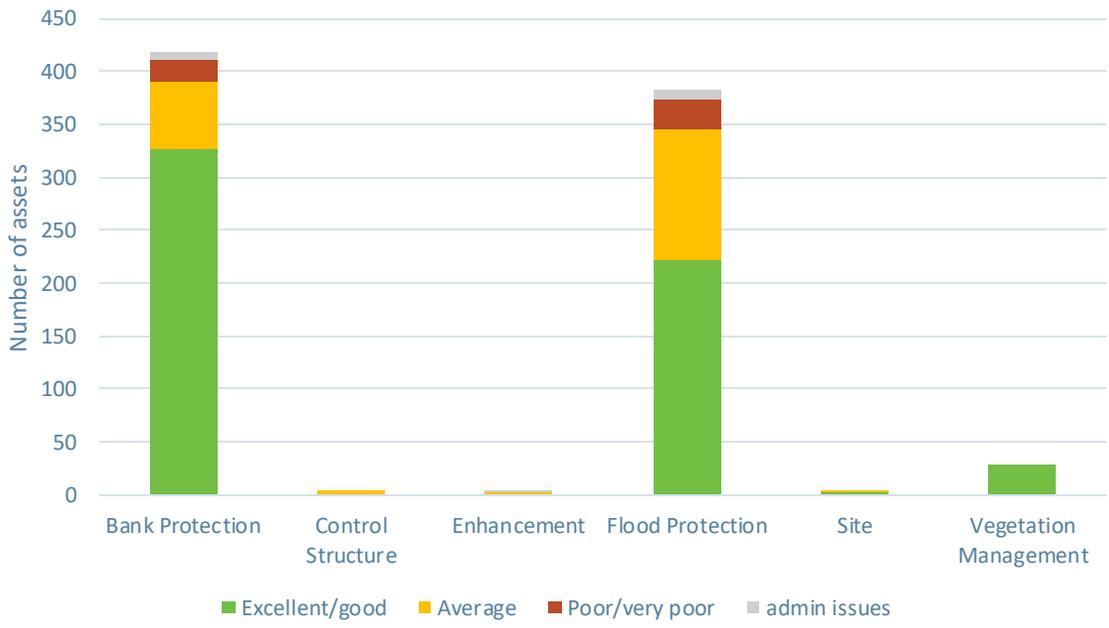


# MAKIRIKIRI ASSET CONDITION SUMMARY

Makirikiri condition:

- 30% of assets currently have an excellent/good condition.
- 43% have an average condition.
- 17% have a poor/very poor condition.
- 9% of records have an admin issue.

Makirikiri asset condition by asset type Jun2024



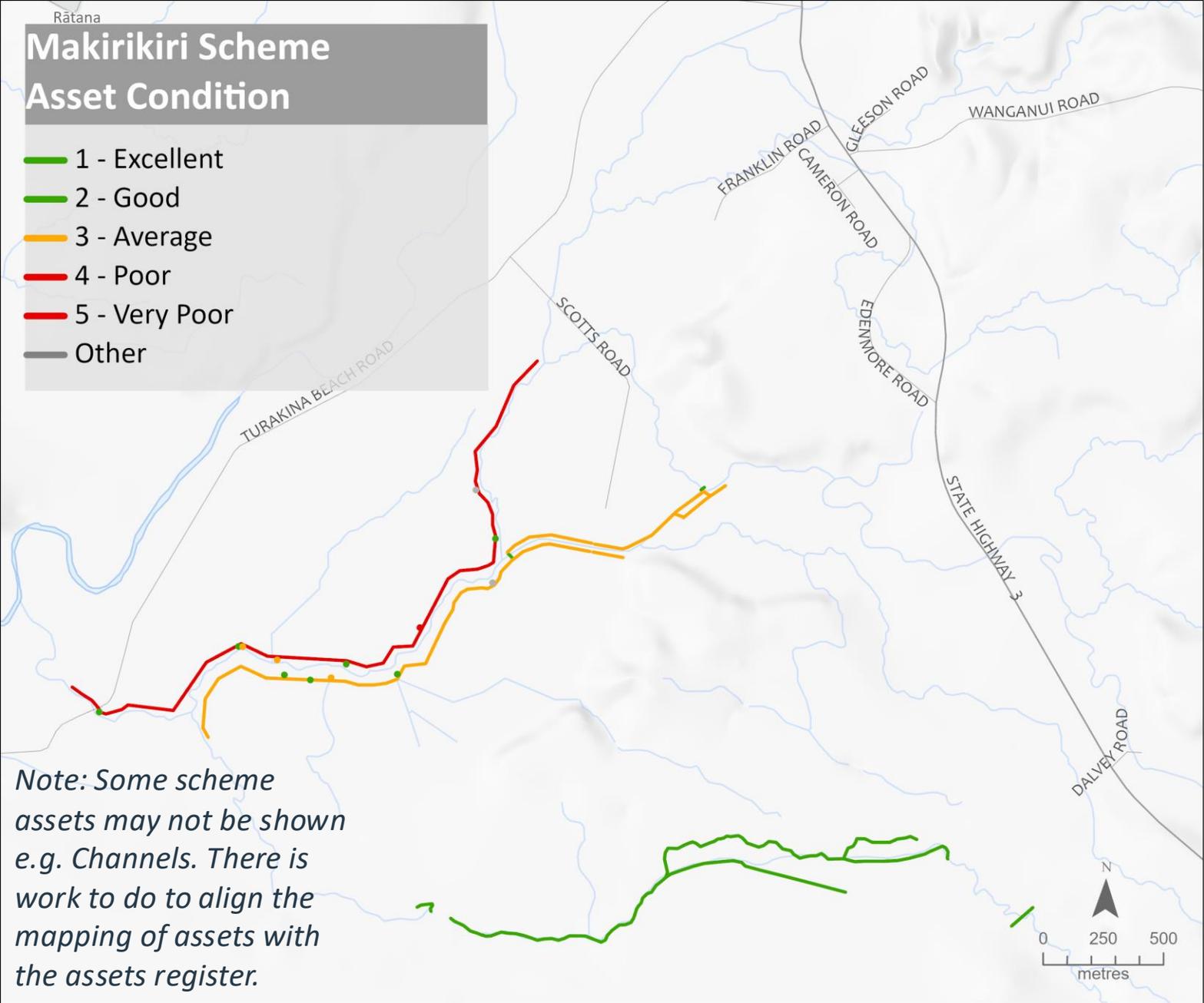
Makirikiri floodgate.



Makirikiri diversion channel.

# Makirikiri Scheme Asset Condition

- 1 - Excellent
- 2 - Good
- 3 - Average
- 4 - Poor
- 5 - Very Poor
- Other



## REPAIRS REQUIRED

Long-term, the intention is that the maintenance based programme will reduce the need to do reactionary repairs to existing assets.

The repair budget for the Makirikiri Scheme is \$8,696 in 2024-25.

The cost to complete all the repairs is yet to be determined.

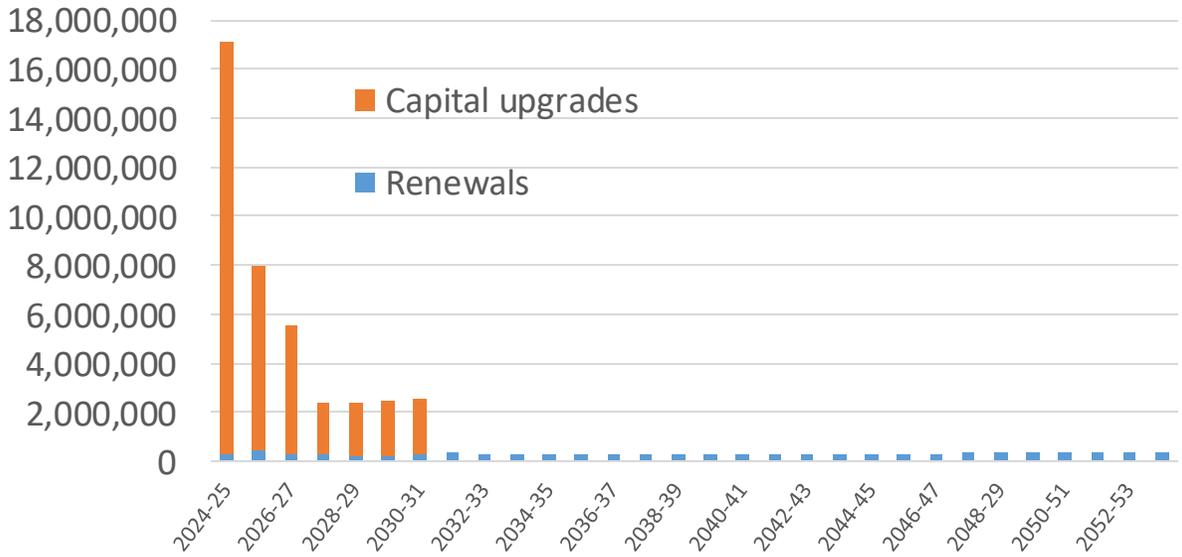
**These repairs and any new repair tasks identified during the year may require use of reserves or need to be delayed.**

**Requests for new assets will be challenging to fund.**

Note the map will over represent scale of repairs required. If there is a condition defect found anywhere on the asset, the condition score is applied to the whole of the asset.

# CAPITAL PROGRAMME – ALL SCHEMES

- Climate resilience projects (Rangitīkei, Foxton, Lower Manawatū and Palmerston North).
- Provincial Growth Fund – Te Pūwaha (Whanganui River Training Structures component).
- Feilding flood resilience upgrades.
- Mangaone Stream (Palm. North) resilience upgrades.
- Koputoroa number 4 pump lowering.



# EXAMPLES IN 2024-2025

- Lower Manawatū Climate resilience project:
  - Moutoa upstream gates upgrades.
  - Moutoa downstream gates upgrades.
  - Rangiotu gates upgrades.
- Palmerston North Climate resilience:
  - Mangaone at Tremaine Avenue.
  - Mangaone at Belvedere Crescent.
- Feilding flood resilience upgrades - planning:
  - Reid Line upgrades.
  - Makino Stream upgrades.
  - Te Arakura Road.
- Mangaone Stream (Palm. North) resilience upgrades – years 2 and 3.

# FLOOD VULNERABILITY ASSESSMENT

1. To consolidate and document Horizons current flood modelling and mapping information.
2. To build on this to prepare regional flood hazard maps under various size events, including with consideration of climate change.
3. Assess Horizons current flood protection assets in relation to current and projected levels of service and also to make recommendations in relation to how to assess the condition of these over time.
4. Produce a regional flood vulnerability assessment for the Region, with a focus on (but not limited to) the approximately 50 towns and settlements within the region.
5. This will include individual summaries of flood vulnerability for towns and settlements, including consideration of stormwater management.
  - Co-funded via the Flood Resilience Co-investment Fund.
  - Required to be completed by 30 June 2025.



Two of the region's largest urban centres during the 2015 storm event.  
Above: Palmerston North. Below: Whanganui.



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## NEXT STEPS

- Scheme meetings 30 July to 22 August.
- Year end reporting.
- Maintenance based programme finalisation, documentation and implementation.
- Repairs assessment further investigation.
- Capital programme implementation: design, consents, procurement, construct etc.
- Asset management inspections.
- Finalisation of single Asset Management Plan.
- Governance Group establishment for Feilding and Foxton projects.
- Ongoing response to weather events.



Cross blading trial for gravel management – Photo April 2024. Manawatū River upstream of Palmerston North.

## FURTHER INFORMATION

- Council reporting:
  - Monthly via the Chief Executives report to Council and Audit and Risk Committee.
  - Quarterly via the Integrated Catchment Committee report. May report available at: <https://www.horizons.govt.nz/calendar/integrated-catchment-committee-2024-28-05.aspx>
- Via Horizons website – some updates in process.
- River management enquiries [rmenquiries@horizons.govt.nz](mailto:rmenquiries@horizons.govt.nz)



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# horizons

REGIONAL COUNCIL



For more information visit [www.horizons.govt.nz](http://www.horizons.govt.nz)  
or freephone Horizons on **0508 800 800**