



# TARARUA DISTRICT SCHEMES MEETING

3<sup>RD</sup> JULY 2025

VENUE: THE HUB, DANNEVIRKE

# TARARUA DISTRICT SCHEMES

Mangatainoka	Upper Manawatū-Lower Mangahao	South Eastern Ruahine
Taraura District Wide	Tawataia- Mangaone	

## PRESENTATION FORMAT

<b>Regional Overview</b> <ol style="list-style-type: none"><li>1. New maintenance programme results</li><li>2. Works reporting - local schemes combined &amp; individually</li><li>3. Capital works - local examples</li><li>4. Capital works - regional overview</li><li>5. Asset Management – insurance, known asset defects</li><li>6. Regional flood vulnerability assessment</li><li>7. Regulatory matters - consenting and compliance</li></ol>	<b>Local Schemes – combined summary</b> <ol style="list-style-type: none"><li>8. Local schemes finance summary – rates, loans, reserves</li><li>9. Rates increases</li><li>10. Local schemes current context and the year ahead</li><li>11. Case study – gravel management methods &amp; examples</li><li>12. Presentation summary/ discussion</li><li>13. Individual scheme discussions in small groups</li></ol>
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# REGIONAL MAINTENANCE AND REPAIRS SUMMARY – 34 SCHEMES

- New maintenance based programme introduced.
- Settled weather has assisted the years activity.
- Some of the repairs budget has been redirected to maintenance.
- Preliminary results show 103% of maintenance budget spent, 52% of repairs budget.

Regional summary	Asset quantity	Works / checks	Percentage	Notes Some areas maintained more than once
Drains (km)	1,149	1,955	170%	Mostly spray, some mechanical
Floodgates (#)	755	1,114	148%	Maintenance and/or checks
Stopbanks (km)	506	982	194%	Mostly mowing
River channel (km)		454		Includes aerial spraying, gravel management
River edge protection (km)	614	118	19%	Willow maintenance
Dams (#)	54	291	539%	Maintenance and/or checks
Pump stations (#)	24	69	288%	Maintenance and/or checks
Weirs (#)	77	5	6%	Maintenance
Amenity (#)	20	2	10%	Maintenance
Flood barrier (#)	10	4	40%	Maintenance and/or checks

# TARARUA SCHEMES - WORKS SUMMARY 2024-25

- New maintenance based programme introduced. Settled weather has also assisted the years activity.
- Across the 5 schemes:
  - 98% of the maintenance budget spent;
  - 30% of the repairs budget (as at early June).
- Individual scheme results, including maintenance and repair budget expenditure provided in later slides.

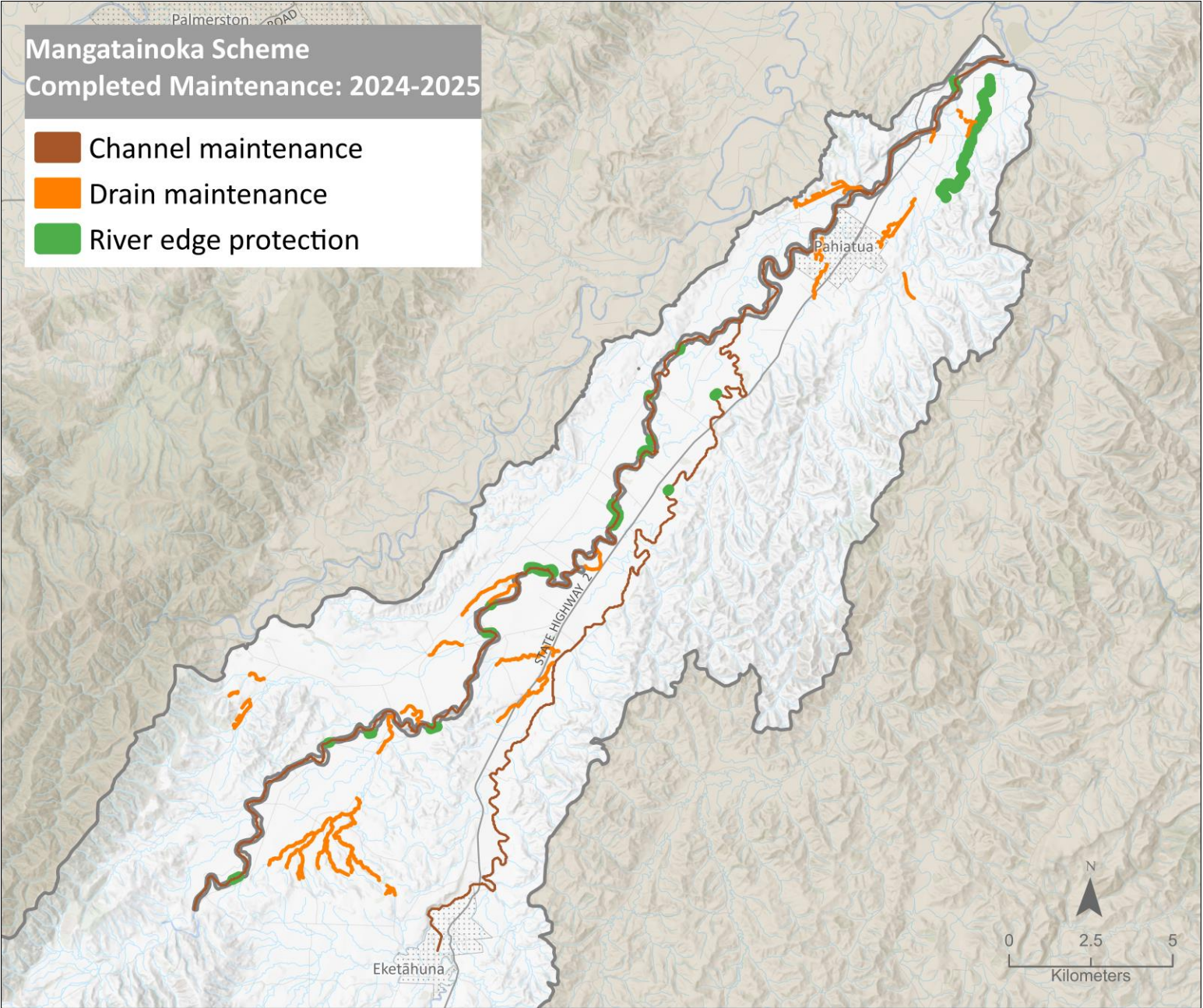
Tararua schemes summary	Asset quantity	Works / checks	Percentage	Notes
Drains (km)	176.4	164.8	93%	Mixture of mechanical and spray
Floodgates (#)	1	0	0%	
Stopbanks (km)	24.0	0	0%	
River Channel (km)		236		Aerial spraying and gravel management
River edge protection (km)	343.6	17.3	5%	Willow maintenance
Dams (#)	1	1	100%	Checks
Pump stations (#)				
Weirs (#)	44	1	2%	Maintenance
Amenity (#)				
Flood barrier (#)				

# MANGATAINOKA SCHEME WORKS 2024-25

## Budget expenditure:

- Maintenance approx. 88%;
- No repairs budget this year; and
- Repairs budget in 2025-26.

Scheme maintenance	Asset quantity	Works / checks	Percent
Drains (km)	49.6	46.9	95%
Floodgates (#)			
Stopbanks (km)	6.2	0	0%
River channel (km)		87.4	
River edge protection (km)	156.3	6.8	4%
Dams (#)			
Pump stations (#)			
Weirs (#)	17	0	0%
Amenity (#)			
Flood barrier (#)			



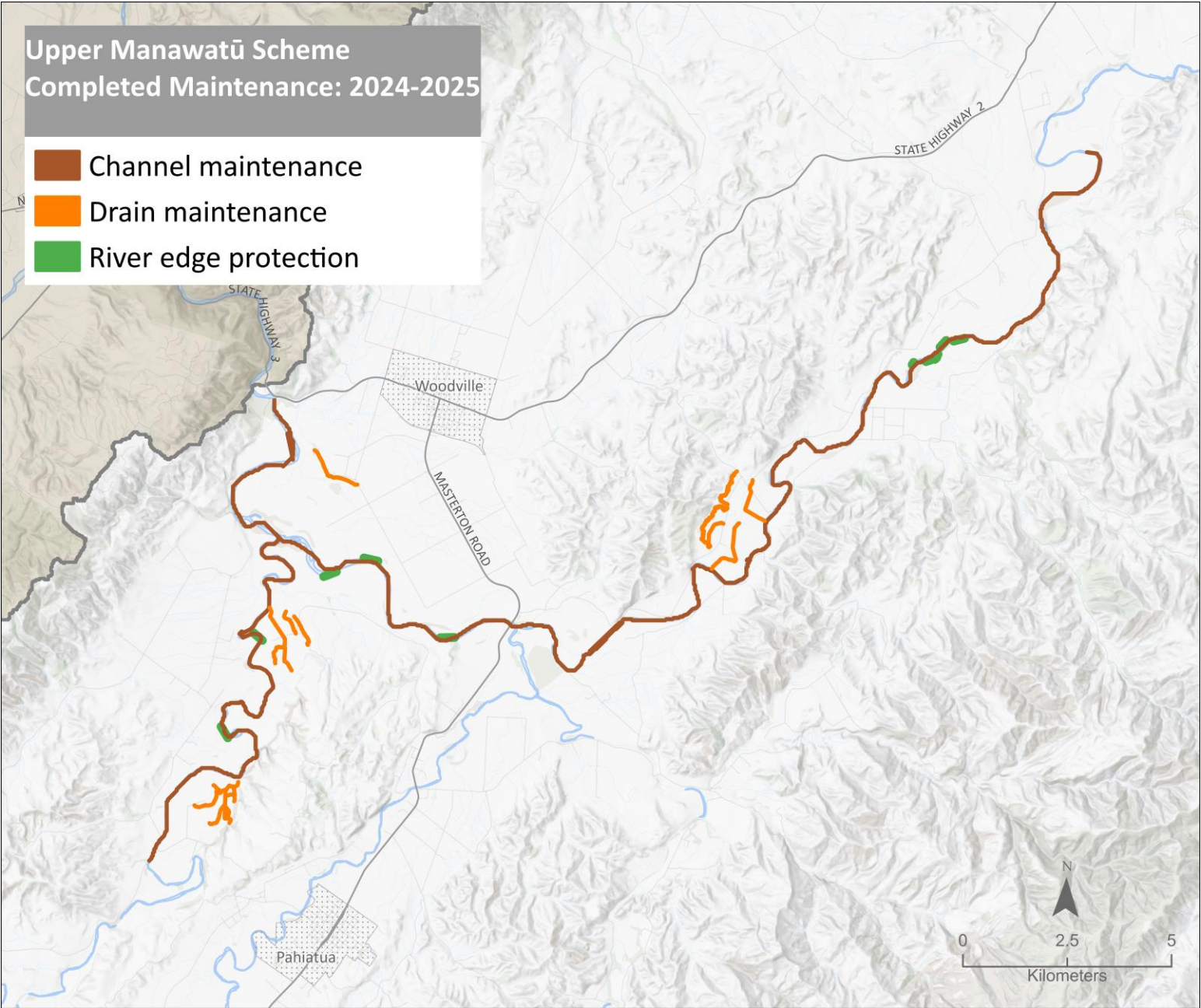


# UPPER MANAWATŪ – LOWER MANGAHAO SCHEME WORKS 2024-25

Budget expenditure:

- Maintenance approx. 102% with 17% used for repairs; and
- Repairs budget in 2025-26.

Scheme maintenance	Asset quantity	Works / checks	Percent
Drains (km)	18.9	21.0	111%
Floodgates (#)			
Stopbanks (km)	1.8	0	0%
River channel (km)		2.9	
River edge protection (km)	118.5	3.1	3%
Dams (#)			
Pump stations (#)			
Weirs (#)			
Amenity (#)			
Flood barrier (#)			

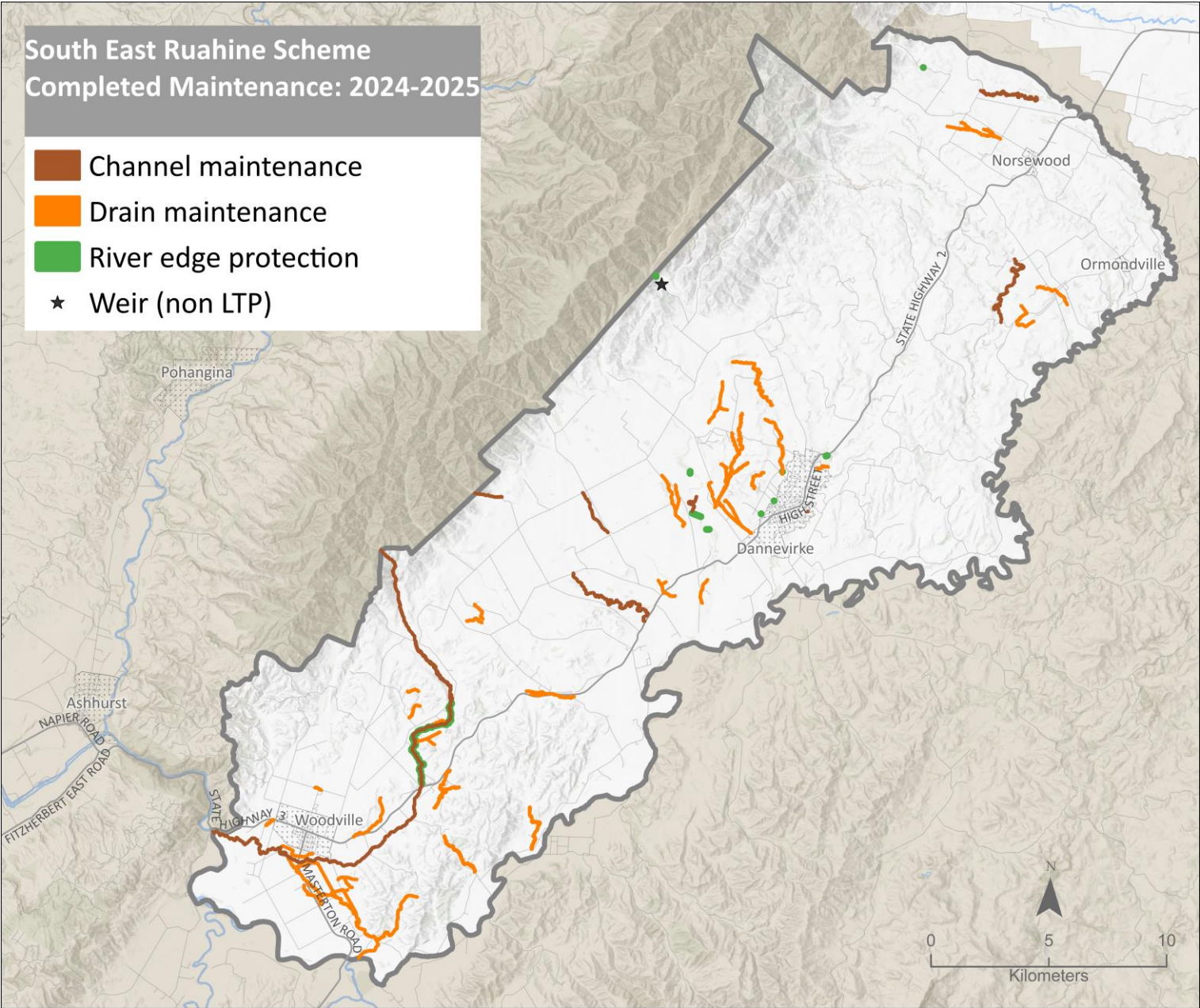


# SOUTH EAST RUAHINE SCHEME WORKS 2024-25

## Budget expenditure:

- Maintenance approx. 94%;
- No repairs budget this year; and
- Repairs budget in 2025-26.

Scheme maintenance	Asset quantity	Works / checks	Percent
Drains (km)	93.1	83.3	89%
Floodgates (#)	1	0	0%
Stopbanks (km)	16	0	0%
River channel (km)		25.9	
River edge protection (km)	66.9	7.4	11%
Dams (#)			
Pump stations (#)			
Weirs (#)	27	1	4%
Amenity (#)			
Flood barrier (#)			

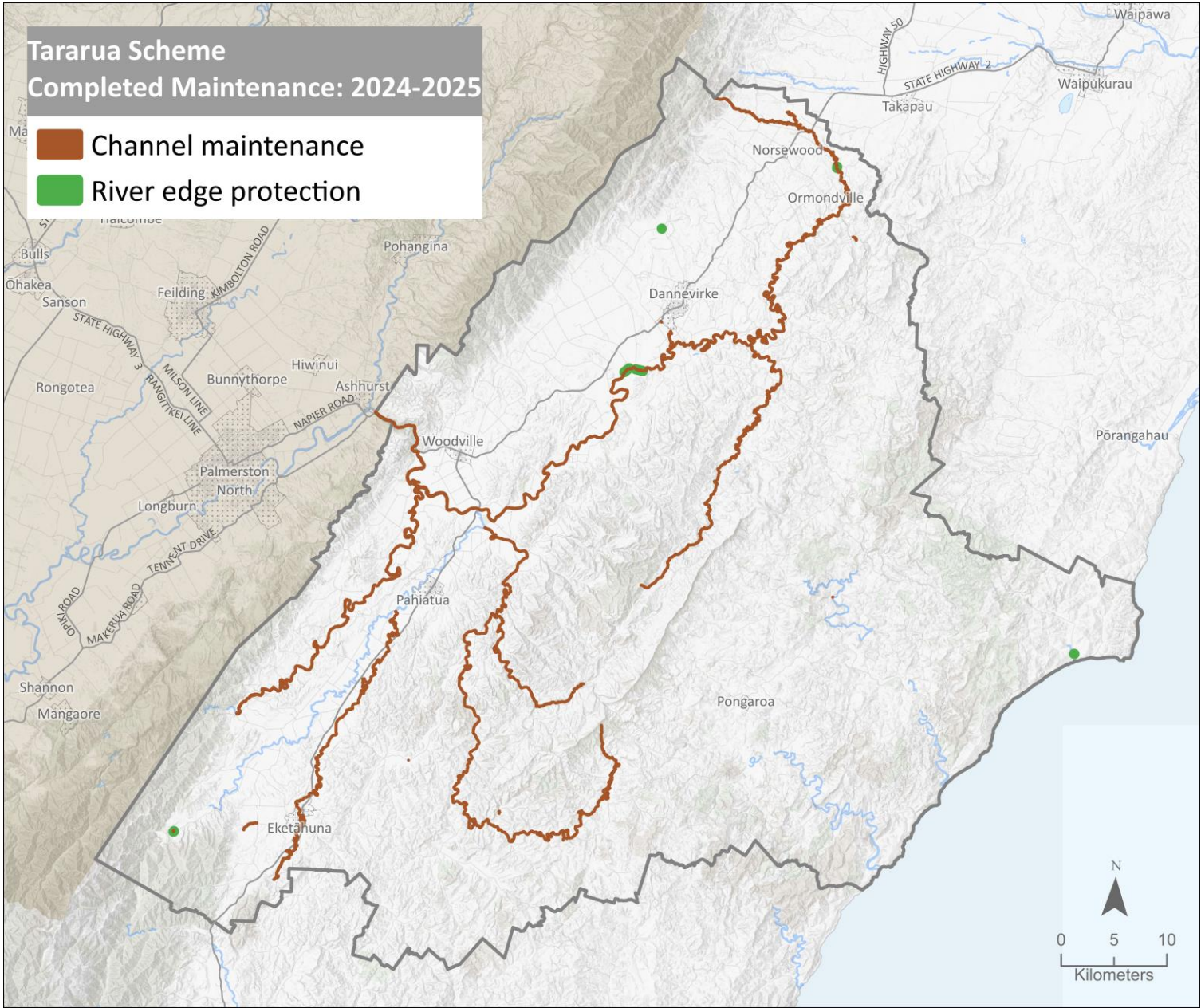




# TARARUA DISTRICT WIDE SCHEME - WORKS 2024-25

- Budget expenditure:
  - Maintenance approx. 144%; and
  - No assets, no repair budget.
- Seeking increased reporting of issues

Scheme maintenance	Asset quantity	Works / checks	Percent
Drains (km)			
Floodgates (#)			
Stopbanks (km)			
River channel (km)		19.7	
River edge protection (km)		1.9	
Dams (#)			
Pump stations (#)			
Weirs (#)			
Amenity (#)			
Flood barrier (#)			



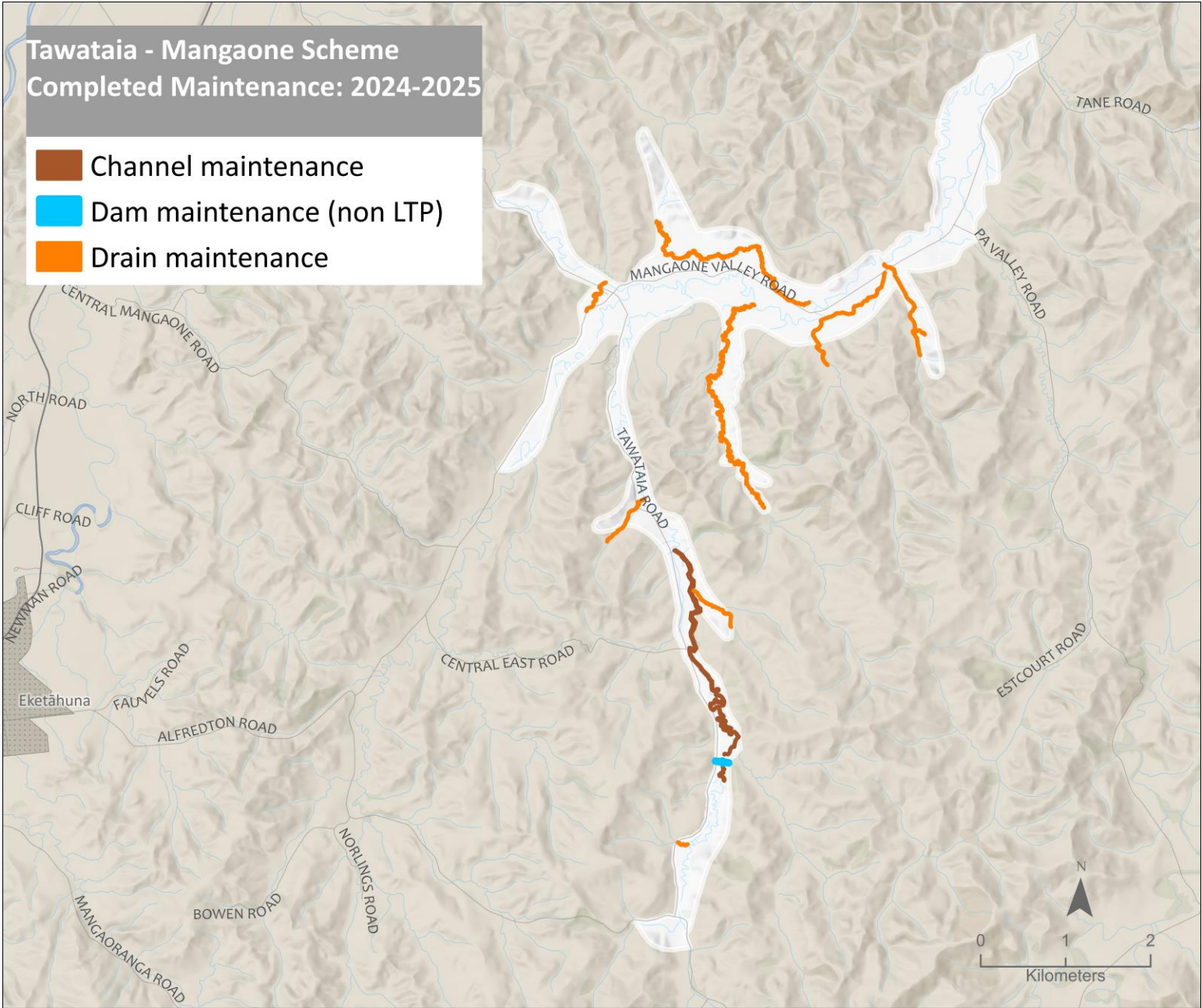


# TAWATAIA – MANGAONE SCHEME WORKS 2024-25

Budget expenditure:

- Maintenance approx. 136 %; and
- Repairs approx. 116%.

Scheme maintenance	Asset quantity	Works / checks	Percent
Drains (km)	14.9	13.4	89%
Floodgates (#)			
Stopbanks (km)			
River channel (km)		1	
River edge protection (km)			
Dams (#)	1	1	100%
Pump stations (#)			
Weirs (#)			
Amenity (#)			
Flood barrier (#)			



# CAPITAL PROGRAMME SUMMARY

## Regional overview

- Delivery tracking to approx. \$19M, nearly double previous year \$10.5M.
- Last year for most government co-funded projects.
- \$11M of government co-funding toward \$29M budget.
- Main underspend was Te Pūwaha (Whanganui) where construction is now underway and the budget carries forward into the new year.
- Next years budget \$7M. Te Pūwaha, Feilding and Palmerston North.
- Flood vulnerability assessment to inform the future work programme.

## Local example: flood monitoring network upgrades

The Local Government Flood Resilience Co-investment Fund project included:

- Upgrades to monitoring networks and pump stations, including additional communications resilience;
- Updating flood forecasting; and
- Completing new regional flood modelling; and
- A flood vulnerability assessment.

This project has completed a range of work in and related to the Tararua.



Photo: Monitoring network communication resilience upgrade as a part of the Cyclone Recovery Unit co-funded work programme.

New radio repeater on the Puketoi Range to increase coverage to the east coast catchment enabling flood warning information to be communicated.



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# REGIONAL CAPITAL PROGRAMME OVERVIEW 2024-25

Area	Whanganui	Rangitīkei	Palmerston North	Horowhenua
Project	Te Pūwaha	Climate resilience	Climate resilience	Climate resilience (lower Manawatū)
Supported by	PGF (Kanoa), WDC, HRC	Kanoa, HRC	Kanoa, HRC	Kanoa, HRC
Purpose	River Training	Room for river	Flood protection	Flood protection
Delivery 24-25	Consenting & design. Construction underway. Project delivery is in partnership with Te Mata Pūau.	Vegetation and gravel management, room for river report, planting, track upgrade at Scotts Ferry.	Te Matai Road and Tremaine Avenue works completed. Belvedere Crescent works started, to finish in spring.	Upgrades to Moutoa sluice gates and wet gates, Tokomaru and Koputoroa stopbanks. Rangiotu gates design updated.
Area	Whanganui	Manawatū	Horowhenua	Foxton
Project	Pūtiki resilience	Feilding flood resilience	Pump Station upgrades	Climate Resilience (Foxton)
Supported by	HRC, Pūtiki community, WDC & Waka Kotahi	HRC with governance group, MDC, iwi and landowner rep.	Cyclone recovery unit, HRC.	Kanoa, HDC, HRC, governance group community and hapū reps.
Purpose	Investigations	Flood protection	Alternative power supply and comms.	Flood resilience
Delivery 24-25	Hydrology study and options assessment.	Options assessment, further work on Reid Line spillway upgrade. Land Purchase.	Generators purchased, plugs installed.	Sheet piling Kings Canal Pumps purchase and set up for use.

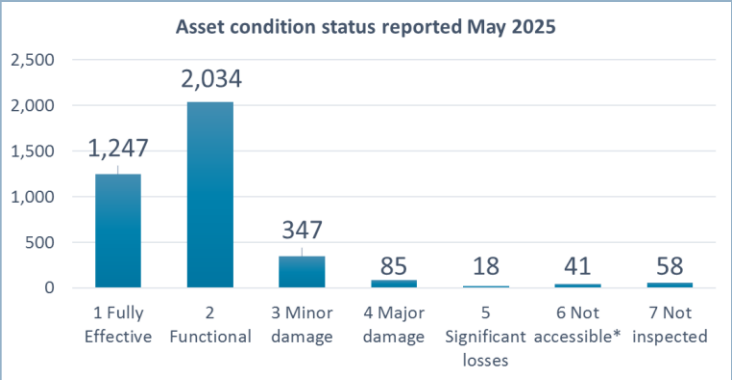
# ASSET MANAGEMENT – STATE OF THE NETWORK

## Regional Overview

- Over 3,800 assets valued at over \$1.2 Billion.
- Maximum insurance claim per event is up to \$0.1 Billion.
- Assets insured total \$0.811 Billion.
- Single asset management plan produced to replace 27 plans (more efficient, to be updated annually).

## Regional Asset Condition

- 103 (5%) of assets have major or significant damage.
- A further 347 (9%) have minor damage.



## Regional Asset Defects

- 477 assets at least one of the 1,104 known defects.
- Capacity and information systems are limiting defects management. The Annual Plan has prioritised this.

Defects reporting by area	Number of assets (total)	Number of assets with active defects <sup>1</sup>	Number of active defects
Eastern	812	70	105
Northern	562	42	77
Southern	1,244	92	197
Central	1,210	273	725
Total	3,828	477 <sup>2</sup>	1,104

## Tararua Schemes Asset Defects

- The Tararua schemes area in the eastern area where:
  - There are 812 assets;
  - Of which 70 (9%) have at least one known defect; and
  - There are 105 known defects.

\* May 2025 reporting. <https://www.horizons.govt.nz/HRC/media/Media/Agenda-Reports/Integrated-Catchment-Committee-Folder/Integrated-Catchment-Committee-2025-14-05/2559%20Catchment%20Operations%20Group%20Regional%20Summary%20Report.pdf> Pages 63 to 65



# FLOOD VULNERABILITY ASSESSMENT (FVA)

## Regional Overview

- Infrastructure Strategy recommendation to define a strategic approach to future work programmes.
- Co-funded by Cyclone Recovery Unit funding as part of a larger project.
- The FVA work programme is shown to the right.
- Note work around assets and more detailed flood modelling for the lower Manawatū are also included.

## What will it mean for the Tararua

Project aims to inform/ prioritise work programmes for:

- Future flood modeling (may inform district planning);
- Emergency management planning/response; and
- Future flood protection design and works (e.g. where does Woodville and others fit within priorities?).

## Work Programme

### 1. Review existing flood mapping

- Consolidate and review.
- Comment suitability for various purposes.

### 2. Develop a regional flood model

### 3. Produce flood maps for various size events

- With/without climate change & flood defences.

### 4. Produce a flood vulnerability assessment

- Regional level – 50 towns & settlements.
- District summary.
- Individual town/settlement summaries.

**5. Provide a report** - including commentary on interpretation and recommendations for future flood modelling work.

# REGULATORY MATTERS

## Regional Overview

- Obtaining and complying with approvals is essential to getting work done.
- Approvals take many forms - consents, landowners, treaty legislation, community buy-in, national legislation etc.
- Obtaining approvals and complying is increasingly complex.
- Most of the schemes have not budgeted for this.
- Restructuring has enabled more capacity for this work.
- Systems and processes have been improved.

## Local regulatory work over the year

- A lot of assessments have been completed prior to undertaking operational works.
- Have been progressing the South East Ruahine gravel management consenting and following up on active channel narrowing identified via monitoring.

## Consenting and compliance

- Schemes have over 200 consents and 4,000 conditions.
- New consents are required when consents expire and when new works are proposed.
- Over 30 consent processes this year. Some ongoing.
- No significant non-compliances in 2024-25.
- A region wide abatement notice has been issued.
- One prosecution is being responded to, works June 2024.
- All significant works are now assessed via a panel.

## Local consenting work required

- Gravel management consents and likely spraying consents to avoid risks around non-compliance with permitted activity rules.
- Important that landowners and contractors do not do work that is outside the scope authorised.

For more information please refer to May 2025 reporting.

<https://www.horizons.govt.nz/HRC/media/Media/Agenda-Reports/Integrated-Catchment-Committee-Folder/Integrated-Catchment-Committee-2025-14-05/2559%20Catchment%20Operations%20Group%20Regional%20Summary%20Report.pdf> Pages 81 to 88



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# TARARUA SCHEMES – FINANCE SUMMARY

- The 5 Tararua area schemes are a mix of channel maintenance, flood protection and drainage.
- These schemes have approximately \$136M of assets, 11% of the regional total.
- Predicted year start for 2025-26: Annual rates budget \$2.1M, \$0.5M loans, \$2.5M reserves.

Scheme	Purpose	Total assets (\$, June 2024)	Rates budget (\$) 2025-26	Loans* (\$)	Emergency Reserves* (\$)	Renewal Reserves* (\$)
Mangatainoka	river	41,363,612	639,353	-	1,564,050	-22,922
Upper Manawatū – Lower Mangahao	river	27,292,781	358,474	47,502	362,268	711
South East Ruahine	river	67,127,746	685,832	498,970	508,177	59,146
Tararua District Wide	drainage	NA	381,295	-	44,415	-
Tawataia - Mangaone	river	675,518	30,715	-	27,555	8,614
Sub total (5 schemes)		136,459,657	2,095,670	546,472	2,506,465	45,549
Regional Total		1,197,889,972	17,675,414	44,635,068	12,153,700	1,025,517
Percentage		11%	12%	1%	21%	4%

\* Forecast value at 1 July 2025

# TARARUA SCHEMES – RATE INCREASES

- Tararua scheme rate increases range from 1% to 4.5%.
- Key drivers are inflation, additional funding for maintenance and repairs.

Scheme	Rates (\$) 2024-25	Rates (\$) 2025-26	Rates (\$) change	Rates % change	Notes
Mangatainoka	633,174	639,353	6,179	1%	Increase in maintenance and repairs funding with 25% of budget allocated to repairs. Reserve contribution paused.
Upper Manawatū – Lower Mangahao	347,716	358,474	10,758	3.1%	Increase in maintenance and repairs funding with 25% of budget allocated to repairs. Reserve contribution reduced.
South East Ruahine	656,571	685,832	29,261	4.5%	Increase in maintenance and repairs funding with 30% of budget allocated to repairs. Reserve contribution reduced.
Tararua District Wide	365,155	381,295	16,140	4.4%	Increase in maintenance and repairs.
Tawataia - Mangaone	30,398	30,715	317	1%	Increase in maintenance and repairs by draw down of reserves.
Tararua all	2,033,014	2,095,670	62,656	3.1%	
Regional Total	16,574,577	17,675,414	1,100,837	6.6%	
% of Regional Total	12%	12%	6%		



# TARARUA SCHEMES – CURRENT CONTEXT AND YEAR AHEAD

## Current context

- The five schemes have been relatively stable over the last year following repairs after Cyclone Gabrielle.
- A significant debris clearance programme has been undertaken in the South East Ruahine and District Wide Scheme.

## Focus areas include:

- Clearing beaches of vegetation to encourage gravel mobilisation;
- Gravel extraction & management by bed shaping or beach ripping;
- Management of crack willow in Tiraumea; and
- Layering of willows within areas at risk of erosion.

## Staffing

- Has been stable for 2.5 years, experience growing.

## The year ahead

Priorities for the year will include:

- Implementing a further year of the maintenance based programme;
- Operating within regulatory frameworks;
- Assessing consenting requirements and seeking appropriate permissions e.g. spraying;
- Using asset information to prioritise repairs, upgrading tracking of defects;
- Reviewing the findings of the flood vulnerability assessment and assessing next steps;
- Responding to any high flow events as they occur;
- Emergency management/ response training; and
- Implementing smaller capital programme - Te Pūwaha (Whanganui), Te Arakura & Reid Line (Feilding) and Mangaone Stream (Palmerston North).

# CASE STUDY: GRAVEL MANAGEMENT

- Studies have shown a significant reduction in the mean bed width of the Mangatainoka Scheme.
- Increasing channel capacity is a focus via:
  - Vegetation clearance;
  - Pulling back gravel beaches;
  - Gravel extraction; and
  - Beach ripping (raking).
- This focus is across the schemes.

## Beach pull backs

- Are considered responsible way to operate.
- Sediment is contained within a bunded area and doesn't enter the actively flowing channel.

Example of beach pull back and gravel extraction at Bridge Road.



Example of beach pull back and ripping – Thurlows bend.



# CASE STUDY: GRAVEL MANAGEMENT

## Aerial Spraying

- Aerial spraying is being used to target vegetation on beaches.
- If left these collect debris, silts and gravel which can lead to narrowing of the channels and risks of channel degradation.
- Sprayed willows are removed the following year to reduce risk of the vegetation blocking the channel or impacting infrastructure during events.

## Annual channel shaping and beach ripping

- This is used to keep pressure point contained to areas where there is ample bank protection and also to provide resilience to newly installed assets or assets due to be installed.

## Opening gravel reserves

- Most gravel studies show a general trend of degrading river beds and consideration is being given to aid gravel mobilisation by opening the gravel reserves in the South-East Ruahine Scheme



Beach ripping & channel widening, Oxbow Farm – Manawatū River.

# INDIVIDUAL SCHEME SUMMARIES



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# MANGATAINOKA SCHEME

- Mangatainoka River is one of the steeper graded rivers over its length.
- High flows bring large amounts of gravel from the Tararua Ranges.
- There are several HRC & TDC grade control weirs to assist in containing gravels.
- The large number of significant gravel beaches contribute to bank erosion and damage to existing river management assets.
- Gravel management, tied tree work repairs, willow planting and layering are a common activity undertaken within the scheme.



Typical grade control weir within the Mangatainoka scheme (TDC owned).



Mahoney's Farm tied-tree work. Pole planting and channel widening.



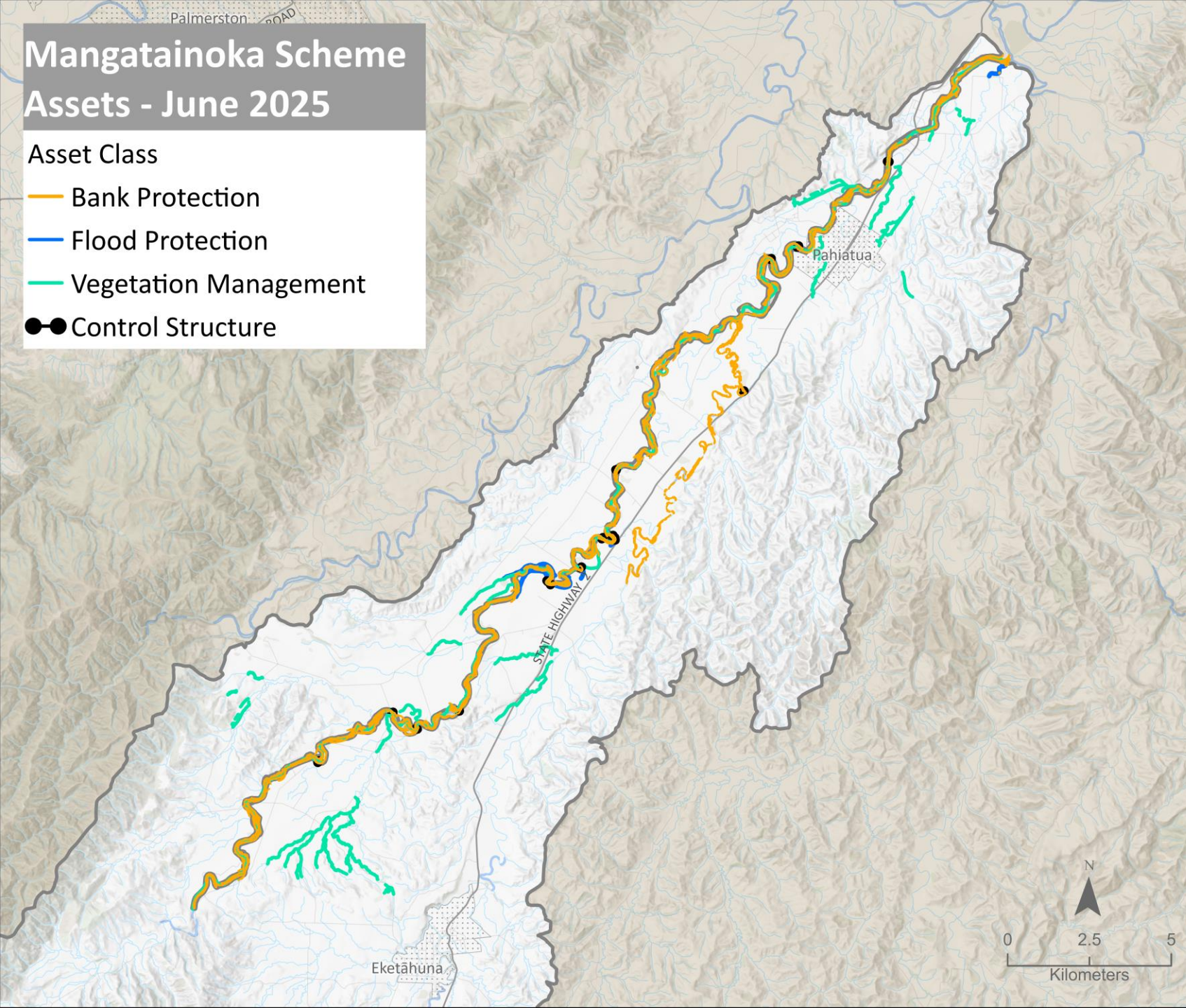
Willow layering upstream of Thurlows Bend.



# Mangatainoka Scheme Assets - June 2025

## Asset Class

- Bank Protection
- Flood Protection
- Vegetation Management
- Control Structure



# MANGATAINOKA

## SCHEME ASSETS

Scheme assets include:

- 49.6 km of drains
- 6.2 km of stopbank
- 156 km of river edge protection
- 17 weirs

This scheme also completes channel maintenance and some areas where this occurs may not be shown on the map.

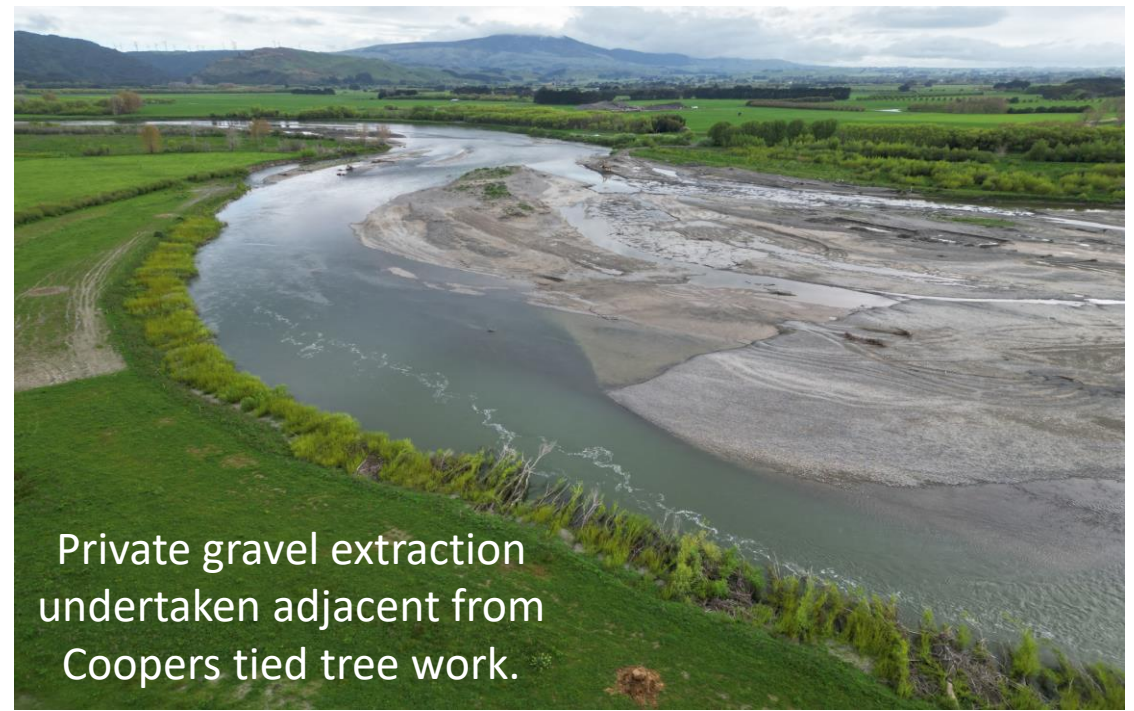


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# UPPER MANAWATŪ-LOWER MANGAHAO SCHEME

- The Mangahao River has similar issues with gravel as the Mangatainoka scheme.
- This includes significant gravel movement and relatively narrow river channels due to vegetation creep.
- Recent River Management activities in the Mangahao River were focused on clearing channel vegetation to aid in gravel movement and increasing channel capacity.
- Proactive layering of willows has also been undertaken in areas at risk of future bank erosion.
- We are working with contractors with private extraction consents to assist with river management works to further protect recently installed assets.



Private gravel extraction undertaken adjacent from Coopers tied tree work.



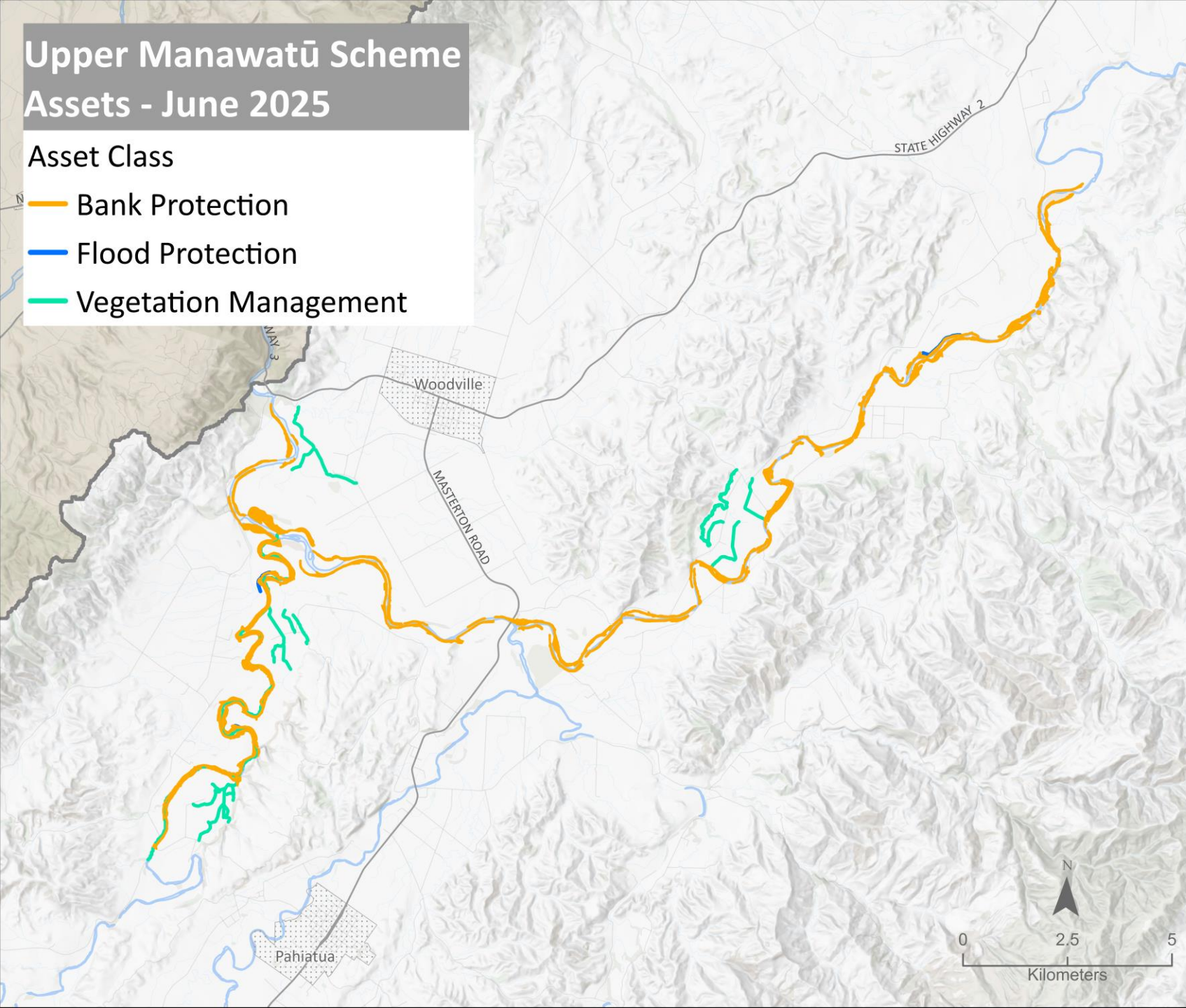
Channel vegetation removal on the Mangahao River.



# Upper Manawatū Scheme Assets - June 2025

## Asset Class

- Bank Protection
- Flood Protection
- Vegetation Management



# UPPER MANAWATŪ - LOWER MANGAHAO

## SCHEME ASSETS

Scheme assets include:

- 18.9 km of drains
- 1.8 km of stopbank
- 118.5 km of river edge protection

This scheme also completes channel maintenance and some areas where this occurs may not be shown on the map.

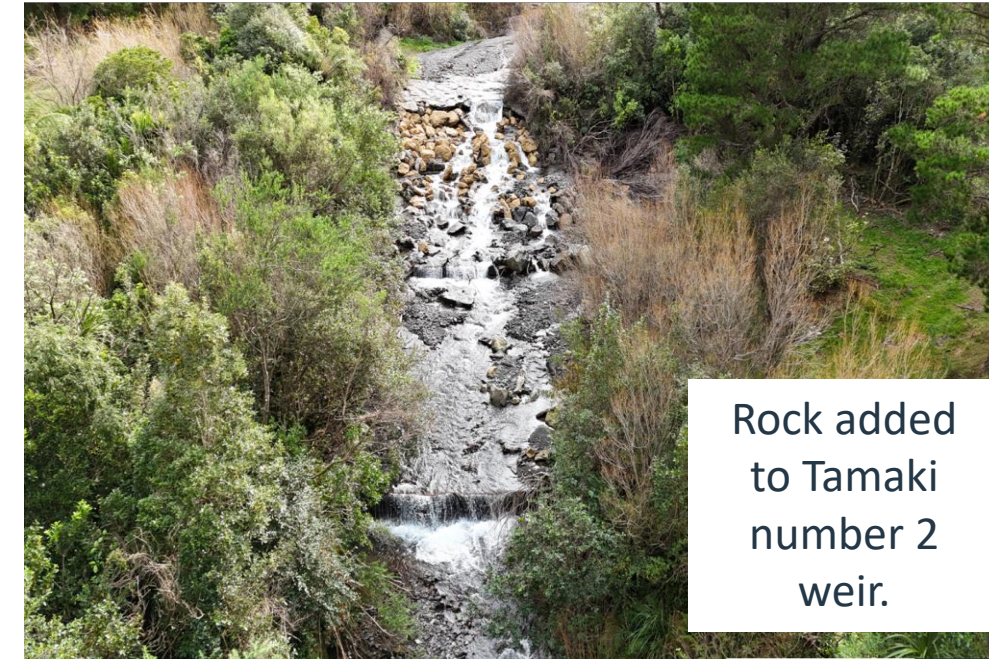


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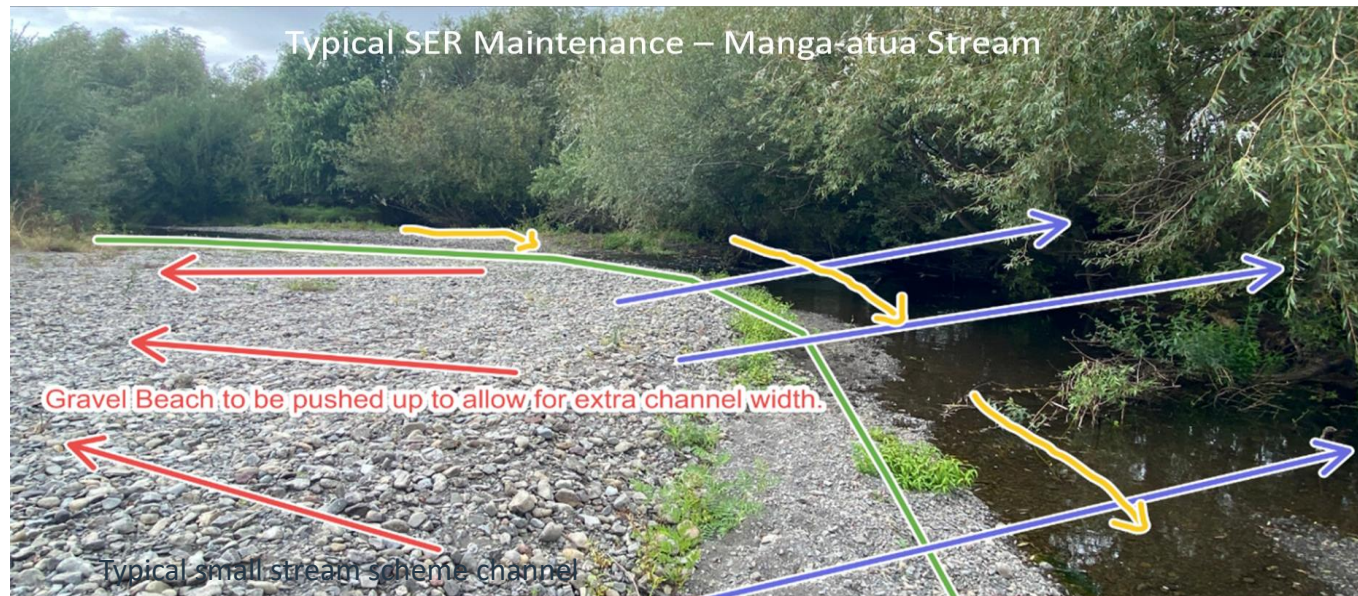


# SOUTH-EAST RUAHINE SCHEME

- This scheme contains several tributaries of the Manawatū River which predominately carry large amount of gravel from the Ruahine Ranges.
- Gravel reserves were developed and grade control weirs were constructed to hold the gravels at the heads of the streams which require ongoing maintenance. Several grade controls were damaged in both cyclones.
- Gravel reserves are now heavily vegetated, so we are looking to free these up to encourage movement through to lower reaches where beds are degrading.
- A large part of the recent scheme work is to open up channels by removing in-channel vegetation, relocating gravels and layering willows.



Rock added  
to Tamaki  
number 2  
weir.



Typical South East Ruahine maintenance Manga-atua Stream.



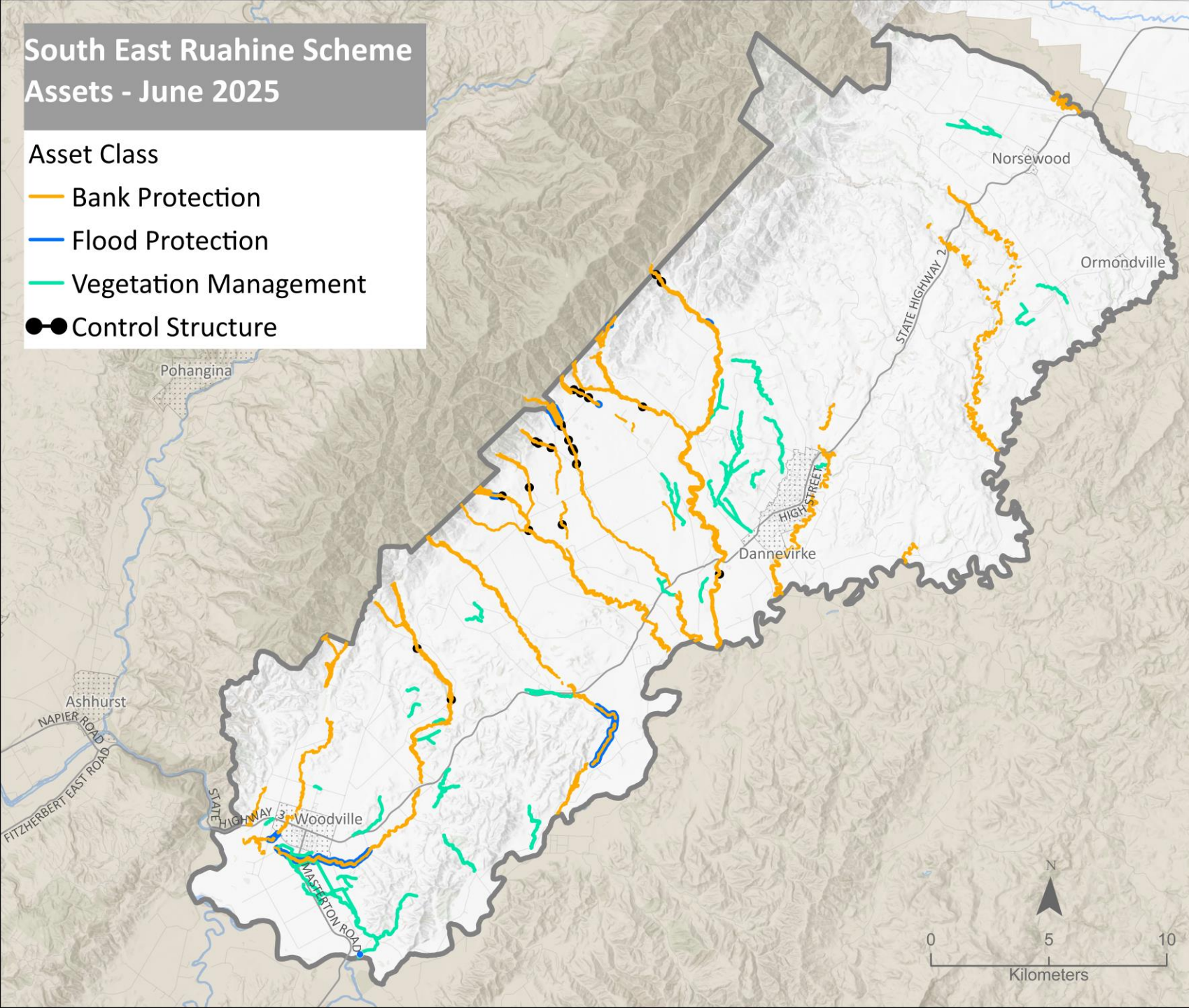
Tamaki gravel reserve.



## South East Ruahine Scheme Assets - June 2025

### Asset Class

- Bank Protection
- Flood Protection
- Vegetation Management
- Control Structure



# SOUTH EAST RUAHINE

## SCHEME ASSETS

Scheme assets include:

- 93.1 km of drains
- 1 floodgate
- 16 km of stopbank
- 66.9 km of river edge protection
- 27 weirs

This scheme also completes channel maintenance and some areas where this occurs may not be shown on the map.



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# TARARUA DISTRICT WIDE SCHEME

- The Tararua District-wide scheme was implemented in 2018 and several other schemes were dissolved eg Akitio and Eastern Manawatū.
- Willow management in the Tiraumea River is a long term project where available annual budgets dictate how much clearance is carried out each season.
- Mechanical clearance and spot spraying is preferred over mass spraying as it is easy to remove too much bank protection and cause erosion.
- Willows are generally the main issue within the scheme, however most of the waterways had not been actively managed up until the scheme was established, so there are several years of catching up to do.



Wainui River – channel blockage cleared near Herbertville.



Tiraumea River – example of channel blockage cleared recently.





# TARARUA DISTRICT WIDE SCHEME

- The district-wide scheme does not rate for erosion protection so we need to look at ways to reduce erosion, for example removing vegetation and shifting gravel from in-bends
- Environmental grants are available for landowners if they wish to carry out work that is out of scope providing it is permitted or a consent is obtained.
- Most of the TRM waterways fall under permitted activity rules in the One Plan. Working under these rules are generally more restrictive than specific consents or operating under the Environmental Code of Practice.



Environmental Grant for MSE wall and associated willow layering – Kiwi Lumber Dannevirke.



Upper Mangatainoka River Erosion – Remedial Work Involved In-bend Vegetation Clearance and Channel Widening.



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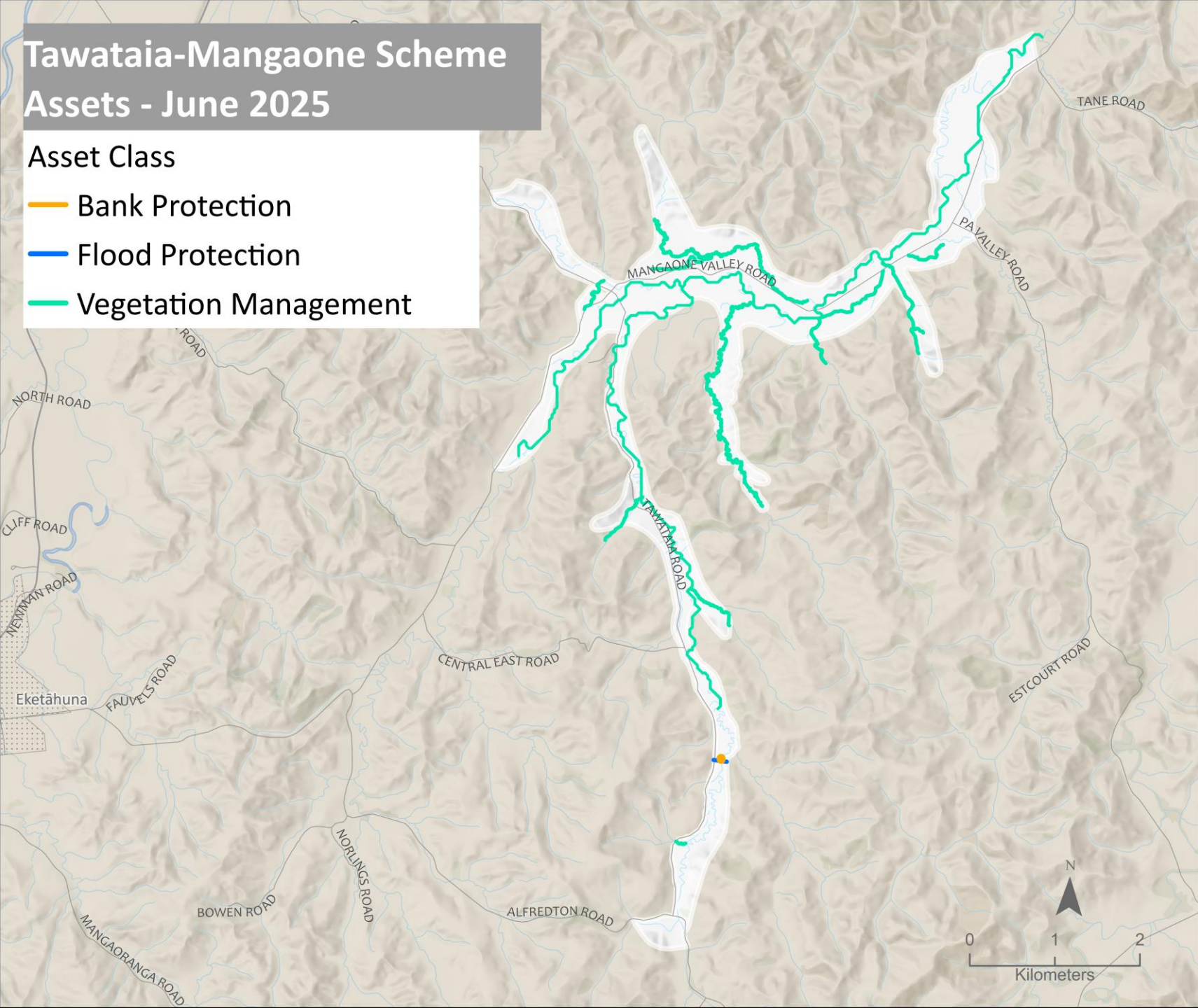


# Tawataia-Mangaone Scheme

## Assets - June 2025

Asset Class

- Bank Protection
- Flood Protection
- Vegetation Management



# TAWATAIA - MANGAONE

## SCHEME ASSETS

Scheme assets include:

- 14.9 km of drains
- 1 dam

This scheme also completes channel maintenance and some areas where this occurs may not be shown on the map.



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REGIONAL COUNCIL



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