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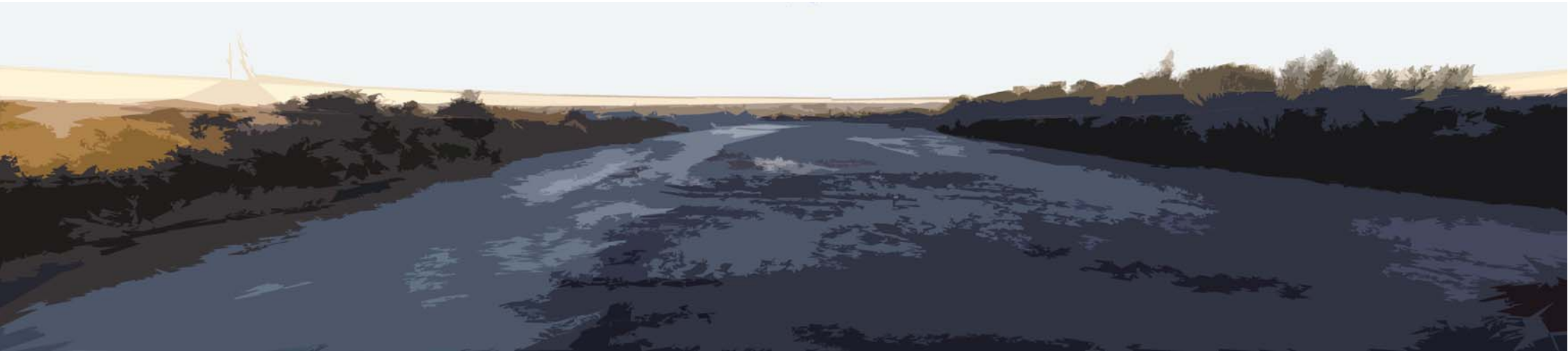
TE KĀURU UPPER RUAMAHANGA DRAFT FLOODPLAIN MANAGEMENT PLAN

VOLUME 2: RURAL RESPONSES

XXXXXXX 2016



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Prepared by:	XXXXX	
Reviewed by:	XXXXX	
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USE AND RELIANCE

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1. Introduction

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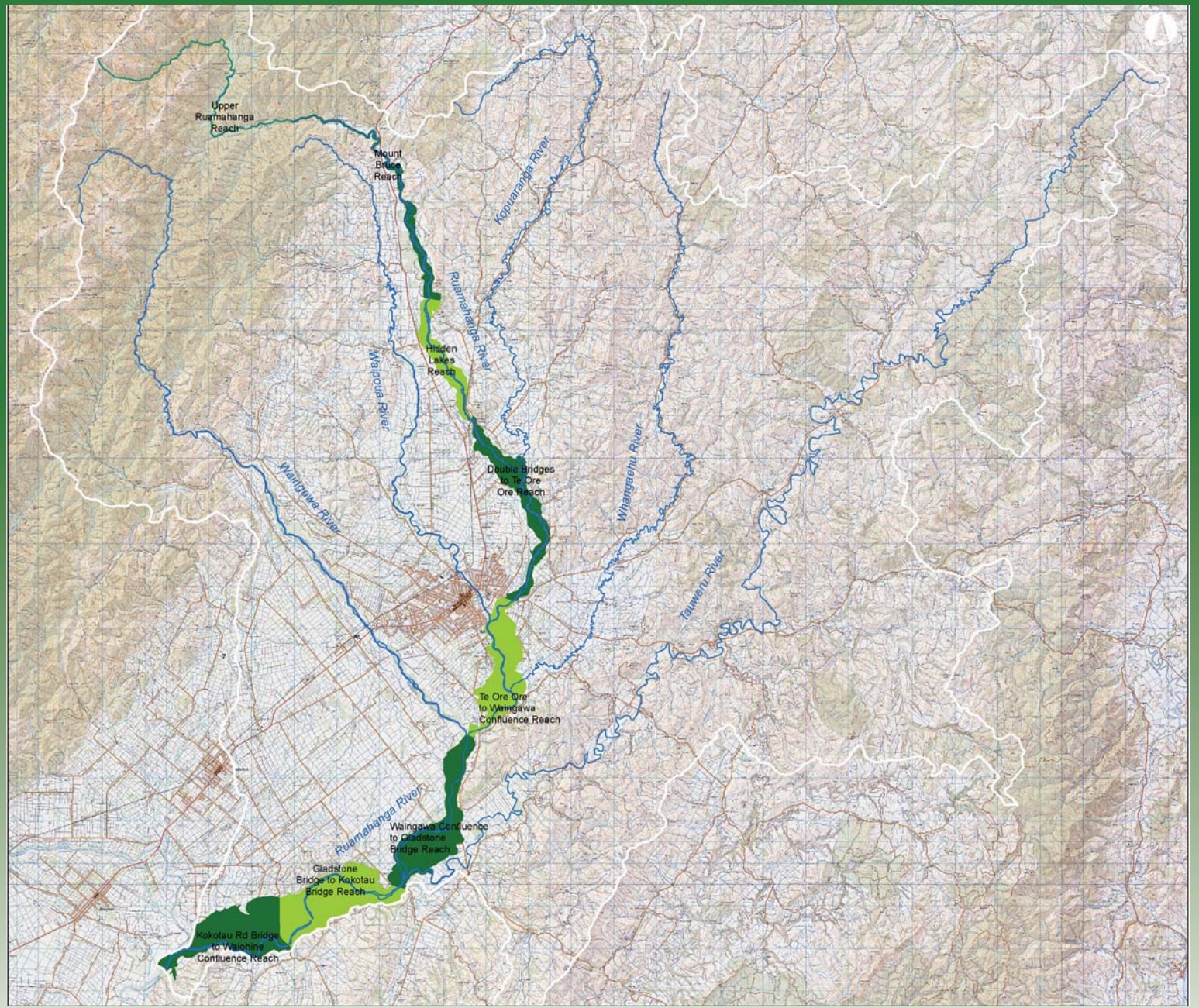

Ruamāhanga River

Upper Ruamahanga viewed from Mount Bruce Bridge

2. Ruamāhanga River

The Ruamāhanga is the river into which all other rivers in the Wairarapa valley eventually flow. It connects Tararua to Wairarapa Moana, eventually flowing from there into Raukawa Moana / Palliser Bay.

The Ruamāhanga flows from its source in the Tararua Ranges down through steep mountainous terrain and native forests, running through rock-lined gorges and boulder garden rapids before leaving the foothills close to Pukaha / Mount Bruce. From there, it flows through a number of steep-sided gorges where historic river terracing can be seen through the fringes of patchy native and exotic vegetation, before opening out into the pastoral Wairarapa plains. Here it turns to a more southerly direction flowing downstream through confluences with all of the other rivers which flow through the Wairarapa valley.

The Ruamāhanga is the most significant ancestral river of Wairarapa mana whenua. Its name is attributed to a number of stories relating to its translation of 'Rua' meaning two and 'Māhanga' meaning twins, forks or snare trap. One story is that the translation of two-forks refers to the east/west alternating confluences along its length as it travels from north to south. Another is that its name was given by Haunui-a-Nanaia who caught two birds in a snare trap on the banks of the river. There are further stories behind the name, and this is reflected by its definition being recorded as obscure by Te Ara: An Encyclopaedia of New Zealand.

The main river channel from the State Highway 2 Bridge near Mount Bruce downstream to the Waiohine confluence extends some 58 km. This is characterised by a semi-braided form in its upper reaches and changes to a managed single thread following a gravel corridor in the lower reaches (approximately at Te Ore Ore).

General issues

The three gravel-bed rivers across the Upper Ruamāhanga share some important management issues. Three key issues are:

- Degradation (generally in the upper reaches) and aggradation (generally in the lower reaches) are a major issue. Degradation affects the stability of banks leading to lateral or sideways erosion as banks collapse, this can also affect structures adjacent to or across the river. Aggradation affects the stability of the river channel and reduces the capacity to carry flood flows, this can also lead to lateral or sideways erosion pressure as the river tries to wind its way around islands that form in the middle of the channel. Current and past river management practices may have influenced aggradation and degradation, however it is also influenced by storm frequency, stability of slopes in the upper catchment, and frequency and size earthquakes. These issues are of particular importance on the Ruamāhanga River because they are related to issues aggradation downstream in the Lower Valley;
- Reluctance of the community to accept new practices or change to existing practices in response to the economic and non-economic costs of river control works ;
- Inconsistency in community acceptance of current erosion management practices;
- Invasive introduced vegetation species including yellow lupine, tree lucerne, broom and crack willow that dominate in channel areas leading to flood flow obstruction;
- Threats to existing planted vegetation, predominantly willow buffers from ‘old man’s beard’ and other plant, animal and insect pests that attack the species; and
- The value of the rivers for recreation and habitat at times conflicts with river management works.

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F Waingawa to Gladstone – Reach 6

Character and Values

Downstream from the confluence of the Waingawa River, the Ruamāhanga River corridor increases in width and continues a broad braided form. The northern part of the river skirts the western slopes of Foster's Hill before opening out into the Central Plains towards the confluence with the Taueru River to the south. Pockets of remnant native vegetation and willow planting occur inside stop banks established along the eastern river margin.

Key characteristics

- Increasingly braided form where waters of the Waingawa and Ruamāhanga Rivers combine
- Stop banks enclosing remnant native and willow planting

Values

This reach flows through rural land used for primary production and predominantly established in pasture grassland. Stop banks, some of which enclose native vegetation along the river margin occur along much of this reach and result in a medium / high level of modification whilst retaining a medium level of scenic value.

Kayaking and fishing is popular along this reach taking advantage of the pools, runs and riffles which occur. Jet boating access occurs in this area and along this reach which forms a popular area valued for having a semi-braided form which frequently changes course and offers new opportunities to 'read' a different course of navigation along the river. Several swim sites are also located along this reach including areas also associated with jet boat access at Gladstone Bridge.

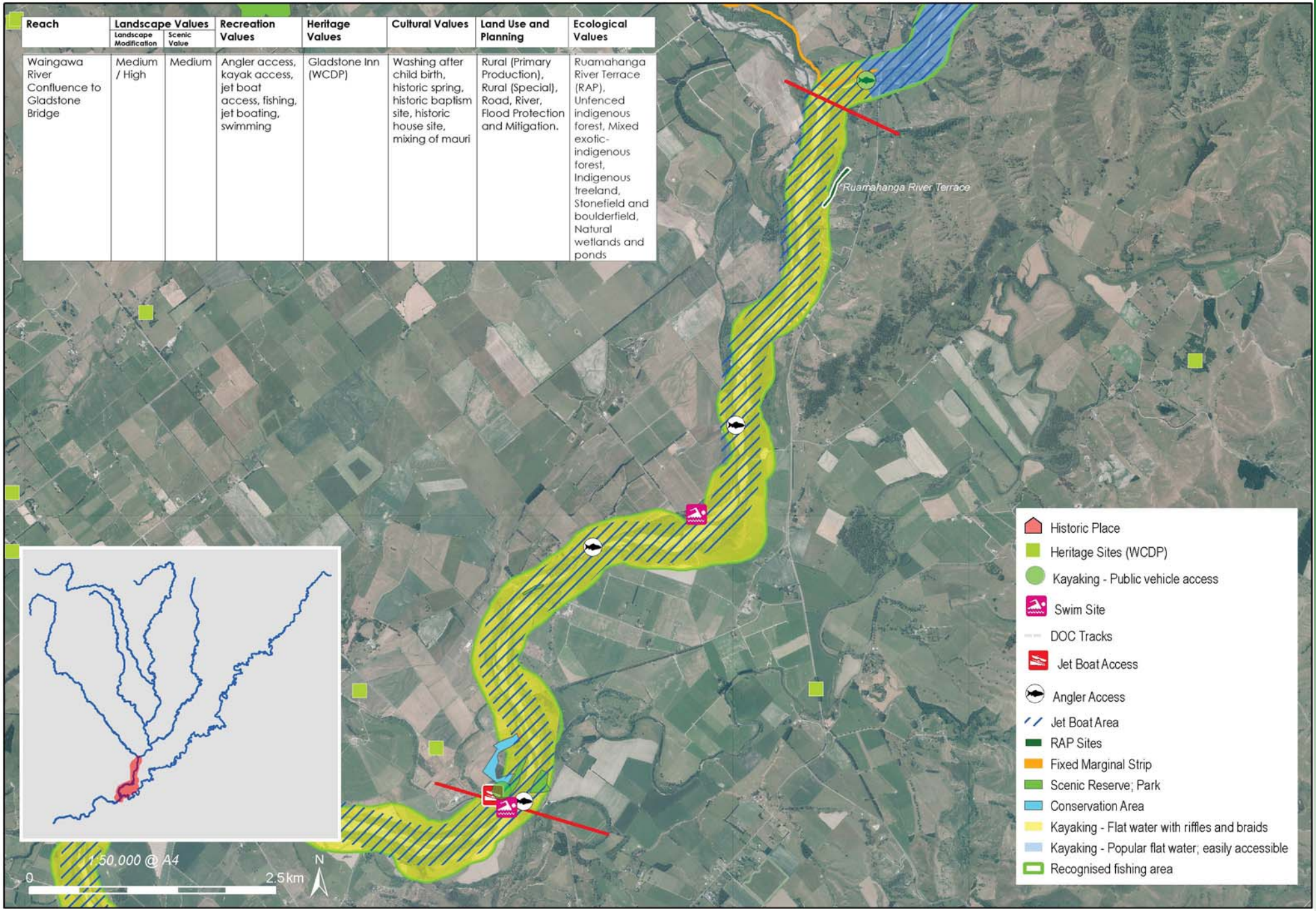
Important ecological values along this reach include an indigenous forest remnant along the Martinborough Masterton Road (Ruamāhanga River Terrace RAP), together with terrestrial habitats which encompass areas of unfenced indigenous forest, mixed exotic-indigenous forest and indigenous treeland. Important habitat for banded dotterels, black-fronted dotterels and pied stilts also occurs in association with broad stonefield and boulderfield river margins.

Several cultural sites are identified along this reach including waahi tapu associated with the mixing of waters from different rivers, an historic house site and an historic spring. Gladstone Inn is also a heritage site identified in the WCDP to the east of Gladstone Bridge.

Additional reach specific floodplain management aims

- Protection of the Ruamāhanga River Terraces RAP site from negative impacts of flooding and erosion.
- Recognise the importance of the confluence of the Taueru and Ruamāhanga Rivers.
- Work with the asset owner of the Gladstone Bridge to protect and maintain its operation.
- Work with Carterton district council to continue the management of erosion risk to Dakins Road.

Reach	Landscape Values		Recreation Values	Heritage Values	Cultural Values	Land Use and Planning	Ecological Values
	Landscape Modification	Scenic Value					
Waingawa River Confluence to Gladstone Bridge	Medium / High	Medium	Angler access, kayak access, jet boat access, fishing, jet boating, swimming	Gladstone Inn (WCDP)	Washing after child birth, historic spring, historic baptism site, historic house site, mixing of mauri	Rural (Primary Production), Rural (Special), Road, River, Flood Protection and Mitigation.	Ruamahanga River Terrace (RAP), Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefield and boulderfield, Natural wetlands and ponds



Reach 6: Waingawa Confluence to Gladstone Bridge

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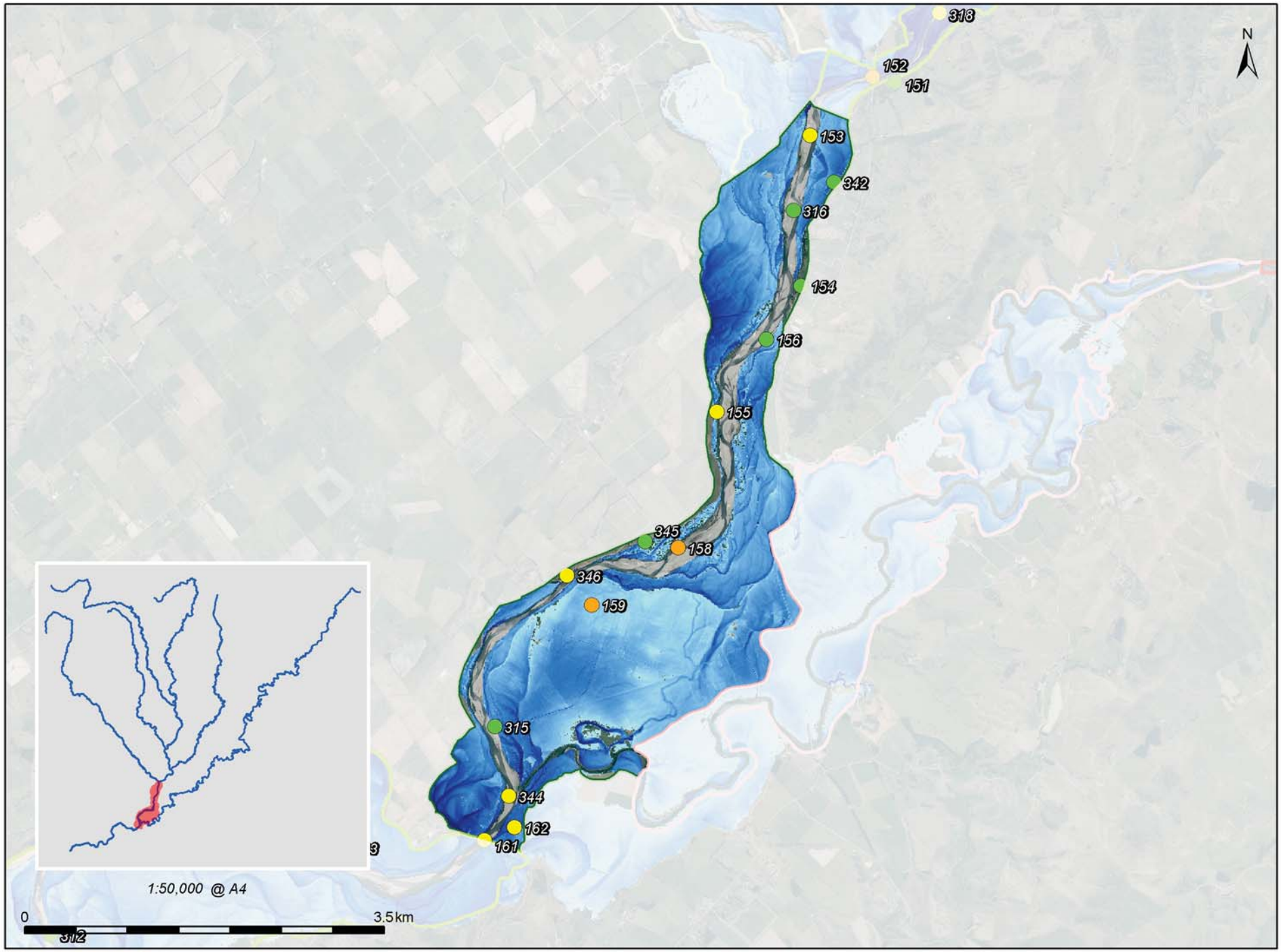


Reach 6: Waingawa Confluence to Gladstone Bridge

Flood and Erosion issues

A total of 14 flood and erosion issues are identified along this reach. These are described and illustrated overleaf.

LOW

Ruamāhanga River Terrace RAP Site [ID342]
The RAP site sits on the edge of the the 1%AEP flood extent and within the erosion study area.

Channel Alignment [ID316]
The channel through this area is naturally wider than the design channel alignment.

Houses [ID154]
Several houses are located within the erosion study area, however they sit on a relatively firm terrace which is resistant to erosion effects. No currently managed issues exist.

Channel Alignment [ID156]
The channel in this area tends towards being wider than the design channel. This creates challenging management issues, and puts pressures on the buffer strips on both banks of the river.

Fish habitat [ID345]
A number of small springs or backwaters in this area are known to have provided fish habitat over a long period of time. They are affected by erosive forces, but currently well protected within a buffer area.

Channel Alignment [ID315]
The buffer widths upstream of the confluence with the Taueru are too narrow and have created ongoing management concerns, these have been identified prior to this project as requiring review.

LOW TO MODERATE

Waingawa and Ruamāhanga Confluence [ID153]
Flow instability caused by the meeting and mixing of the Waingawa and Ruamāhanga rivers makes the confluence area a challenging location to manage, and the design fairways through this location are difficult to achieve.

Dakins Road [ID346]
Erosion affecting the end section of Daikins Road, near Cottier Estate has been addressed in past with rock works, These rock works have protected the immediate area they were installed to protect, but adjacent areas are still affected by erosion.

Frost Protection Water Intake [ID155]The water intake is threatened by ongoing erosion effects. The landowner has provided some of their own erosion protection to protect the structure.

Gladstone Complex [ID162]
The Gladstone complex includes a pub, several houses and a sports field. It sits within the erosion study area and the 1%AEP flood extent. There is no known history of flooding or erosion in this area. No currently managed issues exist.

Fish Passage [ID344]
The confluence area of the Ruamāhanga and Taueru is important for fish passage which is prone to being disrupted by natural or artificial sediment/gravel movements.

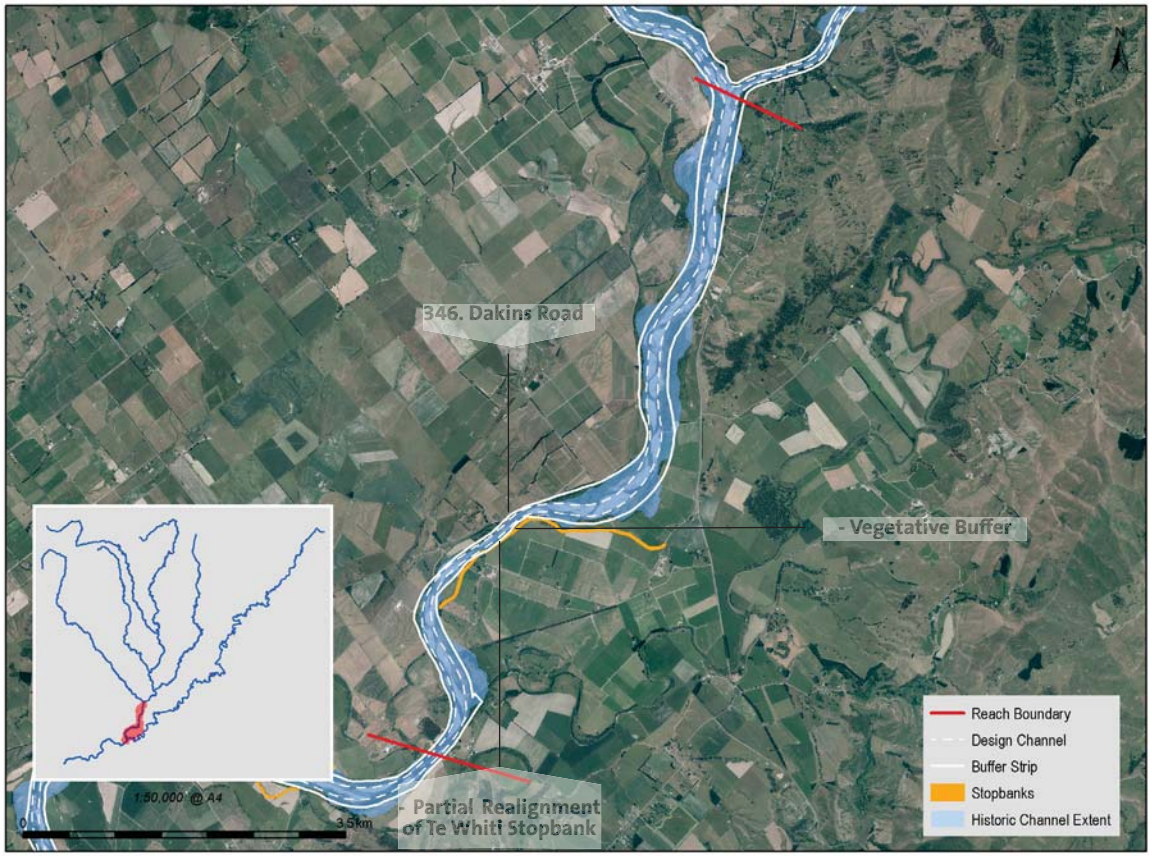
Gladstone Bridge [ID161]
There are no currently known issues with this bridge. An exclusion zone for extraction exists 100m upstream and downstream from the bridge. The bridge design is not believed to be particularly vulnerable to debris flows, and it has adequate freeboard to its soffit. No currently managed issues exist.

MODERATE

Te Whiti Stopbank [ID159]
The stopbank sits within the erosion study area and in some sections within the buffer areas of the current management scheme. There is risk of erosion reducing the effectiveness of the stopbank

River Alignment [ID158]
The channel needs ongoing and frequent management. Failure to do this means water spills extra water onto Te Whiti flats and increases risk of the Te Whiti stopbank overtopping.

HIGH



Response

COMMON TOOLS

✔	River Edge Envelope
✔	Pool Riffle Run Envelope
✔	River Bed Envelope
✔	Historic Channel Lines
✔	Flood Extent Maps (100yr with CC)
✔	Rural Stopbank Policy
	Isolated Works Fund
✔	Land Use Controls
✔	Flood Forecasting and Warning System
✔	Community Preparedness
✔	Designations
✔	Emergency Management Planning
✔	Code of Practice (Directional Notes)
✔	Mixed Vegitation Planting
	Landslide Monitoring
	Public ownership of river margins
	Care Groups and Clubs
✔	Scheme Decision Making Policy
	Protection against deforestation in Upper Catchment
	Community Support officer
	Abandonment/Retirement of Assets
	Environmental Strategy

MAJOR PROJECT RESPONSE

REFERENCE NUMBER	PROPOSED MANAGEMENT MEASURE	CURRENT LEVEL OF SERVICE	THREATS TO CURRENT LEVEL OF SERVICE	PROPOSED LEVEL OF SERVICE	PRIMARY REASON FOR PROPOSED RESPONSE	RESPONSIBILITY	PRIORITY	COST	FUNDING
346a	Increase bank protection to Cliffs at Dakins Road	N/A	Erosion by the river	1 in 20 year	To increase protection to Dakins Road	CDC	High	$250,000	TBC
346b - alternative	Realign Dakin Road away from Cliffs	N/A	Erosion by the river	>>1 in 20 year	To remove Dakins Road from Erosion risk	CDC	High	$250,000?	TBC
-	Partial realignment of Te Whiti Stopbank	1 in 20 year flood	Part of stopbank is within the active management zone – erosion risk	1 in 20 year Flood and erosion protection	To reduce erosion risk to stopbank and minimise need for in-channel interventions	GWRC	Low – if bank becomes threatened	$150,000	TBC
-	Vegetative buffer realignment	<<1in 20 year erosion protection	Insufficient margin of vegetation to manage river in line with expectations	1 in 20 year erosion protection	To allow modification of active channel alignment by removing bank edge vegetation	GWRC	Medium	$10,000	Operational and Maintenance Costs

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3. Waipoua River

A Waipoua Headwaters – Reach 9

B Upper Waipoua – Reach 10

C Mikimiki – Reach 11

D North Masterton – Reach 12

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E Masterton – Reach 13

The Waipoua River, Masterton reach is being completed separately.

6. Implementation

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