

If calling please ask for: Democratic Services

19 June 2019

Wellington Regional Council

Order Paper for the meeting of the Wellington Regional Council to be held in the Council Chamber, Greater Wellington Regional Council, Level 2, 15 Walter Street, Te Aro, Wellington on:

Tuesday, 25 June 2019 at 9.30am

Membership

Cr Laidlaw (Chair)

Cr Blakeley Cr Brash
Cr Donaldson Cr Gaylor
Cr Kedgley Cr Laban
Cr Lamason Cr McKinnon
Cr Ogden Cr Ponter
Cr Staples Cr Swain

Recommendations in reports are not to be construed as Council policy until adopted by Council

Wellington Regional Council

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Public Business

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Please note that these minutes remain unconfirmed until the meeting of the Council on 25 June 2019.

Report 19.257

13/06/2019 File: CCAB-8-2308

Public minutes of the Council meeting held on Thursday, 13 June 2019 in the Council Chamber, Greater Wellington Regional Council, Level 2, 15 Walter Street, Te Aro, Wellington, at 9.33am.

Present

Councillors Donaldson (presiding member), Blakeley, Brash, Gaylor, Kedgley, Laban (from 9.43am), Lamason, McKinnon, Ogden (from 9.36am), Ponter, Staples, and Swain.

Cr Donaldson (Deputy Council Chair) presided at the meeting in the absence of the Council Chair.

Public Business

1 Apologies

Moved

(Cr Brash/ Cr Lamason)

That the Council accepts the apology for absence from Cr Laidlaw.

The motion was **CARRIED**.

2 Acknowledgement of Royal honour

Cr Donaldson acknowledged the Queen's Birthday honour, CNZM, for former GWRC councillor, Dr Judith Estranna Aitken, QSO, of Paekakariki, for services to local government, the community and education.

3 Declarations of conflict of interest

There were no declarations of conflict of interest.

4 Public participation

There was no public participation.

Noted: Cr Ogden arrived at the meeting during the above item.

5 Confirmation of the Public minutes of 14 May 2019.

Moved (Cr Blakeley/Cr Lamason)

That the Council confirms the Public minutes of 14 May 2019, Report 19.190.

The motion was **CARRIED**.

Strategy/Policy/Major Issues

6 Report of the Annual Plan 2019/20 Hearing Committee

The presiding member advised that this report has been withdrawn from the agenda and that the report will be included on the agenda for the 25 June Council meeting.

7 Joint programme to improve the reliability of travel times for buses

Greg Pollock, General Manager, Public Transport, spoke to the report

Report 19.227 File:CCAB-8-2293

Moved (Cr Ponter/Cr McKinnon)

That the Council:

- 1. Receives the report
- 2. Notes the background and context information as attached as Attachment 1 to this report.
- 3. Endorses the work being undertaken jointly with Wellington City Council to collaboratively deliver a package of bus priority measures to improve reliability and travel times for bus users.
- 4. Supports the development of a joint action plan for bus priority measures on the road network.
- 5. Agrees that officers from Greater Wellington and Wellington City councils will jointly report back to Greater Wellington's Sustainable Transport Committee and Wellington City Council's City Strategy Committee with a bus priority action plan in September 2019.
- 6. Notes that the Mt Victoria road tunnel and the proposed duplicate road tunnel are not currently identified by GWRC as a route for bus priority.

The motion was taken in parts. Parts 1 to 5 were put to the vote and were **CARRIED**. Part 6 was put to the vote and was **CARRIED**.

Noted: Cr Laban arrived at the meeting during questions on the above item. Cr Kedgley requested that her vote against part 6 of the motion be recorded.

8 Re-budgeting of capital and operational expenditure from 2018/19 financial year.

Alan Bird, Chief Financial Officer, spoke to the report.

The meeting adjourned at 11.01am after questions. The meeting resumed at 11.20am.

Report 19.224 File: CCAB-8-2295

Moved (Cr Staples/Cr Brash)

That the Council:

- 1. Receives the report.
- 2. Notes the content of the report.
- 3. Approves the operating expenditure items listed in Attachment 1 of this report to be re-budgeted.
- 4. Approves the capital expenditure items listed in Attachments 2 of this report to be re-budgeted.

The motion was **CARRIED**.

Governance

9 **Power of Attorney to sign deeds**

Francis Ryan, Manager, Democratic Services, spoke to the report.

Report 19.200 File: CCAB-8-2267

Moved (Cr Donaldson/Cr Lamason)

That the Council:

- 1. Receives the report.
- 2. Notes the content of the report.
- 3. Confirms the Power of Attorney granted to Greg Campbell (Chief Executive Officer) on 30 September 2014.
- 4. Confirms the Power of Attorney granted to David Humm (General Manager) on 15 August 2015.
- 5. Revokes any Power of Attorney previously granted to any other Council officer.

- 6. Grants a Power of Attorney to Nigel Corry, General Manager, to sign deeds on behalf of the Council.
- 7. Grants a Power of Attorney to Samantha Gain, General Manager, to sign deeds on behalf of the Council.
- 8. Authorises two Councillors to sign each Power of Attorney document as a deed.

The motion was **CARRIED**.

10 Delegation for use of the common seal

Francis Ryan, Manager, Democratic Services, spoke to the report.

Report 19.206 File: CCAB-8-2271

Moved (Cr Lamason/Cr Brash)

That the Council:

- 1. Revokes, with immediate effect, the delegation, made by Council on 12 August 2015, to the General Manager, Corporate Services/Chief Financial Officer to affix the common seal
- 2. Delegates authority to the General Manager, Corporate Services, with immediate effect, the affixing of the common seal of the Council when it is required to be fixed by law, including:
 - a. When issuing a warrant to any officer authorised to enter private land on behalf of the Council in accordance with section 174(1) of the Local Government Act 2002
 - b. When issuing a permit pursuant to section 417(1)(b) of the Resource Management Act 1991 (RMA)
 - c. When approving a plan of survey of reclamation (as the consent authority) in accordance with section 245(5) of the RMA
 - d. When effecting any policy statement or plan (other than a regional coastal plan) under clause 17(3) of the first schedule to the RMA
 - e. When effecting the adoption of any regional coastal plan under clause 18(2) of the first schedule to the RMA
 - f. When executing any Memorandum of Transfer pursuant to section 80 of the Local Government (Rating) Act 2002
 - g. When adopting a regional pest management plan under section 77 of the Biosecurity Act 1993
 - h. When adopting a regional pathway management plan under section 97 of the Biosecurity Act 1993

or when it is prudent and in the interests of good local government to affix the seal to a document.

- 3. Confirms that the delegation to the Chief Executive to affix the common seal, made by Council on 21 May 2014, remains in effect.
- 4. Confirms that the delegation to the General Manager, People and Customer to affix the common seal, made by Council on 12 August 2015, remains in effect.

The motion was **CARRIED**.

11 Exclusion of the public

The presiding member advised that Report 2 – Request for change of ownership consent has been withdrawn from the agenda.

Report 19.245

Moved

(Cr McKinnon/ Cr Blakeley)

That the Council:

- 1. Excludes the public from the following part of the proceedings of this meeting, namely:
 - 1. Confirmation of the Public Excluded minutes of 14 May 2019
 - 2. Appointment of external directors WRC Holdings Limited
 - 3. Reappointment of external trustee Wellington Regional Stadium Trust
 - 4. Confirmation of the Restricted Public Excluded minutes of 14 May 2019
 - 5. Chief Executive's Key Performance Indicators for 2019/20

The general subject of each matter to be considered while the public is excluded, the reasons for passing this resolution in relation to each matter and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 (the Act) for the passing of this resolution are as follows:

passing

this

General subject of each matter to be resolution considered: matter

be resolution in relation to each matter

The information contained in

for

Ground under section 48(1) for the passing of this resolution

1. Confirmation of the Public Excluded minutes of 14 May 2019

these minutes relates to Greater Wellington Regional Council office accommodation and the procurement of ferry services, which are matters that are the subject of negotiations. Having this part of the meeting open to the public would disadvantage GWRC if further negotiations were to take place as it would reveal GWRC's negotiation strategy. GWRC has

That the public conduct of the whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information which good reason for exists under withholding section 7(2)(i) of the Act (i.e. to carry out negotiations without prejudice).

not been able to identify a public interest favouring disclosure of this particular information in public proceedings of the meeting that would override this prejudice.

2. Appointment of
external directors –
WRC Holdings
Limited

This report contains information relating to the proposed appointment of external directors to WRC Holdings Limited. Release of this information would prejudice the proposed appointees' privacy by disclosing the fact that they are being considered, and have expressed an interest in, being appointed to WRC Holdings Limited. GWRC has not been able to identify a public interest favouring disclosure of this particular information in public proceedings of the meeting that would override the privacy of the individual concerned.

That the public conduct of the whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist under section 7(2)(a) of the Act (i.e. to protect the privacy of natural persons).

3. Reappointment of external trustee – Wellington Regional Stadium Trust

This report contains information relating to the proposed appointment of a trustee to Wellington Regional Stadium Trust. Release of this information would prejudice the proposed appointee's privacy by disclosing the fact that they are being considered, and have expressed an interest in, being appointed as a trustee of Wellington Regional Stadium Trust. GWRC has not been able to identify a public interest favouring disclosure of this particular information in public proceedings of the meeting that would override the privacy of the individual concerned.

That the public conduct of the whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist under section 7(2)(a) of the Act (i.e. to protect the privacy of natural persons).

4 Confirmation of the The information contained in The ground for exclusion of the

Restricted Public Excluded minutes of 14 May 2019

requirements for the Wellington Council meeting during which public Region's network, and a request for change section 48(1) of the Local of ownership consent. Release of this information would likely prejudice Greater Wellington Regional Council's ability to carry out negotiations, and the supply of similar information, or information from the same source, and it is in the public interest that such information should continue to be supplied.

Greater Wellington Regional Council has not been able to identify a public interest favouring disclosure of this particular information that would outweigh that likely prejudice.

these minutes relate to future public from the part of the transport this report is discussed under Government Official Information and Meetings Act 1987 is that the public conduct of that part of the meeting would be likely to result in the disclosure of information which the Council would have good reason for withholding under sections 7(2)(i), 7(2)(b)(ii), (c) (i), (i) and/or (j)of that Act.

5 Chief Executive's Key Performance Indicators for 2019/20

The information contained in the That the public conduct of the contains information relating to the Chief Executive's Key Performance Indicators for 2019/20. Release of information would prejudice Greg Campbell's privacy by disclosing details of his Key Performance Indicators. GWRC has not been able to identify a public interest favouring disclosure of this particular information in public proceedings of the meeting that would override his privacy.

whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for good which reason withholding would exist under section 7(2)(a) of the Act (i.e. to protect the privacy of natural persons).

This resolution is made in reliance on section 48(1) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by section 6 or section 7 of that Act which would be prejudiced by the holding of the whole or the relevant part of the proceedings of the meeting in public are as specified above.

The motion was **CARRIED**.

Council 25 June 2019, Order Paper - Confirmation of the Public and Restricted Public Excluded minutes of 13 June 2	2019
The public part of the meeting closed at 11.36am.	
Cr C Laidlaw (Chair)	
Date:	



Please note that these minutes remain unconfirmed until the meeting of the Council on 25 June 2019.

The matters referred to in these minutes were considered by the Council on 13 June 2019 in restricted public excluded business. These minutes do not require confidentiality and may be considered in the public part of the meeting.

Report RPE19.260

13 June 2019 File: CCAB-8-2311

Restricted public excluded minutes of the Council meeting held on Thursday 13 June 2019 in the Council Chamber, Greater Wellington Regional Council, Level 2, 15 Walter Street, Te Aro, Wellington, at 1.58pm.

Present

Councillors Donaldson (Chair), Blakeley, Brash, Gaylor, Kedgley, Lamason, McKinnon, Ogden, Ponter, Staples, and Swain.

Restricted Public Excluded Business

1 Confirmation of the Restricted Public Excluded minutes of 14 May 2019

Report RPE19.196

File: CCAB-8-2266

Moved

(Cr Brash/Cr Blakeley)

That the Council confirms the Restricted Public Excluded minutes of 14 May 2019, Report 19.196.

The motion was **CARRIED**.

2 Chief Executive's Key Performance Indicators for 2019/20

Report RPE19.239

File: CCAB-8-2288

Moved

(Cr McKinnon/ Cr Brash)

That the Council:

1.	Receives	the	report.

- 2. Notes the content of the report.
- 3. Approves the Chief Executive's Key Performance Indicators for 2019/20.

The motion was **CARRIED**.

The restricted public excluded part of the meeting closed at 2.07pm.

Cr C Laidlaw (Chair)

Date:



Please note that these minutes remain unconfirmed until the meeting of the Council on 25 June 2019.

Report 19.240

7 June 2019 File: CCAB-8-287

Minutes of the Annual Plan 2019/20 Hearing Committee meeting held on Friday, 7 June 2019, in the Council Chamber, Greater Wellington Regional Council, Level 2, 15 Walter Street, Te Aro, Wellington at 9.30am, and reconvened on Thursday, 13 June 2019 at 1.02pm.

Present

Councillors Laidlaw (Chair), Brash, Gaylor (until 1.12pm), Kedgley, Laban, McKinnon, Ogden, Ponter, Staples, and Swain

1 Apologies

Moved

(Cr Laidlaw/ Cr McKinnon)

That the Committee accepts the apology for absence from Councillor Blakeley.

The motion was CARRIED.

2 Conflict of Interest declarations

There were no declarations of conflict of interest.

3 Process for considering submissions and feedback on the adoption of the Annual Plan 2019/20

Report 19.203

File: CCAB-8-2270

1

CCAB-8-287

Moved

(Cr Laidlaw/ Cr McKinnon)

That the Committee:

- 1. Receives the report.
- 2. Notes the content of the report.

The motion was **CARRIED**.

4 Report on feedback received on the "What Matters" consultation document on the Annual Plan 2019/20, the draft Revenue and Financing Policy, and the proposed Resource Management Charging Policy

Report 19.225 File: CCAB-8-2282

Moved

(Cr Laidlaw/ Cr McKinnon)

That the Committee:

- 1. Receives the report.
- 2. Notes the contents of the report.
- 3. Considers the information in this report and attachments in determining its findings and recommendations to Council.

The motion was **CARRIED**.

5 Hearing of oral submissions

A timetable of oral submissions was circulated. Times on the schedule were indicative but fell behind their scheduled time.

Oral submitters were heard in the following order:

Time	Submission No.	Name and organisation
9.31 – 9.37am	38	Tim Lusk, Wairarapa Water Ltd
9.44 – 9.52am	3	John Milford, Chief Executive, Wellington Chamber of Commerce
10.10 – 10.19am	41	Shelly Warwick, Kapiti Equestrian Advocacy Group
10.22 – 10.28am	37	Elizabeth McGruddy, Federated Farmers

Time	Submission No.	Name and organisation
10.36 – 10.40am	36	Tony Randle
10.41 – 10.48am	39	Mark de Haast, for Kāpiti Coast District Council
11.07 – 11.12am	14	Sarah Free (individual)
11.19 – 11.25am	28	Craig Palmer
11.30 – 11.35am	50	Jim Hedley
11.36 – 11.41am	2	Angela Roswell, Mt Victoria Residents' Association

The hearing adjourned at 11.42am after hearing oral submissions.

The hearing resumed at 12noon and the Committee entered deliberations. Cr Ponter was absent when the hearing convened and returned to the hearing at 12.15pm.

The Committee then revisited Report 19.225 (see item 4) to address recommendations 4 to 6 and voted on each recommendation separately.

Moved (Cr Laidlaw / Cr Brash)

That the Committee:

4. Recommends to the Council the Resource Management Charging Policy for adoption, without amendment

The motion was CARRIED.

Noted: Crs Kedgley and Swain requested that their vote against the motion be recorded.

Moved (Cr Brash/ Cr Ponter)

That the Committee:

5. Recommends to the Council the Revenue and Financing Policy for adoption, without amendment, noting a full review will be done in the new triennium.

The motion was **CARRIED**.

Moved

(Cr Laidlaw/ Cr McKinnon)

That the Committee:

6. Recommends to the Council the Annual Plan 2019/20 for adoption, without amendment.

The motion was **CARRIED**.

Noted: Councillor Gaylor left the meeting at 1.12pm and was not present for the vote on the final motion.

The hearing concluded at 1.15pm.

Thursday, 13 June 2019

The hearing reconvened at 1.02pm Thursday 13 June 2019, in the Council Chamber, Greater Wellington Regional Council, Level 2, 14 Walter Street, Te Aro to consider the submission of Sustainable Wairarapa; this submission had not been previously identified and made available to the hearing committee due to an administrative issue.

Councillor Swain presided at the reconvened hearing due to the absence of the hearing committee Chair.

Present

Councillors Swain (presiding member), Brash, Blakeley, Gaylor, Kedgley, McKinnon, Ogden, Ponter, and Staples.

Apologies

Moved

(Cr McKinnon/ Cr Staples)

That the Committee accepts the apology for absence from Councillor Laidlaw.

The motion was **CARRIED**.

Hearing of oral submission

Time	Submission No.	Name and organisation
1.10 – 1.20pm	52	Ian Gunn, Sustainable Wairarapa

Deliberations

Having considered the submission from Sustainable Wairarapa the Hearing Commi	ittee
considered whether any changes should be made to its preliminary decision.	

Moved (Cr Staples/Cr Ponter)

That the Committee:

- 1. Recommends to the Council the Resource Management Charging Policy for adoption, without amendment.
- 2. Recommends to the Council the Revenue and Financing Policy for adoption, without amendment, noting a full review will be done in the new triennium.
- 3. Recommends to the Council the Annual Plan 2019/20 for adoption, without amendment.

The motion was **CARRIED**.

The hearing closed at 1.40pm.

Cr C Laidlaw (Chair)

Date:



 Report
 19.218

 Date
 18 June 2019

 File
 CCAB-8-2274

Committee Council

Author Chris Laidlaw, Chair, Annual Plan 2019/20 Hearing Committee

Report of the Annual Plan 2019/20 Hearing Committee on the draft Annual Plan 2019/20, proposed change to the Revenue and Financing Policy, and the proposed Resource Management Charging Policy

1. Purpose

This report outlines the deliberations and recommendations of the Annual Plan 2019/20 Hearing Committee (the Committee) on the draft Annual Plan 2019/20, proposed change to the Revenue and Financing Policy and proposed Resource Management Charging Policy.

2. Background

The Committee met on 7 June 2019 to hear 10 oral submissions and consider all submissions and feedback on the Annual Plan 2019/20, proposed change to the Revenue and Financing Policy and proposed Resource Management Charging Policy. The Committee reconvened on 13 June to hear one additional submission.

3. Submissions Comment

A total of 51 submissions were received on the draft Annual Plan 2019/20 and the proposed change to the Revenue and Financing Policy. Of these, 34 responded to the 2019/20 Annual Plan, and 36 responded to the proposed change to the Revenue and Financing Policy. A total of 16 did not respond directly to the issues which were consulted on and raised issues out of scope.

Two submissions were received on the proposed changes to the Resource Management Charging Policy.

The submissions received are summarised in the following table:

Submitter Type	Draft Annual Plan 2019/20 and proposed change to R&FP	RMA Charging Policy
Organisations	11	1
Local government	3	1
Individuals	37	
Totals	51	2

A summary of the written submissions was prepared for consideration by the Committee in Report 19.225. The additional submission considered on 13 June was tabled at that meeting.

Following the hearing of oral submissions on 7 and 13 June, the Committee completed its deliberations on 13 June. In deliberating on the draft Annual Plan 2019/20, proposed changes to the Revenue and Financing Policy and proposed Resource Management Charging Policy, the Committee considered the views and information presented in the written and oral submissions. (Report 19.225 and attachments; Submission number 52 tabled on 13 June.)

The Committee agreed to make the following recommendations to Council as outlined in sections 4 and 5.

4. Annual Plan 2019/20 and Revenue and Financing Policy

The Committee supported the proposal as outlined in the consultation document on the Annual Plan 2019/20 and proposed Revenue and Financing Policy to introduce a differential to the general rate within Wellington City as outlined below:

Residential	1.0
Rural	1.0
Wellington CBD business	1.7
Business	1 3

The proposal further recommended that a comprehensive review of the Revenue and Financing Policy be undertaken in the next triennium.

Other issues

Other issues heard by the Committee were outside the scope of the consultations, including the following matters:

- Overall rates increase for 2019/20
- Issues pertaining to the Revenue and Financing Policy over and above the proposed consultation option
- Public transport, including the bus network and rail
- Regional resilience, including climate change, flood protection and water supply
- Economic development
- Governance.

The following funding requests were also considered by the Committee:

- Wairarapa Water Limited requested Greater Wellington contribute \$100,000 towards the Wakamoekau Water Storage Project to progress the project to the next phase of consenting and procurement. The Committee recommended the request be supported by allocating \$50,000 towards the project, to be funded from an under spend in the 2018/19 Water Wairarapa budget.
- Kapiti Equestrian Advocacy Group outlined their concerns regarding poor condition, signage and accessibility of tracks and safety concerns. The Committee supported the notion to address the club's operational and maintenance concerns in partnership with Council's parks management department.
- Kapiti Coast District Council requested that Greater Wellington allocate \$360,000 towards the community-led coastal adaptation project for the 2019/20 financial year and a further \$500,000 for the 2020/21 year. The Committee did not support the request.

5. Proposed Resource Management Charging Policy

In deliberating on the submissions the Committee considered the issues raised in the submissions. The Committee considers that the proposed changes including increases to the charge out rate for resource management activities and increases to state of the environment monitoring charges are fair and reasonable. No changes are recommended to the proposed Resource Management Charging Policy as presented through consultation.

6. Communication

All 11 submitters who represented at the hearing will receive an individual letter responding to their submission.

All other submitters who provided contact details will, subsequent to Council adopting the final Annual Plan 2019/20 will receive a response outlining the decisions of the Council.

The Annual Plan 2019/20 will be considered for approval by Council on 25 June 2019, and this will be notified by public notice and media release.

7. Consideration of climate change

The matters requiring decision in this report have been considered by officers in accordance with the process set out in the GWRC Climate Change Consideration Guide. Climate Change and the implications of climate change is assessed against individual activities undertaken as part of the work programme contained in the Annual Plan and assessed at the time they are considered and approved.

8. The decision-making process and significance

Officers recognise that the matters referenced in this report may have a high degree of importance to affected or interested parties

The matter requiring decision in this report has been considered by officers against the requirements of Part 6 of the Local Government Act 2002.

8.1 Significance of the decision

Officers have considered the significance of the matter, taking the Council's significance and engagement policy and decision-making guidelines into account. The subject matter of this report is part of a decision-making process that will lead to the Council making a decision of high significance within the meaning of the Local Government Act 2002.

This report outlines the recommendations of the Committee as a result of consultation on the Annual Plan 2019/20, proposed change to the Revenue and Financing policy and proposed Resource Management Charging Policy and follows the special consultation procedure as required by the Act.

8.2 Engagement

Section 95 of the Local Government Act outlines the consultation process that Council must undertake for the Annual Plan. Consultation was carried out consistent with the principles of section 95.

Section 83 of the Local Government Act outlines the process to be used for changes to the Resource Management Charging Policy. The process adopted is consistent with requirements set out in Section 83.

Recommendations

That the Council:

- 1. **Receives** the report.
- 2. Notes the content of the report.
- 3. **Agrees** to the finalisation of the Resource Management Charging Policy, without amendment to the proposed policy issued for public consultation.
- 4. **Agrees** to the finalisation of the Revenue and Financing Policy, without amendment to the draft policy issued for public consultation.
- 5. **Agrees** to the finalisation of the Annual Plan 2019/20, incorporating the matters set out in the consultation document for the Annual Plan 2019/20.

Report prepared by:

Cr Chris Laidlaw Hearing Committee Chair



Report 19.270

Date 13 June 2019 File CCAB-8-2319

Committee Council

Author Helen Guissane, Programme Lead Corporate Planning and

Reporting

Stephen Thawley, Project Leader Environmental Regulation

Report to adopt the Annual Plan 2019/20, Revenue and Financing Policy, and the Resource Management Charging Policy

1. Purpose

The purpose of this paper is to adopt the Resource Management Charging Policy, the Revenue and Financing Policy and the Annual Plan 2019/20.

2. Strategic context

The Long-Term Plan 2018-28 provides the strategic direction and outlines the investment we need to make to achieve Council's vision for the region; *an extraordinary region – thriving, connected and resilient*. This vision and the strategic priorities which Council adopted during the development of the Long-Term Plan provide the basis for our work programme in 2019/20.

- *Fresh water quality and biodiversity* the quality of the fresh water in our rivers, lakes and streams is maintained or improved, and our region contains healthy plant, bird and wildlife habitats
- Water supply the bulk water supply infrastructure consistently delivers high-quality drinking water to the four city councils (Porirua, Hutt City, Upper Hutt and Wellington)
- **Regional resilience** our infrastructure is resilient to adverse events and supports our region's economic and social development
- *Public transport* the Wellington region has a world-class integrated public transport network.

Within the context of these strategic priorities and the five community outcomes in our Long-Term Plan, wellbeing remains at the forefront of our

thinking and planning, as does affordability for the ratepayer and our commitment to providing a sustainable future for the region. During development of the Long-Term Plan careful consideration was given to our operating environment, including possible impacts of climate change, population growth, the cost of doing our business and the needs of the community. Our Long-Term Plan 2018-28 sets a pathway to delivering on the goals and aspirations of Council, iwi and the community, while also taking into account these environmental changes.

Since adopting the Long-Term Plan there have been some changes in our operating environment. Council considered these changes in finalising the annual plan (Report 19.109) and agreed to no significant or material changes to the work programme for 2019/20 - we remain on track to deliver the work programme as outlined in the Long-Term Plan 2018-28.

3. Challenges for 2019/20

However, Greater Wellington acknowledges that significant challenges remain for the year ahead and beyond. We have outlined three key challenges for the year in the Annual Plan which are summarised below and outlined further in the Annual Plan 2019/20. Other challenges remain, in particular – how do we deliver significant programmes of work which are reliant on funding and decisions of other parties? Greater Wellington will have a key advocacy and leadership role during the year to help shape these decisions.

Climate change

The impacts of climate change on our region's communities, infrastructure, economy and natural environment will affect us for many years to come. Greater Wellington has a role in three areas to address the impacts of climate change: working with others to make it easy for us to live low carbon lives; to build our collective resilience; and to look at ways we can reduce our own emissions. In 2019/20 we will be fast-tracking our responses to the impact of climate change.

Metlink Public Transport

Meeting the needs and expectations of our customers and ratepayers will be a significant challenge in 2019/20 and beyond. The business is large and complex and has been undergoing transformation following the implementation of the Government's new operating model for public transport. In such a complex environment there are a range of issues to manage, including those outside the direct control of Greater Wellington. At the same time we are facing ongoing and significant patronage growth on rail and (more recently) high levels of growth on bus within Wellington City.

Affordability

While we maintained the Long-Term Plan rates increase of 5.9% for 2019/20, we did so while managing increased cost pressures. Cost pressures are not reducing and during 2019/20 we will need to address how we manage the need

to balance the ratepayer's ability to pay, the level of other funding available and our costs, for future years.

At the time of developing the Annual Plan, there were some significant changes in property values around the region and, in particular, in Wellington City. As a consequence Council decided to consult on a change to the general rate in Wellington City only. The growth of property values in the region will likely continue and remain a significant issue for Council to address.

4. Matters for consideration

4.1 Resource Management Charging Policy

The Resource Management Act 1991 specifies that the Charging Policy must be adopted in accordance with the special consultative procedures in section 83 of the Local Government Act 2002. The proposed Charging Policy was approved for consultation by Council on 10 April 2019 and the consultation period extended from 30 April to 30 May 2019.

Two submissions were received on the proposed Charging Policy and one submitter was heard at a hearing on 7 June 2019. The Hearing Committee considered both written and oral submissions on 7 and 13 June 2019. The Hearing Committee (see Report 19.218) has recommended no changes to the proposed Charging Policy distributed for consultation. See Attachment 1.

4.2 Revenue and Financing Policy and Annual Plan 2019/20 Background

The Local Government Act 2002 (LGA) requires Council to adopt an annual plan for each financial year. Section 95 (5) and (6) state that the purpose of the annual plan is to present a full account of changes from the long-term plan for the year in which the annual plan is being developed and include all relevant financial and funding impact statements for the year in which the annual plan is being prepared. The Act also states that clear reference needs to be made to the relevant parts of the long-term plan.

The Process

On 2 April 2019 Council approved the consultation document and supporting information for the Annual Plan 2019/20 and Revenue and Financing Policy (Report 19.109).

The Annual Plan 2019/20 was prepared on the basis of no significant or material changes to the work programme for the year, and maintaining the rates increase of 5.9% as outlined in the Long-Term Plan 2018/28.

However, Greater Wellington did consult on adopting a differential to the general rate within Wellington City only, as outlined below.

Residential	1.0
Rural	1.0

Wellington CBD business 1.7
Business 1.3

Greater Wellington also made a commitment to undertake a comprehensive review of the Policy in the next triennium. The proposed change constituted a change to both the Revenue and Financing Policy and the Financial Impact Statement in the Annual Plan. Consultation on these proposed changes took place from 24 April to 24 May 2019.

A total of 51 submissions were received and 11 submitters presented to the Annual Plan 2019/20 Hearing Committee. On 7 and 13 June, the Committee considered the written and oral submissions on the draft Revenue and Financing Policy and the Annual Plan 2019/20 (Report 19.225). Following the consideration of submissions, the Committee recommended to Council that the Revenue and Financing Policy and the Annual Plan 2019/20 be agreed integrating the proposed change (Report 19.218). See **Attachment 2**, Revenue and Financing Policy, and **Attachment 3**, Annual Plan 2019/20.

The Annual Plan 2019/20 has been prepared with due consideration to the requirements of the Act and the anticipated audience. The Plan has been prepared as a brief document focusing on the key work of Greater Wellington for the 2019/20 year and the particular challenges for the year with reference to the Long-Term Plan 2018-28.

The Annual Plan 2019/20 and Revenue and Financing Policy will be available both on-line via our website and will be produced in hard copy; and will be available within one month of the Committee adopting the Plan and policy.

5. Communication

A media release will be issued upon adoption of the Revenue and Financing Policy, the Resource Management Charging Policy and the Annual Plan 2019/20.

All submitters who provided contact details will receive a response outlining the decisions of the Council.

6. Consideration of climate change

The matters requiring decision in this report have been considered by officers in accordance with the process set out in the GWRC Climate Change Consideration Guide. Climate Change and the implications of climate change is assessed against individual activities undertaken as part of the work programme contained in the Annual Plan and assessed at the time they are considered and approved.

The Resource Management Charging Policy does not in itself have a direct impact on climate change considerations. Matters of climate change are considered as part of the services provided under the Policy.

7. The decision-making process and significance

Officers recognise that the matters referenced in this report may have a high degree of importance to affected or interested parties

The matter requiring decision in this report has been considered by officers against the requirements of Part 6 of the Local Government Act 2002.

8.1 Significance of the decision

Officers have considered the significance of the matter, taking the Council's significance and engagement policy and decision-making guidelines into account. The subject matter of this report is part of a decision-making process that will lead to the Council making a decision of high significance within the meaning of the Local Government Act 2002.

This report outlines the recommendations of the Committee as a result of consultation on the Annual Plan 2019/20, proposed change to the Revenue and Financing policy and proposed Resource Management Charging Policy and follows the special consultation procedure as required by the Act.

8.2 Engagement

Section 95 of the Local Government Act outlines the consultation process that Council must undertake for the Annual Plan. Consultation was carried out consistent with the principles of section 95.

Section 83 of the Local Government Act outlines the process to be used for changes to the Resource Management Charging Policy. The process adopted is consistent with requirements set out in Section 83.

Recommendations

That the Council:

- 1. **Receives** the report.
- 2. **Notes** the content of the report.
- 3. Adopts the Resource Management Charging Policy.
- 4. Adopts the Revenue and Financing Policy.
- 5. Adopts the Annual Plan 2019/20.
- Agrees to undertake a comprehensive review of the Revenue and Financing Policy in the next triennium.
- 7. **Delegates** to the Chair the ability to make minor editorial changes to the Annual Plan and Policies prior to publication to correct errors and improve public understanding.
- 8. Authorises the Chief Financial Officer to enter into any debt facilities, or borrowing that are required to implement the Annual Plan for the 2019/20 year that are in accordance with the Council's Treasury Management Policy.

Report prepared by: Report prepared by:

Helen Guissane

Report approved by:

Stephen Thawley Programme Lead, Corporate Project Leader, Environmental

Regulation

Planning and Reporting

Repotrapperpacebbyy: Reportapperpacebbyy:

Tracy Plane Manager, Strategic and Corporate Planning

Luke Troy General Manager, Strategy **Alistair Cross** General Manager, Environment

Attachment 1 - Resource Management Charging Policy

Attachment 2 - Revenue and Financing Policy

Attachment 3 - Annual Plan 2019/20

Attachment 1 to Report 19.270



Resource Management Charging Policy (2019)

For more information, contact the Greater Wellington Regional Council:

Wellington PO Box 11646 Masterton PO Box 41

T 04 384 5708 F 04 385 6960 www.gw.govt.nz T 06 378 2484 F 06 378 2146 www.gw.govt.nz 1 July 2019

www.gw.govt.nz info@gw.govt.nz

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Highlights

- This Policy document contains our regime of resource management charges for the region. It comes is effective from 1 July 2019 and includes:
 - Resource consent application charges
 - Consent monitoring charges
 - Charges for not complying with a rule in a regional plan or the Resource Management Act 1991 (RMA)
 - Charges for providing information in relation to plans and resource consents
 - Application charges for changing a plan or the Regional Policy Statement
 - Charges associated with our work administering dams under the Building Act 2004
- The charge out rate for Greater Wellington Regional Council (GWRC) staff for all
 work relating to our resource management charges is between \$110 \$145 per hour
 depending on the level of service provided
- When you apply for a resource consent, an initial fixed application fee is required
 to be submitted with your application. These fees vary depending on the type of
 consent you apply for and how your application will be processed. Additional
 charges may apply depending on the nature and complexity of your application
- Once you receive a consent, you will receive either a one-off or ongoing (eg, quarterly or annually) consent monitoring charge which is split into three parts:
 - A customer service charge (\$40/year)
 - A compliance monitoring charge (variable depending on your consent)
 - A state of the environment monitoring (SOE) charge (variable depending on your consent)
- GWRC will charge actual and reasonable costs for carrying out and monitoring all abatement notices and enforcement orders covering consented and unconsented activities. All inspections for non-complying environmental incidents will incur a minimum standard charge
- The key changes to the 2015 Policy are:
 - An **increase to the charge out rate** for resource management services by \$5/hour. Resource management services increase from \$105/hour to \$110/hour (excl. GST). Consent processing and compliance monitoring services increase from \$120/hour to \$130/hour (excl. GST). Technical and science expert advice services increase from \$135/hour to \$145/hour

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- A new section that gives GWRC the ability to **charge for permitted activities** where it can do so under the RMA.
- Extending the pre-application advice service beyond 1 free hour to a maximum of 4 free hours for specific identified services for non-notified consents only
- Providing the mechanism for costs incurred in obtaining expert **iwi advice** to be passed on to consent applicants and consent holders in certain circumstances
- Updated state of the environment monitoring (SOE) charges. The last review was completed in 2013. The total expected income from SOE charges is expected to rise from \$1 million to \$1.25 million. GWRC's Revenue and Funding Policy requires that 10-20% of the cost of Environmental Science activities are funded from user charges (SOE charges). The charges recover 12.6% of the cost of Environmental Science activities
- There are a number of other minor amendments to the 2015 Policy. There are no changes to the customer service charge

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1. Introduction

1.1 About this document

This document is the Resource Management Charging Policy ("Policy") for the Greater Wellington Regional Council (GWRC). It describes the charges that are payable to GWRC for a range of resource management services.

We charge for processing your resource consent application. This is made up of an initial fixed application fee, and in some cases, an additional charge when the cost of processing your consent goes over the initial fixed application fee paid by \$65.00 or more. Should processing costs be less than the initial fixed application fee paid by \$65.00 or more, you will receive a refund.

If you obtain a consent, you will most likely receive an ongoing (eg, annual / quarterly) or one-off consent monitoring charge.

This document also describes our charges for:

- Processing applications for a change to a Regional Plan or the Regional Policy Statement
- Recovering costs for responding to environmental incidents that are not linked to the operation of a resource consent
- Provision of information and/or documents in relation to plans and resource consents
- Charges associated with our work administering dams under the Building Act 2004

All of the charges in the Policy are made under either section 36 of the Resource Management Act 1991 (RMA), under section 150 of the Local Government Act 2002 (LGA), or section 243 of the Building Act 2004 (BA). These charges are also consistent with the GWRC Revenue and Funding Policy.

1.2 Our philosophy

The RMA has an emphasis on the beneficiary pays principle; those who benefit from the use of natural and physical resources are expected to pay the full costs of that use.

The charges in this Policy reflect that philosophy, but they also recognise that the community benefits from much of the environmental monitoring carried out by GWRC. The regional community is therefore expected to share some of the costs of state of the environment monitoring.

1.3 Access to community resources

GWRC manages the community's resources. No individual owns our rivers, aquifers, air, and coastal waters. They are used by all of the regional community. However, by obtaining a resource consent, individuals can access these resources for their own private use and economic benefit.

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GWRC's job is to facilitate this resource use. But it must also make sure that the resource use is sustainable, that it is available for public use, both now and in the future. The charges for consent applicants and consent holders in this Policy reflect the reasonable cost of GWRC doing this job.

1.4 Customer service

We are a customer service organisation. We want to provide you with excellent service and value for money. You have a right to good service which comes with the payment of your charges.

We recognise your desire to run a successful business. We see ourselves as a partner in that success, looking after your continued access to the resources that are your raw materials.

To this end, the charges in this Policy are:

- Reasonable, fair, and consistent
- Based on the services we deliver
- Able to be estimated before you start your business

Every consent holder has someone who is personally responsible for ensuring you get the best service we can offer. If you want help with your consent, information about our monitoring programmes, or have a query about your account, email us at notifications@gw.govt.nz or call us on 0800 496734.

1.5 Goods and Services Tax

The charges and formulae described in this document do not include GST.

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2. Principles

The principles which have guided GWRC in setting its resource management charges are set out below.

2.1 Charges must be lawful

GWRC can only levy charges which are allowed by the RMA, the LGA and BA.

Section 36 of the RMA provides for consent application charges, consent administration and monitoring charges, and charges for carrying out state of the environment monitoring. Applications for the preparation of, or changes to, regional plans or policy statements may also be charged. This section also covers charging for information in respect of plans and resource consents and the supply of documents.

Section 150 of the LGA enables GWRC to prescribe the fees payable in respect of any inspection made by GWRC under the LGA or any other legislation. This provides for recovering costs of responding to environmental incidents.

Section 243 of the BA allows for GWRC to impose fees or charges for performing functions and services under the Act. It also allows GWRC to recover its costs from a dam owner should we need to carry out building work in respect of a dangerous dam.

2.2 Charges must be reasonable

The sole purpose of a charge is to recover the reasonable costs incurred by GWRC in respect of the activity to which the charge relates – see RMA (section 36AAA(2)), LGA (section 150), and BA (section 243).

2.3 Charges must be fair

Charges must be fair and relate to consent holders' activities. GWRC can only charge consent holders to the extent that their actions have contributed to the need for GWRC's work.

GWRC must also consider the benefits to the community and to consent holders when setting a charge. It would be inequitable to charge consent holders for resource management work done in the interests of the regional community and *vice versa*. We take this into account when setting the proportion of charges we wish to recover for state of the environment and compliance monitoring from an individual consent holder.

Where possible, GWRC will look for opportunities to streamline and improve processes to ensure that consent processing and compliance monitoring functions continue to be cost effective and efficient.

With regard to state of the environment monitoring, GWRC must also relate any charge to the effects of consent holders' activities on the environment (see RMA section 36AAA(3)(c)).

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2.4 Charges must be uniformly applied

Charges should be applied uniformly and consistently to users whose activities require them to hold a consent and where GWRC incurs ongoing costs.

2.5 Charges must be simple to understand

Charges should be clear and easy to understand. The administration and collection of charges should be simple and cost effective.

2.6 Charges must be transparent

Charges should be calculated in a way that is clear, logical and justifiable. The work of GWRC for which costs are to be recovered should be identifiable.

2.7 Charges must be predictable and certain

Consent applicants and resource users are entitled to certainty about the cost of their dealings with GWRC. The manner in which charges are set should enable customers to evaluate the extent of their liability.

Resource users need to know the cost of obtaining and maintaining a consent to manage their business and to plan for future growth and development. Charges should not change unnecessarily; any charges must be transparent and fully justified.

2.8 GWRC must act responsibly

GWRC should implement its charging policy in a responsible manner. Where there are significant changes in charges GWRC should provide advance warning and give consent holders the opportunity to make adjustments.

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3. Application charges

3.1 Introduction

This section of this Policy describes our charges for your:

- 1. Application for a resource consent, application to change conditions or lapse date on an existing consent, application to transfer an existing consent, certificates of compliance, and deemed permitted activities
- 2. Application for the preparation or change of a regional plan or the Regional Policy Statement

3.2 Applications for resource consents

- 3.2.1 Types of resource consent and resource consent application process
 Resource consents permit you to do something that would otherwise contravene the RMA. GWRC processes the following consent types as classified by section 87 of the RMA:
 - Water permit

• Land use consent

• Discharge permit

Coastal permit

Resource consents are processed as either non-notified, limited notified, or publicly notified. The majority of consent applications are processed as non-notified. Our staff are happy to provide advice about your application for a resource consent. Our aim is to ensure your application is processed quickly and simply, while meeting the requirements set down in the RMA.

3.2.2 Charges for processing applications

GWRC charges consent applicants for any costs incurred when processing resource consent applications and most other application types. Charges include the costs of technical assessment, RMA assessment, peer review work and administration costs. We may also charge for travel time associated with site visits.

Our policy is that we charge the actual and reasonable costs for processing a resource consent application or other application type. This is based on the charge out rates identified in Table 3.1 below,

Table 3.1: Charge out rates for processing applications

Hourly charge out rate	Excl. GST	Incl. GST
Resource management services including consent registration, database entry, and notified consent processing support	\$110.00	\$126.50
Consent processing services including assessment of consent applications, decision recommendations	\$130.00	\$149.50
Technical or science expert services for technical and/or science expert advice on consent applications	\$145.00	\$166.75

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Before beginning to process an application we require an initial fixed application charge to be paid in full. These application charges are shown in Tables 3.2 and 3.3 and are explained in more detail in sections 3.3 and 3.4. Where processing costs exceed the initial fixed application charge, an additional charge for actual and reasonable costs is made. Under section 36AAB(2) of the RMA, we will not begin to process any application until the initial fixed application charge is paid.

Please note that application charges apply even if your consent application is declined or you withdraw your application.

3.2.3 Charges associated with pre-application advice

GWRC provides a pre-application advice service. Getting things right early in the process can save considerable time and expense later on, and we believe it is important that you know how to make an application and how it will be processed. The following pre-application services are **free of charge:**

- Initial pre-application meeting
- Site visit
- Follow up advice following meeting and/or site visit

The staff time associated with our free pre-application service is capped at 4 hours and is only applicable to non-notified consents where the effects on the environment are considered to be minor. The free pre-application service does not include any external time engaged in pre-application services or time spent reviewing draft applications including any Assessment of Environmental Effects (AEE).

We will charge for pre-application services that exceed 4 hours of staff-time or the nature of services described above. We will always advise you before we start charging for application advice. In most cases costs incurred for pre-application advice are included when calculating your final consent processing charges. However, for larger projects we may invoice before and during the resource consent process.

3.3 Application charges for non-notified resource consents, and other application types

3.3.1 Schedule of fees

Resource consent applications are processed as non notified (ie, not advertised in the newspaper and public submissions not called for) if their effects are minor and those who might be affected by the activity agree to the consent being granted. The initial fixed application fees for non-notified resource consents are outlined in Table 3.2 on the following page.

There are other application types for resource management services. Most of these incur application charges which are also outlined in Table 3.2 on the following page. There are no charges for surrendering a resource consent.

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All initial fixed application fees are the average cost of processing the application type. In many cases they will be the total cost you pay. However, for some applications the cost of processing may vary from these charges. In some circumstances you may receive a refund on your application fee or we may require a further additional charge. When the processing costs are nearing the application fee paid, and costs are likely to significantly exceed the application fee paid, you will be advised of any potential additional charges.

Table 3.2: Initial fixed application fees for non-notified resource consents, and other application types

Non-notified consent Type (s87 RMA)	Initial fee (excl. GST)	Initial fee incl. GST)	Hou rs
Discharge to Land	\$2,190.00	\$2,518.50	17
Discharge to Land/Water (earthworks)	\$3,230.00	\$3,714.50	25
Discharge to Water (other)	\$3,230.00	\$3,714.50	25
Discharge to Air	\$1,410.00	\$1,621.50	11
Take/Use, Water – new application	\$1,930.00	\$2,219.50	15
Take/Use, Water – replacement application	\$1,150.00	\$1,322.50	9
Dam/Divert Water	\$1,020.00	\$1,173.00	8
Land Use (land clearing, logging, soil disturbance, forestry)	\$1,670.00	\$1,920.50	13
Land Use (works in the bed of a lake or river, bridge, culvert)	\$1,085.00	\$1,247.75	8.5*
Land Use (bore) – standard	\$760.00	\$874.00	6*
Land Use (bore) – non-standard eg, sand trap / bore spear / geotechnical bore	\$565.00	\$649.75	4.5*
Coastal Permit (existing boatshed or mooring)	\$630.00	\$724.50	5
Coastal Permit (other including new boatshed)	\$1,085.00	\$1,247.75	8.5*
Other Consent Types	\$1,150.00	\$1,322.50	9
Change of consent conditions – administrative conditions only (s127, RMA) – see key note 3 below	\$500.00	\$575.00	4
Change of consent conditions – all other conditions (s127, RMA) – see key note 3 below	\$1,150.00	\$1,322.50	9
Other Application Type	Initial fee (excl. GST)	Initial fee incl. GST)	Hou rs
Change of lapse date (s125, RMA)	\$500.00	\$575.50	4
Transfer of water permit or discharge permit from site to site (s136(2)(b) & s137(3), RMA)	\$1,150.00	\$1,322.50	9
Certificate of compliance (s139, RMA)	\$1,410.00	\$1,621.50	11
Deemed permitted activities (s87BB, RMA) – see key note 4 below	\$390.00	\$448.50	3

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Non-notified consent Type (s87 RMA)	Initial fee (excl. GST)	Initial fee incl. GST)	Hou rs
Surrender of consent (s138)	No charge		
Transfer of land use consent, coastal permit, water permit, discharge permit to another person at the same site (s134, 135, 136(1), s136(2)(a), s137(1) – see key note 5 below	\$110.00	\$126.50	1

Key notes:

- 1. The hours specified above include 1 hour for resource management services (\$110/hour), and the remaining balance for consent processing services (\$130/hour).
- 2. The initial fixed application fee for consent types marked with a * includes a consent monitoring charge of \$65.00. This covers 0.5 hours for compliance monitoring (eg, registering bore logs on our Wells Database, and checking any photographic records sent to us). This is because the majority of these consent types are one-off and not monitored with a site inspection. No further consent monitoring charges after the granting of consent apply in these instances.
- 3. For <u>applications to change consent conditions</u>, <u>administrative conditions</u> include monitoring and reporting requirements. <u>All other conditions</u> include conditions relating to avoiding, remedying, or mitigating environmental effects, eg, rates of take/discharge, water quality standards, maintaining environmental flows, construction methodology.
- 4. <u>Deemed permitted activities</u> are generally invoiced at the time of completion. If the actual and reasonable costs of are less than the fixed fee of \$390.00, a lesser fee will be applied. If the actual and reasonable costs of are greater than the fixed fee of \$390.00, an additional charges will apply.
- 5. This only applies to <u>transfers of consent(s)</u> to another person/entity that does not include any changes to the activity or conditions. Where other changes are required, the actual and reasonable cost of transferring consent(s) are recovered. This fixed fee is invoiced generally to the new consent holder at the completion of the transfer.

3.3.2 Waiver of fees

GWRC may at its discretion, waive non-notified fees in relation to any consents required for wetland restoration where consents are required under any new regional plan. This is because GWRC supports protection of wetland ecosystems including restoration.

Where there is more than one application required for the same proposal, an initial fixed application charge is required for each application. In some instances, GWRC may waive, at its discretion, the requirement to pay all initial fixed application fees associated with multiple applications.

3.4 Application charges for limited and publicly notified resource consents

3.4.1 Schedule of fees

In general, a resource consent is publicly notified (ie, advertised on our website and public submissions called for) if its effects are more than minor. Where the effects on the environment are considered to be minor but it is not possible to obtain the written agreement of all those who might be affected by a proposed activity, the application is limited notified.

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The initial fixed application charges for a limited notified or publicly notified or resource consent are as follows:

Table 3.3: Initial fixed application fees for limited notified or publicly notified resource consents

Resource consent process	Initial fee (excl. GST)	Initial fee (incl. GST)
Initial limited notified application fee (up to hearing)	\$10,000	\$11,500
Initial publicly notified application fee (up to hearing)	\$20,000	\$23,000
Further application fee if hearing scheduled for less than 5 days is required	\$20,000	\$23,000
Further application fee if hearing scheduled for 5 days or more is required	\$50,000	\$57,500

Kev notes:

- 1. The initial fixed application fees for limited notified or publicly notified consents applies to each proposal and not each consent application if multiple consents are required for the same proposal.
- 2. The initial fixed application fees also apply to changes to consent conditions (s127, RMA) which are required to be processed on a limited notified or publicly notified basis.

The fixed application charges for limited and publicly notified consents are required to be paid at two stages:

- 1. When the application is lodged the initial application fee is required
- 2. If a hearing is required to determine the application, a further application fee will be invoiced when the hearing is notified

Under section 36AAB(2) of the RMA, the processing of any application will be stopped if the applicable fixed fee is not paid in full. For the initial fixed fee the processing of the application will not commence until the fee is paid. For the further application fee (if a hearing is required), the processing of the application will be stopped and, if required, the hearing postponed until the fee is paid.

The actual and reasonable cost of processing a limited or publicly notified resource consent varies considerably and is dependent on a number of factors such as how well the applicant has consulted, how well the application is prepared, the number of submissions received, and how difficult the issues are to resolve.

3.4.2 Resource consent hearings

The cost of the Hearing Panel when made up from Council members is charged as per the schedule set in the Local Government Members (2018/19) (Local Authorities) Determination 2018. Council members are reimbursed for time spent at a formal site inspection, preparing for a hearing, the hearing, and in deliberations. At the time of writing this Policy the charges are as follows:

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- Chairperson of hearing panel \$100/hour
- Elected member on hearing panel \$80/hour

Independent commissioners can be appointed to decide your consent application in the following circumstances:

- 1. An iwi commissioner is commonly appointed to a Hearing Panel
- 2. Where GWRC considers the issues are sufficiently complex in nature or the size of the hearing in terms of public interest
- 3. Where there is a conflict of interest, eg, where an internal department of GWRC is applying for resource consent
- 4. At the request of a submitter
- 5. At the request of an applicant

Where independent commissioners are appointed at the request of the applicant or Council, the full costs of the independent commissioners are on charged to the applicant. Where independent commissioners are appointed at the request of submitters, the applicant pays for the hearing costs that would have been incurred if there was a Hearing Panel of Councillors, whilst the balance of any additional costs are passed on to the submitters who requested independent commissioners.

Any disbursements incurred by the Hearing Panel and/or independent commissioners such as photocopying, meals, travel and accommodation are on charged to the applicant.

3.4.3 Cost estimates and regular invoicing

For limited and publicly notified resource consent applications we will provide you with a detailed cost estimate which we will update where necessary.

GWRC has the discretion to invoice additional charges during the processing of an application and once processing has been completed. Once any consent processing costs exceed any paid initial or further fixed fee, GWRC will regularly invoice (eg, monthly or quarterly) or at key stages of the notified process.

3.4.4 Application charges where application processed by Environment Protection Agency or via direct referral to Environment Court

Where an application is a proposal of national significance that the Minister for the Environment directs to be processed by the Environment Protection Agency, all actual and reasonable costs incurred by GWRC for the s88 completeness check and key issues report will be on charged to the applicant.

Where an application is processed via direct referral to the Environment Court, all actual and reasonable costs incurred by GWRC up to notification of the application will be on charged to the applicant. All costs incurred after that

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point, will be sought through the normal Environment Court costs order process.

3.5 Application charges for the preparation or change of a Regional Plan or the Regional Policy Statement¹

3.5.1 Receiving, accepting or adopting a request

When GWRC receives a request to prepare or change a Regional Plan or to change the Regional Policy Statement, it may treat the request in one of three ways.

GWRC may decide to:

- 1. Decline the request. In this case, the request would go no further
- 2. "Accept" the request, but to charge the applicant the cost of processing the application; or
- 3. "Adopt" the request. In this case we will meet the cost of making the change after the initial assessment

A request may be adopted if GWRC considers the benefit of the change accrues wholly to the community as distinct from the person or persons making the request.

In all three cases above, we charge the actual and reasonable costs for the initial assessment of the merits of the request. The application charge for this assessment is set out in Table 3.4. The actual costs of this assessment will vary depending on the nature and complexity of the request.

The charge out rate for any actual and reasonable costs are the same as those outlined in Table 3.1.

3.5.2 Schedule of fees

The charges levied by GWRC in relation to a Regional Plan or Regional Policy Statement changes are set out in Table 3.4.

Table 3.4: Initial fixed application fee for the preparation or change of a Regional Plan or the Regional Policy Statement

	Initial fee (excl. GST)	Initial fee (incl. GST)
Charge for assessing a request before deciding to decline, accept, or adopt it; and	\$6,900.00	\$7,935.00
Charge for processing a request which is accepted; or	\$17,250.00	\$19,837.50
Charge for processing a request which is adopted	No charge	

¹ Only Ministers of the Crown or local authorities can apply to change the Regional Policy Statement.

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The charge for processing a change which GWRC has accepted (but not adopted) is intended to provide for:

- Public notification of the change and the calling of submissions
- Preparation of a summary of submissions
- Advertising for further submissions

The actual cost will vary depending on the number and complexity of submissions received.

The charge **does not** include any cost associated with processing the change after the receipt of further submissions. This is because the amount of work necessary to take the proposed change through the remainder of the process laid down in the First Schedule to the RMA may vary considerably depending on the magnitude or complexity of the proposal and the number of submissions received.

This can best be estimated once the public has demonstrated its interest in the change through the public submission and further submission phase. We will recover any actual and reasonable costs that exceed the amounts shown in this section by way of an additional charge under section 36 of the Act.

We will provide an estimate of the total cost of the application when the period for submissions on the requested change has closed.

If the cost of processing a request which has been accepted is less than \$17,250 (excl. GST), we will refund the difference.

3.6 Charging basis

To process your resource consent application or other application type, or request to change a Regional Plan or the Regional Policy Statement we charge for our actual and reasonable costs in the following way:

1. Staff services:

• Staff time is charged on the basis of actual time spent. The charge-out rate is dependent on the services provided as outlined below:

Hourly charge out rate	Excl. GST
Resource management services including consent registration, database entry, and notified consent processing support	\$110.00
Consent processing or plan change services including assessment of consent applications, decision recommendations	\$130.00
Technical or science expert services for technical and/or science expert advice	\$145.00

2. Consultant services:

• Consultant services are charged on the basis of actual and reasonable cost of the services provided.

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3. Iwi services:

• Where iwi services are required to work through any matters raised through the resource consent process, GWRC will (at its discretion) pass on the actual and reasonable costs of iwi providing those services. This will most likely occur in any resource consent applications where the activity is undertaken in a Schedule C site of significance to mana whenua as prescribed in the Proposed Natural Resources Plan.

(Explanatory note: GWRC incurs the cost of standard comments provided by iwi for non-notified consent applications. This cost is not passed on to consent applicants. However in instances such as those described above, there may be considerable time and associated costs for iwi to appropriately advise on a resource consent application. In such instances, consent applicants are encouraged to engage and reimburse iwi services directly. This policy recovers costs of iwi services where there may be circumstances where it is necessary for GWRC to pass on the actual and reasonable costs of iwi services.

4. Disbursements:

- Disbursements include advertising expenses, laboratory analysis, consultants, photocopying (at 20 cents per A4 page) and hearing costs (other than staff time) eg, venue hire
- The fees do not include any charges payable to the Crown in respect of any application (eg, the Maritime Safety Agency's fee for checking the navigational safety of maritime structures)

3.7 Resource Management (Discount on Administrative Charges) Regulations 2010

3.7.1 Introduction

Changes to the RMA in 2009, resulted in the implementation of the Resource Management (Discount on Administrative Charges) Regulations "Discount Regulations" which sets a default discount policy for resource consents that are not processed within statutory timeframes.

Whilst the Discount Regulations allow for Councils to implement a more generous policy, GWRC's policy is to adhere to the Discount Regulations.

3.7.2 Value and scope of Discount Regulations

The Discount Regulations set out a discount of 1% for each day an application is processed over the statutory timeframes specified in the RMA, up to a maximum of 50% (ie, 50 working days).

The Discount Regulations apply to the processing of most resource consent applications or applications to change consent conditions. They do not apply to the following:

- Applications to extend consent lapsing periods (s127, RMA)
- Consent reviews (s128, RMA)

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- Certificates of compliance (s139, RMA)
- Replacement consent applications when applications are processed prior to the expiry of a resource consent.
- When an applicant withdraws a resource consent application

If your application is not processed within statutory timeframes, you will be advised at the time a decision is made on your consent and a discount will be identified accordingly in line with the Discount Regulations.

If you have any questions regarding your charges and whether the Discount Regulations apply to the processing of your consent, email us at notifications@gw.govt.nz or phone us on 0800 496734.

The Discount Regulations can be viewed in full at http://www.legislation.govt.nz/. The Ministry for the Environment (MfE) has prepared some helpful guidance on the Discount Regulations². This information can be accessed at the MfE website www.mfe.govt.nz.

3.8 Your right of objection and appeal

If you consider any additional charge (that is any charge which exceeds the initial fixed application fees specified in Tables 3.2, 3.3, or 3.4) is unreasonable, you may object to GWRC in accordance with s357 of the RMA. You need to make your objection in writing to GWRC within 15 working days of receiving your account. GWRC will hear your objection and make a decision on whether to uphold it.

If you are still not satisfied then you may appeal GWRC's decision to the Environment Court.

You may not object to any of the charges listed in Tables 3.2, 3.3, or 3.4.

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² Ministry for the Environment. 2010. Resource Management (Discount on Administrative Charges) Regulations 2010 – Implementation Guidance. Wellington: Ministry for the Environment.

4. Consent monitoring charges for resource consents

4.1 Introduction

This section of the Policy sets the charges which GWRC levies annually in relation to resource consents. Under section 36(1)(c) of the Act, GWRC may charge for costs associated with its ongoing consent management responsibilities. These include:

- The administration and monitoring of resource consents
- The gathering of information necessary to monitor the state of the environment of the region

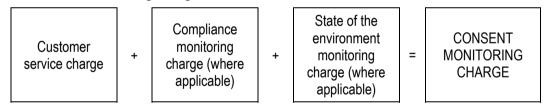
Where the charges set in this section are inadequate to cover GWRC's reasonable costs, GWRC may impose an additional charge under section 36(5) of the Act.

4.2 Consent monitoring charges

The components of the consent monitoring charge which consent holders face are:

- A fixed customer service charge
- A fixed or variable charge for compliance monitoring
- A fixed or variable charge for state of the environment monitoring

Your Consent Monitoring Charge



4.3 The customer service charge

Summary: The annual customer service charge for administering your consent is \$40 (excl. GST). It allows approximately 20 minutes of staff time per year for administering your consent.

4.3.1 What we do for your money

There is a cost in providing a range of customer services relating to consents. We pass this cost on to consent holders. The services we provide are:

- Information and advice about your consent
- The maintenance of an up-to-date record of your consent on our database
- A record of any changes in the status of your consent (eg, if you surrender your consent)³

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³ We will not accept a surrender or transfer of a consent unless all outstanding fees have been paid.

- The administration of these charges
- The maintenance and storage of your permanent consent file

We welcome any inquiry about your consent and are happy to assist you in understanding these charges. Please email us at notifications@gw.govt.nz or phone us on 0800 496 734.

4.3.2 The basis for the customer service charge

The basis for the customer service charge is the time spent on the above tasks by GWRC staff. As most consents take about the same time to maintain, this cost is averaged across all consent holders. A standard customer service charge applies to all consents.

The charge includes overhead costs which are related to the services we deliver. These costs include office rental, stationery, and computer costs. Only those overheads that can be reasonably attributed to the provision of services to customers are charged for. Other GWRC overheads, such as the cost of corporate services, management, and Council meetings are **not** charged to consent holders.

4.3.3 Application of the customer service charge

The customer service charge is \$40 per consent per year (excl. GST).

The full customer service charge applies to consents which:

- Are active and where there is ongoing administration and/or monitoring by GWRC or by the consent holder
- Are temporarily inactive, but where there will be ongoing administration and/or monitoring when the consent becomes active

4.3.4 Circumstances where the customer service charge does not apply

The customer service charge does not apply:

- For most land use consents (bores and works in the bed of a lake or river) and coastal permits, where no compliance inspections are required to be undertaken
- The activity for which the consent was granted has concluded, and the consent will most likely not be active in the future
- Other circumstances at our discretion

The charge does not apply in this instance because little or no work is required to maintain the record on the database in the long term.

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4.4 The compliance monitoring charge

Summary: Your compliance monitoring programme is tailored to your individual circumstances. You pay only the cost of monitoring your consent.

4.4.1 What we do for your money

The purpose of compliance monitoring is to confirm that consent holders are meeting the conditions of their consents. The conditions on resource consents are designed to control any adverse effects on the environment arising from the exercise of the consent. We need to know that consents are being complied with. In this way we can ensure the resource you are using remains fit for you and other consent holders to use.

We have a strategic compliance monitoring programme that prioritises monitoring of particular activities that require resource consent. In principle, this programme focusses more monitoring on consents of more importance (particularly in terms of environmental risk), and less monitoring on consents of less importance.

How your activity fits within our strategic compliance monitoring programme is determined at the time your consent is granted and when our programme is reviewed each year. How much compliance monitoring is required varies according to the nature of your activity, its size and frequency, and its potential environmental impact.

As part of the compliance monitoring programme for a consent, we may:

- Carry out site visits and inspections (where required)
- Review management plans and/or the results of any monitoring carried out by you or your consultants
- Advise you on the outcome of the compliance visit

Occasionally, we may also need to use outside expertise to assist with the monitoring of some consents. The costs of these experts may be included as part of your compliance monitoring charge.

4.4.2 The basis for the compliance monitoring charge

The basis for the compliance monitoring charge is the actual and reasonable cost of carrying out your compliance monitoring programme. You pay only the cost of monitoring compliance with your consent.

GWRC has considered the criteria in section 36 of the RMA before setting this charge. It considers that the need for this type of monitoring arises only because of consent holder's activities and that the benefits accrue entirely to consent holders. It is appropriate, then, for consent holders to bear the reasonable cost of this monitoring.

Fixed and variable charges are made up of the cost of staff time to carry out an inspection (if required), audit any monitoring information provided by you,

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follow up any non-compliance, and reporting back to you outcomes of any compliance monitoring (if required).

The charge-out rate is dependent on the services provided as outlined in Table 4.1 below:

Table 4.1: Charge out rates for consent monitoring

Hourly charge out rate	Excl. GST
Compliance monitoring services including undertaking site visits and auditing any monitoring information supplied by consent holders	\$130.00
Technical or science expert services for technical and/or science expert advice on compliance monitoring information supplied by consent holders	\$145.00

Where GWRC uses a consultant the actual and reasonable costs of consultant services are charged and passed on to the consent holder.

Where iwi services are required to work through any matters relating to compliance monitoring, GWRC may at its discretion, pass on the actual and reasonable costs of iwi providing those services. This will most likely occur for any resource consents where the activity is undertaken in a Schedule C site of significance to tangata whenua as prescribed in the Proposed Natural Resources Plan. Any such monitoring costs are also likely to have been identified at the time your resource consent is processed.

4.4.3 Application of the compliance monitoring charge

The compliance monitoring charge applies to all consents for which a compliance monitoring programme is established. Depending on the activity, either fixed or variable charges will apply. Table 4.2 below outlines what activities incur fixed or variable charges:

Table 4.2: Fixed and variable charges for various activities

Fixed charges	Variable charges
Water takes	Municipal wastewater
Agricultural effluent	Municipal water supplies
Quarries	RoNS projects and earthworks
Industrial, non-municipal, and winery discharges	Urban stormwater
Coastal works, structures, and activities	Air discharges
River works, bridges, and culverts	Landfills and cleanfills
Boatsheds	Contaminated sites
Bores	Forestry
Swing moorings	Reclamation
	1080 and agrichemical

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Fixed charges are set charges which generally apply to activities where conditions are very similar or the same. If an activity identified for fixed charges is non-standard, then variable charges may apply to that non-standard activity, eg, a water take may have non-standard consent conditions which may require additional monitoring.

Fixed charges under section 36(1) of the Act are not open to objection and appeal.

Variable charges apply to activities where consent conditions and the nature and scale of activity is likely to vary. All variable charges are based on actual and reasonable costs since the previous invoice. There may be some instances where the variable charge may be \$0 as no monitoring is undertaken in the previous year.

Variable charges are considered additional charges under section 36(5) of the Act. Section 36(7) provides for any additional charge to be open to objection and appeal.

All **fixed and variable charges** for compliance monitoring activities are provided in Part 2A of this Policy.

4.4.4 Circumstances where the annual compliance monitoring charge does not apply

Some activities in our strategic compliance monitoring programme are not inspected. Only minimal monitoring is completed. These activities include:

- Bores
- Most river works
- Most coastal works and activities

For these activities a compliance monitoring charge of \$60 is included when the consent is processed. Note: In special circumstances, for some of the above activities an inspection may be required and fixed or variable charges will apply.

4.4.5 Additional compliance monitoring charges

Fixed compliance monitoring charges are based on the premise that consent holders use resources in a responsible manner and according to the conditions of their consent. The charge covers only routine monitoring.

Where the actual and reasonable costs incurred by us in carrying out compliance monitoring exceed any fixed compliance monitoring charge identified for your resource consent, by \$65 or more, then these costs may be recovered by way fixed non-compliance charge or an additional charge. Any additional charge is levied under section 36(5) of the Act. Section 36(7) provides for any additional charge to be open to objection and appeal.

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Additional compliance monitoring charges apply in situations where:

- Resource users need to undertake further work to meet conditions of their resource consent and there is consequently additional monitoring work required
- Further inspections, assessment and reporting are required from GWRC for the activity than originally anticipated.
- Non-compliance with consent conditions has been observed following an incident notification
- Additional site visits requested by the consent holder

Where non-compliance is recorded on a **routine or random inspection** visit, remedial action is identified and advised to the consent holder in writing. Where an **advisory notice** is issued in order to remedy any non-compliance, a fixed charge of \$260 (excl. GST) will be applied. This charge may be waived at the discretion of GWRC. You will receive an additional charge for the costs of any monitoring undertaken by GWRC that exceeds any fixed charge to ensure that compliance with consent conditions is met.

If any consent does not comply with the conditions and inspections are less than one per year, your compliance charge may be altered at the next charging round to provide for additional inspections until such time that good compliance is observed.

Where we carry out an inspection as a result of an **incident notification** (for example, a complaint about water pollution or odour release), the consent holder is only charged if the consent is breached and/or non-compliance is observed.

Where we carry out an inspection to determine compliance with an enforcement order or abatement notice for a consented activity, we will charge the consent holder actual and reasonable costs for any follow up visit to confirm that the required action has been taken and full compliance with the notice and your resource consent is achieved.

We levy any charges on an actual and reasonable basis.

4.5 The state of the environment monitoring charge

Summary: GWRC charges consent holders for the cost of state of the environment monitoring where that monitoring benefits consent holders.

The charge you pay is related to the effects of your activity on the environment.

Consent holders pay for only a part of the cost of this monitoring. The regional community pays for the rest as it also benefits from the information gained.

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4.5.1 What we do for your money

State of the environment (SOE) monitoring is the gathering of information about a resource (water, land, and air) so that it can be managed on a sustainable basis. GWRC is tasked under section 35 of the RMA to monitor the state of the environment in the Wellington region in order to effectively carry out our functions. The information is used, amongst other purposes, to determine the nature and state of a resource, to enable us to grant resource consents with confidence, and to check whether the management tools for resources in regional plans are working properly.

GWRC carries out SOE monitoring in many of the air sheds, catchments and groundwater zones of the region. We operate a network of hydrological recording stations which measure such variables as rainfall, river flow, and water depth in aquifers. We also routinely test the health quality of water in our rivers, aquifers, and the sea. In addition, we monitor ambient air quality.

This type of monitoring and investigations focus on a resource in a more general way than the monitoring of an individual consent (eg, a catchment or area basis). We measure a range of environmental variables to identify a resource's availability and quality, and the uses to which it is being put. In relation to rivers, for example, we monitor changes in water quality and quantity to ensure that our rivers remain available for a wide range of private and community uses, both now and in the future.

We carry out a wide range of monitoring and investigations and produce publicly available information on:

- The quantity and quality of surface water
- The quality of coastal water
- The quantity and quality of groundwater
- Air quality

Where practicable, GWRC will look to optimise and co-ordinate its SOE monitoring programme in a cost effective manner (as required under the Local Government Act) in order to avoid any duplicated monitoring that may be undertaken by consent holders.

You can find out about the resource you are using by accessing this information. It may be useful in operating your business. Please contact our Environmental Science team on 0800 496734 for more information.

4.5.2 The basis of the state of the environment charge

The basis of the SOE monitoring charge is the cost to GWRC of undertaking this monitoring. However, we only charge consent holders for a portion of our monitoring that benefits consent holders. The cost is shared with the regional community (ie, ratepayers), as they also necessitate this type of monitoring and benefit from the knowledge acquired through the programme. We <u>do not</u> charge consent holders for monitoring undertaken for flood warning, river management, or regional planning purposes.

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The benefits for consent holders are:

- Protection of the resource through its management on a sustainable basis
- Early warning of changes in resources
- Reduced costs for future consent applications
- Better information to aid business planning

However, as indicated above, SOE monitoring is carried out for a variety of reasons, of which meeting the needs of consent holders is but one. It is appropriate only to charge consent holders for their share of this monitoring.

GWRC considers that the SOE monitoring charges established meets the requirements for setting SOE monitoring charges in section 36AAA of the RMA. As part of these requirements, GWRC also examines the benefits of the monitoring programme to determine whether consent holders benefit from it to a greater extent than other members of the regional community. GWRC is of the view that consent holders do enjoy a benefit which non-consent holders do not, that is, a legal right to access the resource for their economic benefit.

4.5.3 Application of the state of the environment charge

A SOE monitoring charge applies to most consent types. This includes:

- Land use consents where there are ongoing environmental effects relating to our environmental science programme
- Water permits to take surface water or groundwater
- Discharge permits to discharge contaminants to land
- Discharge permits to discharge contaminants to fresh water
- Discharge permits to discharge contaminants to air
- Coastal permits to discharge contaminants to coastal water
- Coastal permits where there are ongoing environmental effects relating to our environmental science programme

A scale of fixed SOE monitoring charges are applied to consents. These charges vary due to the following factors:

- The nature and scale of activity, eg, the size of a water take or type of discharge
- The level of stress a particular catchment or groundwater zone is under, eg, the level of allocation from a groundwater zone

The scale of fixed charges applied to consents are more specifically identified in Part 2B of this Policy.

4.5.4 Waiver or reduction in state of the environment monitoring charges GWRC may waive or reduce the SOE monitoring charge in the following instances:

1. Where an activity has multiple consents (relating to the same consent type), the SOE monitoring charge may be waived.

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 Where through the operation of the formula for setting the charge in the Schedules to this Policy, the resulting amount does not satisfy the principles of reasonableness and fairness in Sections 2.2 and 2.3 of this Policy.

4.5.5 Additional state of the environment monitoring charges

GWRC may apply an additional SOE monitoring charge. This will occur in instances where due to the nature and scale of the activity, the formulas set in the Schedules to this Policy are no adequate to recover the reasonable costs related to our SOE monitoring programme. Any additional charges will need to satisfy the principles of reasonableness and fairness in Sections 2.2 and 2.3 of this Policy. Also any additional charge is levied under section 36(5) of the Act. Section 36(7) provides for any additional charge to be open to objection and appeal.

4.5.6 Review of state of the environment monitoring charges

GWRC reviewed the SOE monitoring charges in 2018. There had been no changes to the SOE monitoring charges since 2013.

All SOE monitoring programmes undertaken by GWRC have been costed and assessed in terms of their relevance to consent holders. This information is provided in Appendix 1 to this Policy. GWRC proposes to recover approximately \$1.25 million (12.6%) of the cost of our Environmental Science programme. The current policy recovers approximately \$1.05 million (10.6%) of the cost of the Environmental Science programme. GWRC's Revenue and Funding Policy outlines that 10-20% of the Environmental Science programme should be recovered from user charges ie, consent holders.

4.6 Other matters relating consent monitoring charges

4.6.1 Consent termination

Where a resource consent expires, or is surrendered, during the course of the year and the activity to which it relates ceases, then the customer service, compliance, and state of the environment charges apply only to that period of the year (based on complete months) for which the consent was operative. We may not accept a surrender of consent unless the fees have been paid in full.

4.6.2 Consent expiry and replacement

Where a resource consent expires during the course of the year, but the activity to which the consent relates continues until the consent is replaced, then the consent monitoring charges outlined in this Policy apply.

4.6.3 Consent transfer

Where a resource consent is transferred during the course of the year (eg, when a property with a consent is sold to a new owner), it is the responsibility of the original owner to advise us of the change. Any apportionment of fees after the charge has been made remains the responsibility of the respective owners. We may not accept a transfer of consent unless the fees have been paid in full.

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4.6.4 Partial remission of consent monitoring charges for minor activities with community service or good

GWRC recognises that there are some minor activities undertaken by not-for-profit organisations relating to community services that incur consent monitoring charges which can significantly impact the ability for the consent holder to provide this community service or good. If a consent holder can demonstrate that their minor activity is for a community good or service and it is primarily operated through sourcing public funding (eg, charitable grants or donations), they can apply for a remission of up to 50% of their consent monitoring charge. GWRC at its discretion will consider each request on a case by case basis.

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5. Permitted activity monitoring charges

5.1 Introduction

This section of the Policy sets the charges which GWRC levies in relation to permitted activities. Under section s36(1)(ae) and s36(1)(cc) two types of permitted activities can be charged:

- 1. Deemed permitted activity under section 87BB of the Act
- 2. Any specified permitted activities in a National Environmental Standard (NES).

At the time of writing this Policy, the only NES which has specified permitted activities where charges can apply is the National Environmental Standard for Plantation Forestry.

5.2 The permitted activity monitoring charge

The charge-out rate for permitted activity monitoring is \$130 per hour (excl. GST). All permitted activity monitoring charges are variable charges. All variable charges are based on actual and reasonable costs incurred for monitoring the permitted activity.

Where GWRC uses a consultant the actual and reasonable costs of consultant services are charged and passed on to the person/organisation undertaking the activity.

A customer service charge and state of the environment monitoring charge does not apply to any permitted activity monitoring.

5.2.1 Deemed permitted activities

Most deemed permitted activities will not be monitored and therefore monitoring charges will not apply unless special circumstances apply.

5.2.2 NES for Plantation Forestry

Under Part 3 of the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017, the only activities where permitted monitoring charges are applicable are earthworks (regulation 24), river crossings (regulation 37), forestry quarrying (regulation 51), and harvesting (regulation 63(2)).

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6. Building Act charges

6.1 Introduction

The Building Act 2004 (BA) altered the regime for which territorial authority handled matters pertaining to dams. Prior to 2004 territorial local authorities (ie, City and District Councils) were responsible for dams. The BA referred matters pertaining to dams to Regional Councils.

In July 2008 GWRC transferred various Building Act 2004 functions relating to dams to Waikato Regional Council (WRC). The Building Consent Authority (BCA) functions transferred relate to the assessment, processing, inspection and granting of building consents and certificates of compliance.

Section 243 of the BA allows GWRC to retain some functions such as the processing and issuing of a project information memorandum, certificates of acceptance, building warrant of fitness' and the dam safety requirements. The BA allows GWRC to impose fees or charges for performing these functions.

6.2 Schedule of charges

The fees and charges for various activities for administering the Building Act are outlined in Table 6.1 below:

Table 6.1: Building Act 2004 fees and charges (all figures exclude GST)

Function	Deposit	Hourly charge
Project Information Memorandum (PIM)	Large Dam (above \$100,000 value) \$1,000	\$130 per hour
	Medium Dam (\$20,000 to \$100,000 Value) \$750	
	Small Dam (\$0 to \$20,000 value) \$500	
Building consent application (lodged directly with WRC)	Large Dam (above \$100,000 value) \$4,000	\$165 per hour (WRC Resource
	Medium Dam (\$20,000 to \$100,000 Value) \$2,000	use group managers)
	Small Dam (\$0 to \$20,000 value) \$1000	\$135 (WRC Building Act officer)
Lodge Building Warrant of Fitness	\$130	\$130 per hour
Amendment to compliance schedule	\$1,000	\$130 per hour for officer time
		Actual and reasonable costs for expert advice
Building warrant of fitness audit		\$130 per hour

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Function	Deposit	Hourly charge
Certificate of Acceptance	Large Dam (above \$100,000 value) \$4,000	\$130 per hour for officer time
	Medium Dam (\$20,000 to \$100,000 value) \$2,000	Actual and reasonable costs
	Small Dam (\$0 to \$20,000 value) \$500	for expert advice
Lodge dam potential impact category	\$130	\$130 per hour
Lodge dam safety assurance programme	\$130	\$130 per hour
Lodge annual dam safety compliance certificate	\$130	\$130 per hour
Policy implementation –		\$130 per hour
Dangerous Dams, Earthquake-prone dams, Flood-prone dams		Actual and reasonable costs for expert advice

Key notes:

- 1. The charges associated with building consent applications are those that are directly applied by Waikato Regional Council (WRC) as these functions have been transferred to WRC. It is therefore advised to contact WRC (www.waikatoregion.govt.nz) to check building consent application charges and charge-out rates.
- 2. Building consents incur BRANZ and Department of Building and Housing levies. The levies are payable to Waikato Regional Council

The costs for processing various applications under the BA vary greatly due to the scale, complexity, and specialist design features associated with each project. Hence the charges listed in Table 6.1 are considered deposits only and in most circumstances additional charges will apply at the charge out rates specified.

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7. The provision of information

7.1 Information provided under the Resource Management Act 1991

GWRC may charge for the provision of information in relation to resource consents and regional plans and policies (see section 36(1)(e) and (f) of the RMA).

We recognise that we have a significant advisory and information role. Our aim is to assist you to have access to the information you need to make effective use of your resource consent. To this end, we provide a reasonable amount of information free of charge, as listed below. If more time is spent, or more photocopying required than is allowed for here, the provision of information may be subject to the following charges.

Any charge for information is made in accordance with the following:

1. **Staff time** spent in making information available, or in providing technical advice is charged after the first half hour (except in relation to applications for resource consents) at the following rates:

Hourly charge out rate	Excl. GST
Resource management services from our Environmental Regulation (Technical Support) staff	\$110.00
Resource management services from our Environmental Regulation (Consents & Compliance) staff	\$130.00
Technical or science expert services from our Environmental Science staff	\$145.00

- 2. **Photocopying** charges are 20 cents per A4 page after the first 10 pages
- 3. **All other disbursements** are charged at cost. We may pass on charges to the person requesting the information where the information held by us is subject to agreements with commercial data suppliers who may require us to levy charges

7.2 Local Government Official Information and Meetings Act 1987

Information provided in response to requests under this Act may be charged for under section 13(1A) of the Act. We follow the Ministry of Justice Guidelines for charging, therefore GWRC's costs for responding to information requests will be charged in the following way (GST inclusive):

- The first hour of time spent searching, abstracting, collating, copying, transcribing and supervising access should be free
- \$38 may be charged for each subsequent half hour (or part of this time), irrespective of the seniority of the staff member (unless specialists are required)
- 20c per A4 sized page may be charged after the first 20 pages

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- The actual costs may be recovered for the
 - Provision of documents on computer disks
 - Retrieval of information off-site
 - Reproduction of film, video or audio recording and
 - Provision of maps, plans or other documents large than foolscap size

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8. Environmental incident inspection charges

8.1 Circumstances in which a charge may apply and charges applicable

Where a person (or persons) or organisation carries out an activity in a manner which does not comply with the provisions of section 9, 12, 13, 14, 15, 315, 323, 327, or 329 of the RMA, GWRC will charge that person or organisation for the cost of any inspection it undertakes in relation to that activity. This cost may include:

- 1. Time spent by GWRC officers identifying and confirming that the activity is taking or has taken place
- Time spent by GWRC officers identifying and confirming the person or organisation responsible for causing or allowing the activity to take place or to have taken place
- 3. Time spent by GWRC officers alerting and informing the person or organisation responsible of their responsibilities in relation to the activity, including any suggestions or advice relating to how any adverse effects might be managed
- 4. Staff travel time
- 5. Costs of disbursements (such as laboratory analysis costs, expert or professional services, clean-up costs and materials)

GWRC will only charge for time spent which exceeds 30 minutes. Travel time will be included in the calculation of this time

An initial minimum standard charge of \$260 (2 hours staff time) will apply to all environmental incidents inspected which covers travel time, inspection time, identifying parties, initiating follow up action and advice eg, issuing advisory notice, advice letter, or warning letter

Any additional charges will only be made to allow GWRC to recover its actual and reasonable costs from the perpetrator.

8.2 Charges applicable to consented activities

Where an incident occurs on a site that holds a resource consent and a breach of consent conditions is confirmed, then Section 8.1 does not apply. Any actual and reasonable costs incurred in investigation the incident will be recovered as additional compliance monitoring charges in accordance with Section 4.4.6 of this Policy.

8.3 Authority to charge

These charges are made under section 150 of the LGA.

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8.4 Charge-out rate

The following charge out rates apply:

Hourly charge out rate	Excl. GST
Officers time as per 8.1	\$130.00
Technical or science expert services used to determine a breach of the RMA	\$145.00

8.5 When due

Charges are due within 28 days.

8.6 Relationship of charges to infringement offences

Where we utilise the infringement offences legislation for environmental incidents no charge will be made for preparation of documents relating to the issue of the infringement notice.

8.7 Relationship of charges to enforcement orders and abatement notices

GWRC may also seek reimbursement for any actual and reasonable costs it incurs in inspecting an activity to determine compliance with an enforcement order or abatement notice under section 315 and section 323 of the RMA.

A minimum standard charge of \$260.00 will apply for any follow up visit to confirm full compliance with any abatement notice (or enforcement order) has been achieved, which covers travel time, inspection time, and providing follow up advice.

Any additional charges for a follow up visit to confirm compliance will only be made to allow GWRC to recover its actual and reasonable costs.

8.8 Relationship of charges to the Maritime Transport Act 1994

These charges do not apply to marine oil pollution incidents. These are provided for under the Maritime Transport Act 1994.

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9. Payment of charges

9.1 Date charges become operative

This Policy applies from 1 July 2019 and will continue in effect until amended or replaced under section 36(3) of the Act. We intend to review the Policy on a bi-annual basis.

9.2 When charges are due or invoiced

9.2.1 Application charges

Initial fixed application fees are due prior to commencement of processing applications. We will not commence processing your application until the initial fixed application fees are paid in full.

Additional charges for processing resource consents are invoiced on completion of processing of your consent or when the amount owing exceeds \$2000. This means that for notified consents particularly, we will invoice at regular intervals during the processing of your consent.

9.2.2 Consent monitoring charges

Consent monitoring charges are invoiced in accordance with our Strategic Compliance Monitoring Programme timetable. Various compliance activities are invoiced during the months identified below:

Month	Activity	
July	Air discharges	River works
	Onsite wastewater	 Earthworks
	Forestry	 Bridges & culverts
	Coastal works & structures	
October	Wineries	Reclamation / offset mitigation
	Water takes	 Swing moorings & boatsheds
January	Agricultural effluent	 Municipal wastewater
	Quarries & cleanfills	Municipal water supplies & races
April	• Landfills	 Industrial discharges &
	Urban stormwater	contaminated sites

9.3 Remission of charges

We may remit any charge referred to in this Policy, in part or in full, on a case by case basis, and solely at our discretion (see section 36AAB(1) of the RMA).

9.4 Credit

Credit is not generally available for application charges or consent monitoring charges in this Policy. We will consider staged payments in exceptional circumstances. In some circumstances, we may require full payment of the estimated cost of processing an application prior to initiating work.

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9.5 Debtors and unpaid charges

Under this Policy debtors and unpaid charges are treated like any other outstanding amount owed to GWRC. An outstanding debt will be pursued according to GWRC's procedures which are summarised below:

- Reminders are sent by GWRC Finance staff between 1–3 months after the charge has been processed and sent to you
- If charges are not paid within three months of being processed and sent to you, a final reminder letter is issued by Finance staff. This letter gives a final deadline to pay any unpaid charges

If charges remain unpaid and unresolved after the final deadline, GWRC will place the account in the hands of a collection agency and reserves the right to recover actual and reasonable costs for recovering the unpaid charges. This is through the combination of a minimum fixed charge of \$220 (excl. GST) and any additional actual and reasonable costs for staff time charged at \$110/hour (excl. GST)

9.6 Charges required to be paid

All **application charges** for resource consents or for Plan or Policy Statement changes shall be paid according to the provisions of Sections 3 and 9 of this Policy.

All **consent monitoring charges** for customer services, compliance monitoring, and state of the environment monitoring shall be paid according to the provisions of Sections 4 and 9 of this Policy and the relevant sections in Part 2 of the Policy.

All **permitted activity charges** for shall be paid according to the provisions of Sections 5 and 9 of this Policy and the relevant sections in Part 2 of the Policy.

All **Building Act charges** shall be paid according to the provisions of Sections 6 and 8 of this Policy.

All **provision of information charges** shall be paid according to the provisions of Sections 7 and 9 of this Policy.

All **environmental incidents charges** not related to resource consents shall be paid according to the provisions of Sections 8 and 9 of this Policy.

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Council 25 June 2019, Order Paper - Report to adopt the Annual Plan 2	019/20, Revenue and Financing Policy,	and the Resource Management Ch
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Part 2: Compliance and SOE monitoring charges

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Council 25 June 2019, Order Paper - Report to adopt the Annual Plan 2	019/20, Revenue and Financing Policy, and the Resource Management Ch
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A. Compliance monitoring charges

The compliance monitoring charges for each activity are presented in Table A. This table outlines the various compliance activities, the fixed and variable charges for each activity, and a summary of the compliance monitoring programme.

All fixed charges are invoiced annually at a time based on our Strategic Compliance monitoring programme (see Part 1 Section 9.2.2 of this Policy). Depending on your compliance assessment, the category of your charge may change from year to year.

Most variable charges are invoiced annually at a time based on our Strategic Compliance monitoring programme (see Part 1 Section 9.2.2 of this Policy). They are based on actual and reasonable amount of time spent monitoring your consent since your last invoice. There are some instances where more regular invoicing of your variable charges may apply. This is normally for large projects where significant monitoring occurs on a regular basis.

The compliance monitoring programme is made up of one or all of the following three components

- **Inspections** site inspections (by arrangement or unannounced) to the property or location where the consent activity takes place; and/or
- Auditing a desktop audit of monitoring information submitted by a consent holder; and/or
- **Reporting** GWRC staff report back to consent holders on their compliance rating for their consent

Not all three components are necessarily required for undertaking compliance monitoring programme on a consent. Your consent may be inspected and/or audited. Also for some activities we don't intend to report back to you unless you are not complying with your consent conditions.

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Table A: Compliance monitoring charges (all figures exclude GST)

Compliance activity	Charges	Compliance categories	Compliance monitoring programme	Related SOE charges
Agricultural effluent	Variable charges for non-complying and non-standard agricultural discharges Fixed charges for categories below	DL1 (variable charge)	Inspections and annual compliance report assessed on case by case basis	Discharge to land
	\$325 Standard agricultural discharge	DL2 (ag discharge)	Annual inspection and compliance report completed. For low risk agricultural discharges the monitoring charge will be \$0 in years when monitoring does not occur	
Air discharges	Variable charges based on actual and reasonable costs	DA1 (variable charge)	Inspections determined on an annual basis Compliance report provided following inspection(s)	Discharge to air
Boatsheds	<u>Variable charges</u> for non-standard boatsheds based on actual and reasonable costs <u>Fixed charges</u> for categories below	CP1 (variable charge)	Inspections and annual compliance report assessed on case by case basis	N/A
	\$260 Cost per inspection for consents requiring inspection	CP2 (one inspection)	Inspections determined on an annual basis Compliance report provided following inspection(s)	
Bores	<u>Variable charges</u> for non-standard bores based on actual and reasonable costs <u>Fixed charges</u> for categories below	LU1 (variable charge)	Most consents not inspected and therefore no annual charges	N/A
	\$65 All standard bores	N/A	Applies to most consents – fee included in consent processing charges	N/A
Coastal works, structures, and activities	Variable charges for non-standard consents based on actual and reasonable costs Fixed charges for categories below	CP1 (variable charge)	Inspections and annual compliance report assessed on case by case basis	Coastal
	\$65 Standard coastal works, structures, and activities	N/A	Applies to most consents – fee included in consent processing charges	N/A
	\$260 Cost per inspection for consents requiring inspection	CP2 (one inspection) CP3 (two inspections) CP4 (three inspections)	Compliance report provided following inspection(s)	Coastal
Forestry	Variable charges based on actual and reasonable costs	DW1 (variable charge) DL1 (variable charge) LU1 (variable charge)	Inspections determined on a case by case basis Annual compliance report completed	Discharge to water Discharge to land Land use
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Compliance activity	Charges	Compliance categories	Compliance monitoring programme	Related SOE charges
Industrial, onsite wastewater, contaminated sites	<u>Variable charges</u> for non-standard discharges based on actual and reasonable costs <u>Fixed charges</u> for categories below	DW1 (variable charge) DL1 (variable charge)	Inspections and annual compliance report assessed on case by case basis	Discharge to water Discharge to land
and winery discharges	\$325 High risk discharges	DL3 (high risk discharge)	Annual inspection and compliance report completed	
o	\$130 Low risk discharges	DL4 (low risk discharge)	Inspection once every three years and compliance report completed	
Landfills	Variable charges based on actual and reasonable costs	DW1 (variable charge)	Inspections determined on a case by case basis	Discharge to water
		DL1 (variable charge)	Annual compliance report provided	Discharge to land
		DA1 (variable charge)		Discharge to air
Municipal water	Variable charges based on actual and reasonable costs	WS1 (variable charge)	Inspection only on as needs basis	Surface water takes
supplies & races,		WG1 (variable charge)	Audited every quarter	Groundwater takes
wastewater, and		DW1 (variable charge)	Annual compliance report completed	Discharge to water
urban stormwater		DL1 (variable charge)		Discharge to land
				Coastal discharges
Quarries & cleanfills	Variable charges for non-standard quarries & cleanfills	DW1 (variable charge)	Inspections and annual compliance report assessed on	Discharge to water
	based on actual and reasonable costs	DL1 (variable charge)	case by case basis	Discharge to land
	Fixed charges for categories below	LU1 (variable charge)		
	\$260 Standard quarry or cleanfill	LU2 (one inspection)	Annual inspection and compliance report completed	
Reclamation / offset mitigation	Variable charges based on actual and reasonable costs	LU1 (variable charge)	Inspections and annual compliance report assessed on case by case basis	Land use
River works, bridges & culverts	<u>Variable charges</u> for non-standard consents based on actual and reasonable costs	LU1 (variable charge)	Most consents not inspected and therefore no annual charges	Land use
	Fixed charges for categories below			
	\$65 Standard river works	N/A	Applies to most consents – fee included in consent processing charges	N/A
	\$260 Cost per inspection for consents requiring	LU2 (one inspection)	Compliance report provided following inspection(s)	Land use
	inspection	LU3 (two inspections)		
		LU4 (three inspections)		

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Resource Management Charging Policy (2019)

Compliance activity	Charges		Compliance categories	Compliance monitoring programme	Related SOE charges
RoNS projects and earthworks	Variable charge	Variable charges based on actual and reasonable costs	DW1 (variable charge) DL1 (variable charge) LU1 (variable charge)	Weekly inspections for RoNs projects and large earthworks Less frequency for small earthworks No annual compliance report completed	Discharge to water Discharge to land
Swing moorings	Variable charge on actual and re Fixed charges \$32.50 \$195	Variable charges for non-standard swing moorings based on actual and reasonable costs Fixed charges for categories below \$32.50 Swing moorings – fully complying \$195 Swing moorings – non-complying	CP1 (variable charge) CP5 (moorings complying) CP6 (moorings non-complying)	Inspections and annual compliance report assessed on case by case basis No annual compliance report completed No annual compliance report completed	N/A
water takes Note: Surface water takes include 'Category A or B' groundwater takes from bores/wells where consent specifies a minimum flow condition.	**Standard charges for non-standard and reasonable costs	\$1390 Non-complying takes water takes based on actual and reasonable costs Fixed charges for categories below	WS2 WS3 WS3 WS4 or WG4 WS5 or WG5	Inspections, water use data audit, and annual compliance report assessed on case by case basis No inspection or compliance report completed, annual water use data audit once a year. No inspection or compliance report completed, water use data audit during low flow periods and at end of year. No inspection or compliance report completed, annual water use data audit once a year. No inspection or compliance report completed, water use data audit during low flow periods and at end of year. No inspection, water use data audit and annual compliance report completed.	Surface water takes Groundwater takes Surface water takes Surface water takes Surface water takes Surface water takes Groundwater takes Groundwater takes Groundwater takes
	\$520 N	Non-complying takes with inspection and reporting	WS6 or WG6	Inspection, water use data audit and annual compliance report completed	Surface water takes Groundwater takes

B. State of the Environment (SOE) monitoring charges

The fixed SOE monitoring charges for each consent type are presented in section B.1-B.6.

Further detail on the cost of the SOE monitoring programme is provided in Appendix A.

All land use consents, water permits to dam/divert water, and coastal permits (excluding discharges) that with ongoing effects on the environment receive an annual SOE monitoring charge of \$100. (Note: This does not apply to one-off construction related activities.)

Special SOE monitoring charges apply to the activities shown in Table B.2. These charges are made as the nature and scale of these activities are not fairly reflected in the fixed charges specified in section B.1 – B.6:

Table B.1: Special SOE monitoring charges

Consent holder	Activity	Annual SOE Charge
GWRC, Flood Protection	River works maintenance for all schemes in the region	\$40,000
Wellington Water	Water take from Hutt aquifer	\$60,000
NZTA, Transmission Gully	All works associated with the construction of Transmission Gully	\$60,000
NZTA, Peka Peka to Otaki	All works associated with the construction of Peka Peka to Otaki	\$20,000

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B.1 Surface water takes

The SOE monitoring charge for this consent type is levied on all surface water and groundwater takes ('Category A' and 'Category B' where there is a stream depletion effect managed by a minimum flow) consents. The charge is dependent on:

- The level of stress (based on a low, medium, or high level of allocation) created by water takes in a primary surface water management zone when assessing allocation under the Proposed Natural Resources Plan (PNRP)
- The size of water take based on the maximum instantaneous rate of take in litres/second (for surface water takes from catchments) or average instantaneous rate of take in litres/second from total weekly allocation (for groundwater takes from 'Category A and B' groundwater management zones)

Category 1 – LOW level of allocation (<50% of PNRP allocation limit)

Surface water management zones in PNRP

Kapiti Streams

Te Awarua o Porirua

- Wairarapa coast
- All other catchments not specifically identified in

Otaki

WaitohuWellington City

Connected 'Category A and B' groundwater management zones in PNRP

Otaki

- Te Horo
- Waitohu

Cat. 2 or 3

- Raumati
- Waikanae

Rate of take	Fixed charge	Charge category
0-9.99 litres/sec	\$85	2.3.1.1
10-19.99 litres/sec	\$140	2.3.2.1
20–29.99 litres/sec	\$280	2.3.3.1
30-39.99 litres/sec	\$420	2.3.4.1
40–59.99 litres/sec	\$560	2.3.5.1
60-99.99 litres/sec	\$1,100	2.3.6.1
100–299.99 litres/sec	\$1,700	2.3.7.1
300 + litres/sec	\$2,800	2.3.8.1

Category 2 – MEDIUM level of allocation (50%-80% of PNRP allocation limit)

Surface water management zones in PNRP

- Mangaone
- Ruamahanga (upper)
- Waiohine

- Ruamahanga (middle)
- Tauherenikau

Connected 'Category A and B' groundwater management zones

- Middle Ruamahanga
- Te Horo
- Upper Ruamahanga

- Onoke
- Te Ore
- Waiohine

Tauherenikau

Rate of take	Fixed charge	Charge category
0-9.99 litres/sec	\$140	2.3.1.2
10-19.99 litres/sec	\$280	2.3.2.2

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Rate of take	Fixed charge	Charge category
20–29.99 litres/sec	\$560	2.3.3.2
30-39.99 litres/sec	\$850	2.3.4.2
40–59.99 litres/sec	\$1,100	2.3.5.2
60–99.99 litres/sec	\$1,700	2.3.6.2
100–299.99 litres/sec	\$2,100	2.3.7.2
300 + litres/sec	\$4,200	2.3.8.2

Category 3 – HIGH level of alloc	ation (>80% of PNRP allocation	limit)
Surface water management zones	s in PNRP	
• Booths	 Orongorongo 	 Waikanae
Huangarua	 Otakura 	• Wainuiomata (upper &
Hutt (upper & lower)	 Papawai 	lower)
 Kopuaranga 	 Parkvale 	 Waingawa
Lake Wairarapa	Ruamahanga (lower)	 Waipoua
 Mangatarere 	Ruamahanga (other)	 Whangaehu
Connected 'Category A and B' gro	undwater management zones in l	<u>PNRP</u>
Dry River	 Parkvale 	 Upper Hutt
Huangarua	 Mangatarere 	Upper Ruamahanga
• Lake	 Moiki 	 Waikanae
Lower Hutt	 Onoke 	 Waingawa
Lower Ruamahanga	 Taratahi 	 Waiohine
	 Tauherenikau 	
Rate of take	Fixed charge	Charge category
0-9.99 litres/sec	\$280	2.3.1.3
10–19.99 litres/sec	\$700	2.3.2.3
20–29.99 litres/sec	\$1,000	2.3.3.3
30-39.99 litres/sec	\$1,400	2.3.4.3
40-59.99 litres/sec	\$1,800	2.3.5.3
60-99.99 litres/sec	\$2,800	2.3.6.3
100–299.99 litres/sec	\$4,200	2.3.7.3
300 + litres/sec	\$11,500	2.3.8.3

Surface water takes from catchments - size of take based on maximum instantaneous rate in litres/second

Groundwater takes from connected 'Category A and B' groundwater management zones – size of take based on average instantaneous rate in litres/second from total weekly allocation

For surface water takes where consent holders take water from supplementary allocation for water storage or for frost protection purposes, the applicable SOE monitoring charge may be reduced at the discretion of GWRC. The reason for this is that these activities often abstract large volumes of water for only short periods during the year, often at times where water resources are less stressed (ie, at higher river/stream flows or during spring months when river/stream flows are on average greater).

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B.2 Groundwater takes

The SOE monitoring charge for this consent type is levied on all groundwater take (excluding 'Category A and B' groundwater takes assessed under B.1) consents. The charge is dependent on:

- The level of stress (based on a low, medium, or high level of allocation) created by water takes in a groundwater management zone when assessing allocation under the Proposed Natural Resources Plan (PNRP)
- The size of groundwater take which is based on the annual volume of water taken (in m³)

Category 1 – LOW level of allo	ocation (<50% of PNRP allocation	on limit)
Groundwater management zone	es in PNRP	
TaratahiUpper Hutt	Upper RuamahangaWaitohu	 All other groundwater zones not specifically identified
Rate of take	Fixed charge	Charge category
0-99,999 m ³ /year	\$70	3.3.1.1
100,000-199,999 m ³ /year	\$140	3.3.2.1
200,000–299,999 m ³ /year	\$210	3.3.3.1
300,000–399,999 m ³ /year	\$290	3.3.4.1
400,000–599,999 m ³ /year	\$700	3.3.5.1
600,000–999,999 m ³ /year	\$930	3.3.6.1
1,000,000 + m ³ /year	\$1,400	3.3.7.1

Category 2 – MEDIUM level of allocation (50% - 80% of PNRP allocation limit)		
Groundwater management zone	s in PNRP	
Ruamahanga (other)	Te Horo	 Waingawa
Rate of take	Fixed charge	Charge category
0-99,999 m ³ /year	\$140	3.3.1.2
100,000–199,999 m³/year	\$210	3.3.2.2
200,000–299,999 m ³ /year	\$290	3.3.3.2
300,000–399,999 m ³ /year	\$465	3.3.4.2
400,000–599,999 m ³ /year	\$930	3.3.5.2
600,000–999,999 m³/year	\$1,160	3.3.6.2
1,000,000 + m³/year	\$2,320	3.3.7.2

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Category 3 – HIGH level of allocation (>80% of PNRP allocation limit)					
Groundwater management zones in PNRP					
Dry RiverFernill TiffenHuangaruaLakeLower Hutt	Lower RuamahangaMangatarereMartinboroughOnoke	 Parkvale (confined & unconfined) Raumati Tauherenikau Te Ore Waikanae 			
Rate of take	Fixed charge	Charge category			
0-99,999 m ³ /year	\$280	3.3.1.3			
100,000–199,999 m ³ /year	\$350	3.3.2.3			
200,000–299,999 m ³ /year	\$465	3.3.3.3			
300,000-399,999 m ³ /year	\$700	3.3.4.3			
400,000–599,999 m ³ /year	\$1,160	3.3.5.3			
600,000–999,999 m ³ /year	\$3,500	3.3.6.3			
1,000,000 + m ³ /year	\$5,800	3.3.7.3			

Groundwater takes from Category A and B (where there is a stream depletion effect managed by a minimum flow) groundwater management zones are covered in Section B.1 of this Policy.

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B.3 Discharges to water

The SOE monitoring charge for this consent type is levied on all discharge to water consents as all discharges are considered to cause additional stress on waterways, whereby the consent holder should pay for a proportion of SOE monitoring costs.

The SOE monitoring charge is dependent on the type of discharge to water and the level of contaminants (both quality and quantity) discharged into the receiving environment. The level of contaminants discharged is split into three categories – high, medium, and low.

Nature of contaminants discharged – HIGH	Fixed charge	Charge category
Human wastewater	\$9,000	4.3.1.1
Animal wastewater	\$4,500	4.3.2.1
Stormwater discharges from bulk earthworks	\$2,800	4.3.3.1
Other stormwater discharges	\$2,250	4.3.4.1
Landfill leachate discharges	\$1,680	4.3.5.1
Intermittent discharges	\$1,680	4.3.6.1
Other wastewater	\$1,680	4.3.7.1

Nature of contaminants discharged – MEDIUM	Fixed charge	Charge category
Human wastewater	\$4,500	4.3.1.2
Animal wastewater	\$2,250	4.3.2.2
Stormwater discharges – bulk earthworks	\$1,680	4.3.3.2
Other stormwater discharges	\$1,350	4.3.4.2
Landfill leachate discharges	\$1,120	4.3.5.2
Intermittent discharges	\$1,120	4.3.6.2
Other wastewater	\$1,120	4.3.7.2

Nature of contaminants discharged – LOW	Fixed charge	Charge category
Human wastewater	\$2,250	4.3.1.3
Animal wastewater	\$1,350	4.3.2.3
Stormwater discharges – bulk earthworks	\$1,120	4.3.3.3
Other stormwater discharges	\$450	4.3.4.3
Landfill leachate discharges	\$450	4.3.5.3
Intermittent discharges	\$340	4.3.6.3
Other wastewater	\$340	4.3.7.3

SOE monitoring charges for **stormwater discharges from bulk earthworks** are only applicable if works are undertaken during the year in which consent monitoring charges apply.

Where there are two or more discharge to water consents relating to the same activity, only one SOE monitoring charge applies.

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B.4 Discharges to land

The SOE monitoring charge for this consent type is levied on all discharge to land consents. The charge is dependent on:

- The quality of groundwater in the area where your discharge to land activity occurs, and
- The nature of contaminants discharged to land

The tables below lists three categories of areas in the region in terms of the level of groundwater quality based on GWRC's SOE report, *Groundwater quality in the Wellington region (March 2012)* as follows:

- Category 1 area: Any land area not identified as a category 2 or 3 groundwater management zone.
- Category 2 area: Any groundwater management zone (as defined in the Regional Freshwater Plan) where any bore(s) have been identified as having 'fair' water quality
- Category 3 area: Any groundwater management zone (as defined in the Regional Freshwater Plan) where any bore(s) have been identified as having 'poor' water quality.

Category 1 – All other areas not identified in category 2 or 3 below.				
Nature of contaminants discharged Fixed charge Charge category				
Human wastewater (municipal)	\$1,150	5.3.1.1		
Human wastewater (domestic or small communal)	\$175	5.3.2.1		
Animal wastewater	\$460	5.3.3.1		
Landfill leachate discharges	\$460	5.3.4.1		
Stormwater discharges from bulk earthworks	\$860	5.3.5.1		
Other discharges	\$175	5.3.6.1		

Category 2 – FAIR water quality				
Groundwater management z	ones in RFP			
 Carterton 	 Otaki 	• Wa	ikanae	
 Hodders 	 South Feather 	erston • Wa	inuiomata	
 Mangaroa 	 Tawaha 	• Wa	itohu	
 Mangatarere 	 Upper Hutt 	Upper Hutt • West Taratahi		
 Matarawa 	 Upper Opaki 	• Wo	odside	
 Moroa 	 Upper Plain 			
Nature of contaminants dis	scharged	Fixed charge	Charge category	
Human wastewater (municipal)		\$1,750	5.3.1.2	
Human wastewater (domestic or small communal)		\$230	5.3.2.2	
Animal wastewater		\$575	5.3.3.2	
Landfill leachate discharges		\$575	5.3.4.2	
Stormwater discharges from bulk earthworks		\$860	5.3.5.2	
Other discharges		\$230	5.3.6.2	

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Category 3 – POOR water quality					
Groundwater management zones in RFP					
 Coastal 	 Lower Hutt 				
 East Taratahi 	 Lower Valley 		aces		
Hautere	 Martinboroug Terraces 	gh Eastern ● Te	Ore		
Nature of contaminants discharged Fixed charge Charge category					
Human wastewater (municipal)		\$2,300	5.3.1.3		
Human wastewater (domestic or small communal)		\$290	5.3.2.3		
Animal wastewater		\$690	5.3.3.3		
Landfill leachate discharges		\$690	5.3.4.3		
Stormwater discharges from bulk earthworks		\$860	5.3.5.3		
Other discharges		\$290	5.3.6.3		

SOE monitoring charges for **stormwater discharges from bulk earthworks** are only applicable in the following instances:

- 1. Works are undertaken during the year in which consent monitoring charges apply
- There is no discharge to water consent associated with the same activity. (In this instance the discharge to water consent for the same activity will receive the SOE monitoring charge.)

Where there are two or more discharge to land consents relating to the same activity, only one SOE monitoring charge applies. For example a municipal wastewater discharge may have one consent to discharge contaminants from the base of oxidation ponds and another consent to discharge contaminants to land via irrigation. In such circumstances only one SOE monitoring charge applies.

Where there is an associated discharge to water consent for exactly the same activity, no SOE monitoring charge applies. The SOE monitoring charge is applied to the discharge to water consent.

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B.5 Discharges to air

The SOE monitoring charge for this consent type is levied on all discharge to air consents. Air discharges are assigned one of the four categories as shown in the table below.

Nature of contaminants discharged	Fixed charge	Charge category
Cleanfill, refuse transfer stations, and composting discharges in non-sensitive receiving environments; small community wastewater discharges; abrasive blasting; natural gas fired boiler/generator discharges	\$75	6.2.1
Cleanfill, refuse transfer stations, and composting discharges in sensitive receiving environments; medium/large community wastewater discharges; small scale industrial discharges; landfill discharges with minor environmental effects; crematoria discharges; odour discharges in non-sensitive receiving environments	\$225	6.2.2
Medium scale industrial discharges; all other landfill discharges; odour discharges in sensitive receiving environments	\$1,100	6.2.3
Large scale industrial discharges; significant odour discharges	\$3,000	6.2.4

Where there are two or more discharge to air consents relating to the same activity, only one SOE monitoring charge applies.

In instances where a discharge to air activity does not fit in any of the types of discharge list above, GWRC will exercise its discretion as to which SOE category applies based on the nature and scale of contaminants discharged.

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B.6 Coastal discharges

The SOE monitoring charge for this consent type is levied on all consents that discharge contaminants to coastal water. All discharges are considered to cause additional stress on coastal waters, whereby the consent holder should pay for a proportion of SOE monitoring and investigations.

The SOE monitoring charge is dependent on the type of discharge to water and the level of contaminants (both quality and quantity) discharged into the receiving environment. The level of contaminants discharged is split into three categories – high, medium, and low.

Nature of contaminants discharged – HIGH	Fixed charge	Charge category
Human wastewater	\$9,000	7.1.1.1
Stormwater discharges	\$2,250	7.1.2.1
Intermittent discharges	\$1,680	7.1.3.1
Other wastewater	\$1,680	7.1.4.1
Stormwater discharges from bulk earthworks	\$2,800	7.1.5.1

Nature of contaminants discharged – MEDIUM	Fixed charge	Charge category
Human wastewater	\$4,500	7.1.1.2
Stormwater discharges	\$1,350	7.1.2.2
Intermittent discharges	\$1,120	7.1.3.2
Other wastewater	\$1,120	7.1.4.2
Stormwater discharges from bulk earthworks	\$1,680	7.1.5.2

Nature of contaminants discharged – LOW	Fixed charge	Charge category
Human wastewater	\$2,250	7.1.1.3
Stormwater discharges	\$450	7.1.2.3
Intermittent discharges	\$340	7.1.3.3
Other wastewater	\$340	7.1.4.3
Stormwater discharges from bulk earthworks	\$1,120	7.1.5.3

SOE monitoring charges for **stormwater discharges from bulk earthworks** are only applicable if works are undertaken during the year in which consent monitoring charges apply.

Where there are two or more discharge to water consents relating to the same activity, only one SOE monitoring charge applies.

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Appendix 1 - SOE monitoring charges

Table A: Environmental Science Department - Project codes and costs

Project	Project Code	Total operating expenses	% Consent holder activity	Consent holder operating expenses
Administration, Staff Costs, and Data Manage	ment/Databases			
Administration & Staff Costs	336/1/1	\$3,615,517	8*	\$289,241
Data Management/Databases	336/3/5	\$163,206	15	\$24,481
3		Sub Total	L	\$313,722
Other				
Science & Research	336/1/3	\$54,960	0	\$0
Science Research Strategy	336/1/6	\$75,109	0	\$0
Science Information Management	336/3/14	\$85,734	0	\$0
Citizen Science	336/11/5	\$15,000	0	\$0
Matauranga Maori	335/6/4/6	\$176,107	5	\$8,805
Catchment monitoring - Porirua	336/4/4/19	\$28,800	15	\$4,320
Catchment monitoring – Ruamahanga	336/4/4/20	\$35,500	15	\$5,325
Catchment monitoring – Wgton Harbour	336/4/4/21	\$15,500	15	\$2,325
Special Projects***	336/4/8	\$54,393	15	\$8,159
State of the Environment	336/4/3/1	\$62,064	5	\$3,103
		Sub Total		\$32,038
Air and Climate				
Air Quality Monitoring	336/3/9	\$187,319	5	\$9,366
Climate	336/4/5/10	\$30,000	0	\$0
Ambient Air Quality	336/4/5/2	\$15,318	5	\$766
Meteorological Monitoring	336/4/5/3	\$18,285	5	\$914
Transport Emissions	336/4/5/4	\$21,757	0	\$0
Air Quality Investigations	336/4/5/5	\$101,051	15	\$15,158
, ,		Sub Total		\$26,204
Aquatic Ecosystems & Quality				
River Water Quality & Ecology	336/4/4/1	\$411,320	30	\$123,396
Ambient Coastal Monitoring & Investigations	336/4/4/3	\$182,520	30	\$54,756
Targeted Surface Water Quality Investigation	336/4/4/6	\$92,888	30	\$27,866
Recreational Water Quality	336/4/4/7	\$171,375	15	\$25,706
Lake Monitoring & Investigations	336/4/4/13	\$83,190	30	\$24,957
Didymo	336/4/4/14	\$14,219	0	\$0
Porirua Harbour Strategy	336/4/4/17	\$53,208	15	\$7,981
		Sub Total		\$264,663
Hydrology				
Surface Water Hydrological Monitoring	336/3/4	\$646,676	30	\$194,003
Groundwater Level Monitoring	336/3/6	\$198,425	30	\$59,527
Instream Flow Assessment	336/4/4/8	\$63,338	100	\$63,338
Groundwater Hydrology	336/4/1/1	\$160,921	30	\$48,276
Surface Water Hydrology	336/4/4/9	\$173,998	30	\$52,199
Telemetering of Surface Water Takes	336/4/4/15	\$6835	100	\$6,385
		Sub Total		\$424,179

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Terrestrial Ecosystems & Quality				
Land Monitoring	336/4/6/1	\$69,010	30	\$20,703
Contaminated Sites	336/4/7/1	\$84,025	30	\$25,208
Groundwater Quality Monitoring	336/3/7	\$162,501	30	\$48,750
Ambient Groundwater Quality	336/4/1/7	\$80,000	5	\$4,000
Research and Survey	336/10/1/2	\$119,524	5	\$5,976
Terrestrial SoE Monitoring	336/10/1/3	\$113,288	5	\$5,664
Performance Monitoring	336/10/1/4	\$120,079	5	\$6,004
SMap	336/11/1	\$325,000	15	\$48,750
Wetlands Tier 2 and 2	336/11/2	\$57,107	15	\$8,566
Tier 2 Monitoring	336/11/3	\$66,000	15	\$9,900
Wairarapa Moana biodiversity monitoring	336/10/3/2	\$38,131	30	\$11,439
Wainuiomata Mainland Island	336/10/3/3	\$16,000	0	\$0
		Sub Total		\$194,961
Services				
All services	Various	\$1,719,498	0	\$0.00
		Sub Total		\$0.00

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	Total	Consent holder
	operating	operating expenses
	expenses	
Total cost	\$9,984,697	\$1,255,766

Notes to Table A

0% – No costs could be assigned from the work undertaken to consent holder activity

5% – Some benefit from the programme could be assigned to consent holder activity but predominantly of benefit to the public (typically would include terrestrial and aquatic monitoring that may be of natural state)

15% – Programme has medium benefit to the consent holder

30% – The benefit that a standard SOE programme is considered to have for a consent holder, this recognises that $\sim 30\%$ of sites and work occasioned by Council in monitoring is a result of consent holder activity

100% – The programme is occasioned by consent holder activity. An example is telemetering water takes whereby the work is undertaken purely to assist water take consent holders

Consent holder activity – Included where work is known to be generated as a result of that activity

* An 8% consent holder recovery has been applied to administration and staff costs which is reduced from 15% in previous Policy.

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Table B: Costs assigned to consent types

Project	Schedule 1 Land use consents			Schedule 2 Surface water takes		Schedule 3 Groundwater takes	
	%	Cost	%	Cost	%	Cost	
Administration, Staff Costs, and Data							
Management/Databases	5%	\$15,686	35%	\$109,802	20%	\$62,744	
<u>Other</u>							
Special Projects & Mataurangi Maori	5%	\$848	35%	\$5938	20%	\$3393	
State of the Environment	10%	\$310	25%	\$776	25%	\$776	
Catchment monitoring	5%	\$599	35%	\$4190	20%	\$2394	
Air and Climate	0%	\$0	0%	\$0	0%	\$0	
Aquatic Ecosystems & Quality River Water Quality & Ecology, Lake Monitoring & Investigations, Targeted Surface Water Quality Investigation, Recreational Water Quality	10%	\$20,193	25%	\$50,481	5%	\$10,096	
Porirua Harbour Strategy & Coastal Monitoring & Investigations	0%	\$0	0%	\$0	0%	\$0	
Hydrology Surface Water Hydrological Monitoring, Surface Water Hydrology	5%	\$12,310	70%	\$172,342	10%	\$24,620	
Groundwater Level Monitoring, Groundwater Hydrology	0%	\$0	20%	\$21,561	60%	\$64,682	
Telemetering of Water Takes	0%	\$0	70%	\$4,784	30%	\$2,050	
Instream Flow Assessment	0%	\$0	70%	\$44,337	10%	\$6,334	
Terrestrial Ecosystems & Quality Land Monitoring, Research & Survey, Terrestrial SOE Monitoring Groundwater Quality Monitoring, Ambient	0% 0%	\$0 \$0	10%	\$3,234 \$10,550	10% 20%	\$3,234 \$10,550	
Groundwater Quality	0 70	ΨΟ	2070	ψ10,330	2070	ψ10,330	
Contaminated Sites	0%	\$0	0%	\$0	0%	\$0	
SMap	0%	\$0	15%	\$7,313	15%	\$7,313	
Wetlands (Tier 1 & 2) Monitoring	0%	\$0	0%	\$0	30%	\$5,540	
Performance Monitoring	0%	\$0	0%	\$0	0%	\$0	
Wairarapa Moana biodiversity monitoring	0%	\$0	20%	\$2,288	0%	\$0	
	Total costs Schedule 1 Land use consents \$49,946		Total costs Schedule 2 Surface water takes \$437,595		Total costs Schedule 3 Groundwater takes \$203,727		

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Project	Schedule 4 Schedule 5 Discharges to water Discharges to land			Schedule 6 Discharges to air		
	%	Cost	%	Cost	%	Cost
Administration, Staff Costs, and Data						
Management/Databases	15%	\$47,058	5%	\$47,058	10%	\$31,372
<u>Other</u>						
Special Projects & Mataurangi Maori	15%	\$2545	15%	\$2545	10%	\$1696
State of the Environment	10%	\$310	20%	\$621	10%	\$310
Catchment monitoring	20%	\$2394	20%	\$2394	0%	\$0
Air and Climate	0%	\$0.00	0%	\$0.00	100%	\$26,204
Aquatic Ecosystems & Quality River Water Quality & Ecology, Lake Monitoring & Investigations, Targeted Surface Water Quality Investigation,	40%	\$80,770	20%	\$40,385	0%	\$0
Recreational Water Quality Porirua Harbour Strategy & Coastal Monitoring & Investigations	80%	\$50,190	20%	\$12,547	0%	\$0
Hydrology Surface Water Hydrological Monitoring, Surface Water Hydrology	10%	\$24,620	5%	\$12,310	0%	\$0
Groundwater Level Monitoring, Groundwater Hydrology	10%	\$10,780	10%	\$10,780	0%	\$0
Telemetering of Water Takes	0%	\$0	0%	\$0	0%	\$0
Instream Flow Assessment	20%	\$12,668	0%	\$0	0%	\$0
Terrestrial Ecosystems & Quality Land Monitoring, Research & Survey, Terrestrial SOE Monitoring	10%	\$3,234	70%	\$22,641	0%	\$0
Groundwater Quality Monitoring, Ambient Groundwater Quality	10%	\$5,275	50%	\$26,375	0%	\$0
Contaminated Sites	10%	\$2,521	90%	\$22,687	0%	\$0
SMap	0%	\$0	70%	\$34,125	0%	\$0
Wetlands (Tier 1 & 2) Monitoring	0%	\$0	70%	\$12,926	0%	\$0
Performance Monitoring	0%	\$0	100%	\$6,004	0%	\$0
Wairarapa Moana biodiversity monitoring	70%	\$8,008	10%	\$1,144	0%	\$0
	Total costs Schedule 4 Discharges to water \$250,373		Total costs Schedule 5 Discharges to land \$254,542		Total costs Schedule 6 Discharges to air \$59,583	

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Attachment 2 to Report 19.270

REVENUE AND FINANCING POLICY 2019

Greater Wellington Regional Council

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Core provisions

1. Introduction

The Revenue and Financing policy describes how Greater Wellington Regional Council (Council) intends to fund its expenditure. It outlines:

- the sources of funding that Council intends to use, and
- the relative level of funding from each source, for each activity.

2. Considerations for this policy

In developing the policy, Council has considered the specific matters required by section 101 (3)(a) of the Local Government Act 2002 (LGA). Council then considered the overall impact of any allocation of liability for revenue needs on the community. The funding indications in the <u>Funding for Activities</u> section of this policy are the end result of this process.

3. Valuation system

Council has chosen to use capital value as its valuation system for general rates.

Council has chosen to use capital value as the valuation system for the following targeted rates:

- Public transport
- Wellington Regional Strategy
- Some drainage schemes
- Land management rates
- River rates
- Some river management scheme rates

Council has chosen to continue to use land value as the valuation system for some river management scheme rates and drainage scheme rates.

Equalised capital value

Within the region, different territorial authorities undertake general revaluations at different times. To equalise the values, each year Council gets Quotable Value or another registered valuer to estimate the projected valuations of all the rateable land in the districts within the region. This estimation is enabled under s131 of the Local Government Rating Act.

This means that rates are assessed on a consistent valuation basis, regardless of the timing of individual territorial authority revaluations.

4. Operational considerations

Council contracts the territorial authorities within the region to collect regional rates on our behalf. This has several benefits:

- Residents and ratepayers only have to fund one rates collection service, for rates from both the territorial authority and the regional council.
- Information about each property is only captured in one Rating Information Database, so that Councils within the
 region do not have data coordination and synchronisation issues.
- Ratepayers only have to pay one bill, which may be paid in instalments.

5. Funding for operating expenditure

As a general rule, Council will fund its operating expenditure, including interest on debt, and principal repayments, from:

- rates
- water levies
- grants and subsidies
- fees and charges
- interest and dividends from investments
- and any other source, which may include reserves from time to time.

Council may decide to use debt funding for operating expenditure in the following situations:

- Where the cost or additional cost is expected to be one-off in nature. For example, a spike in insurance premiums.
- Where a loss of revenue is expected to be one-off or relatively short-term in nature. For example, loss of revenue as
 a consequence of the Kaikoura earthquake in November 2016.

- Where the expenditure will provide a future benefit. For example:
 - Council may fund rail track renewals where a third party owns the tracks, to provide a better public transport service.
 - Council may use debt to fund its contributions to the Wellington transport planning project "Let's Get Welly Moving".

6. Funding for capital expenditure

Council has large infrastructural assets with long economic lives that yield long-term benefits (particularly water supply assets, flood protection assets and rail rolling stock). Debt is an efficient and appropriate mechanism for achieving inter-generational equity, so that current and future ratepayers are liable for funding the value of the assets they use.

Council primarily funds capital expenditure using:

- borrowings (debt)
- proceeds from asset sales
- reserve funds.

On a case by case basis, Council may decide to fund some capital expenditure from operating revenue.

7. Funding sources

Council may use any of these funding sources for its expenditure:

- General rates
- Targeted rates
- · Grants and subsidies
- Fees and charges
- Interest and dividends from investments
- Lump sum contributions
- Borrowings
- · Proceeds from asset sales
- Any other source (including reserves).

General rate

The general rate is a charge on the community as a whole, to fund Council activities. It is not a charge for the use of a service.

The general rate is mainly used to fund public good activities that benefit the region as a whole.

The general rate is used to fund more than 80% of each of the following activities:

- Regional leadership
 - o Mana whenua engagement
 - Emergency management
 - o Democratic services
 - Wairarapa water use project
- Environment
 - o Resource management Policy and planning
 - o Environmental science State of Environment monitoring
 - o Land management advice
 - Biodiversity management
- Flood Protection
 - Understanding Flood Risk
- Parks.

The general also rate funds a portion of these Environment activities:

- o Resource management Compliance and enforcement
- o Land management Farm plans and advice
- $\circ \hspace{0.5cm} \text{Land management catchment schemes} \\$
- Pest management
- o Harbour management.

A general rate differential

We are proposing a differential be applied to the general rate within Wellington City. The objective of this option is to address the impact of the allocation of rates within Wellington city in accordance with s101(3)b of the Local Government Act.

Council has concluded that the following differentials within Wellington City take account of the significant up and downward movements in rates the City is currently experiencing with residential property value rising much faster than total business values, as well as the demolition or damage to many commercial buildings following the Kaikōura earthquake and the conversion of further office buildings to residential. This is designed to ensure that different property rating types pay an equitable share of the increased cost of providing services in 2019/20.

Residential	1
Wellington CBD business	1.7
Business	1.3
Rural	1

Uniform Annual General Charge (UAGC)

Council does not use a Uniform Annual General Charge.

Targeted rates

Council may use targeted rates for any of the following reasons:

- to fund rates on properties that receive a particular and direct benefit from an activity.
- to be transparent about the rate funding requirements for some specific groups of activities.

Council uses targeted rates to fund all or some of the following activities:

- Regional Leadership Wellington Regional Strategy
- Regional Leadership Warm Greater Wellington
- Regional Leadership Water Wairarapa
- Public Transport
- Environment Land management Catchment schemes
- Environment Land management Drainage schemes
- Environment Pest management Regional predator control programme
- Flood Protection Maintaining flood protection and control works
- Flood Protection Improving flood security

Water levies

Council provides bulk water to four city councils (Wellington, Hutt, Upper Hutt, and Porirua) and it levies them for the wholesale supply, based on the volume of water that is supplied to each city.

Grants and subsidies

Various central government agencies provide subsidies for a range of the work that Council does. Council's main source of government subsidies is the New Zealand Transport Agency (NZTA), for regional public transport. NZTA provides subsidies for Council's transport planning and programmes, and for public transport services.

Council receives a government subsidy in recognition of the national benefit provided to civil defence by our emergency management activity.

The Crown contributes to some activities and programmes including some erosion control programmes, and pest management services.

Fees and charges

Fees and charges are preferred as a funding mechanism when a private benefit can be identified, and it is efficient to collect the revenue.

Council may receive fee and charges revenue from:

- Service charges to:
 - public transport users (as fares)
 - o commercial harbour users, for navigation and communication services

ATTACHMENT 5 TO REPORT 19.109 – DRAFT REVENUE AND FINANCING POLICY

- o resource consent applicants, for processing and monitoring resource consents
- landowners, for land management activities on their land
- o territorial authorities and utilities, for water supply services
- o territorial authorities, for pest management activities on their land
- o other recipients of Council services.
- Rents, lease revenue and fees, for the use of Council assets, including properties owned by Council and leased to third parties.
- Sales revenue from:
 - o the Akura Conservation Centre
 - gravel extraction for flood protection activities
 - o sundry other sales.
- Management and other fees, for administrative support to council-controlled organisations.
- Any other charges that Council may set from time to time.

Interest and dividends from investments

Council uses dividends from its equity investments to reduce general rates.

Council uses interest earned on other financial deposits to reduce general rates.

Any interest or other revenue that Council earns on its special funds is added to each fund, because these funds have been set up primarily for self-insurance purposes.

Borrowing

Council raises external debt primarily to:

- Fund Council's capital expenditure programme
- · Manage timing differences between cash inflows and outflows and to maintain appropriate liquidity
- Fund other investment activity, usually when the benefit is for more than one year.

Council approves the overall borrowing programme during the annual planning process.

Proceeds from asset sales

Council generally uses proceeds from the sale of assets and investments to repay debt. Where Council intends to replace an asset, then the proceeds from the sale are used to help fund the replacement asset.

Reserve funds

From time to time Council uses surplus funds from previous years (in the form of reserves) to fund expenditure. There is a formal process for establishing and using these specific reserves which is undertaken as part of the annual reporting and planning process. Council does not hold reserves in the form of cash assets.

Reserves are used to reduce external borrowing, therefore reducing interest expense. When reserves are required to be used, new debt is raised to fund expenditure.

8. Differential rates

Council proposes to use a rating differentials for general rates for the 2019/20 year as set out in section 7.

Council uses differential rates for-targeted rates for:

- Public Transport
- Flood Protection Property rates, which apply to specific properties within river management, drainage, and
 catchment schemes within the Wairarapa. Generally, these rates are made on a differential land area basis. They are
 apportioned to reflect the benefit to each separately rateable property in the part of the district benefiting from the
 scheme, on the basis of the area and the classification of the property as it appears in the approved classification
 register.

9. Transition provisions

In 2018, Council-introduces a new approach to differential rate funding for Public Transport. These changes will have variable impacts on different categories of ratepayers, and would potentially cause large one-off increases.

Over the next six years, there will also be changes in the relative values of properties depending partly on their location (within each territorial authority) and their land use (residential, business, rural, Wellington CBD). Council cannot predict these changes, but they will affect the funding that is required from each location, or from each rating category.

Council will use differentials to transition the Public Transport rate to the new funding policy over the next six years, using the funding requirements from 2017/18 as the baseline.

10. Discounts

Council does not apply discounts to any rates.

11. Separately used part

Council policy is to rate the "separately used or inhabited part" of a rating unit for the following rates:

- Wellington Regional Strategy
- Rates that apply to specific properties within river management schemes within the Wairarapa.
- Land management scheme rates-that apply to specific properties within river management schemes within the Wairarapa.

Funding for Activities

12. Funding policy indications

Council's policy on the funding from each main source is shown in this section, at the bottom of the table for each activity. The funding percentages given in each table are an indication of Council's policy preference, but Council expects that there will be some variation in the revenue actually received for each activity in any one year. Council notes that it cannot always control the amount of funding it receives from any source.

13. Two stage approach

In developing this policy. Council used a two-stage approach.

For each activity, Council considered the s101(3)(a) matters in the Local Government Act 2002. These are summarised as-

Primary community outcomes

Each group of activities contributes primarily to achieving one of these community outcomes:

- Strong economy
- Connected community
- Resilient community
- Healthy environment
- Engaged community

Distribution of benefits

The distribution of benefits between the community as a whole, any identifiable part of the community, and individuals

Timeframe of benefits

Most activities provide ongoing benefits. Where an activity provides benefits that will last for future generations we have noted this too.

Contributors to need for activity

These contributors are any individuals or groups who, through their action, or inaction, contribute to the need to undertake the activity. For example, polluters create a need for Council to clean up the mess or make rules about how it is to be reduced or cleaned up.

Costs and benefits of funding activity distinctly

There are costs and benefits, including consequences for transparency and accountability, of funding an activity separately, whether by user charges or targeted rates or a combination of these.

Council then considered the overall impact of any allocation of liability for revenue needs on the community. That process led Council to decide on the funding policy indications shown for each activity.

14. Regional leadership

Relationships with mana whenua

Council builds and maintain constructive partnership relationships with iwi and Māori of the region to support Maori participation in decision making to deliver Council's outcomes.

Community outcome	Engaged community
Purpose / rationale for activity	This activity enables Council to build and maintain constructive partnership relationships with iwi and Māori of the region.
Who benefits? How are the benefits distributed?	Mana whenua benefit from a partnership approach to managing the natural environment ensures that iwi fulfil their obligations as natural managers of the world, through their kaitiaki roles and responsible. Regional communities benefit from the quality of decision making that is enabled when mana whenua participate in decisions that affect them.
Timeframe of benefits	Ongoing
Does anyone cause Council to provide this service?	No.
Rationale for separate funding	There is no particular need to fund this activity separately. Council reports on the service performance for this activity in its annual report.

Funding policy indication

Activity	User charges	Subsidies	Targeted rate	General rate
Relationships with mana whenua				100%

Regional transport planning and programmes

Council plans for the long-term development of the region's land transport network.

Community outcome	Connected community
Purpose / rationale for activity	A plan for development of the region's land transport network is essential for integration with territorial authority plans, and to enable the efficient transport of people and goods.
Who benefits? How are the benefits distributed?	The community as a whole benefits from transport infrastructure planning services.
Timeframe of benefits	Ongoing
Does anyone cause Council to provide this service?	No.
Rationale for separate funding	There is no particular need to fund this activity separately. Council reports on the service performance for this activity in annual report.

Activity	User charges	Subsidies	Targeted rate	General rate
Regional transport planning and		About 52% from		Balance of the funding.
programmes		NZTA		

Wellington Regional Strategy

Council supports growth and economic development in the region.

Community outcome	Strong economy
Purpose / rationale for activity	Council promotes economic growth, and hosts this activity on behalf of the region.
Who benefits? How are the benefits distributed?	Business communities are the primary beneficiaries of economic growth and increased wealth within the region.
	The community as a whole benefits to a lesser extent.
Timeframe of benefits	Ongoing.
Does anyone cause Council to provide this service?	No
Rationale for separate funding	Separate funding enables Council to apply revenue requirements that are consistent with the levels of benefit that different ratepayer categories receive. Separate funding also supports accountability and transparency to the ratepayers who fund the activity

Funding policy indication

Activity	User charges	Subsidies	Targeted rate	General rate
Wellington Regional Strategy			100%, charged on differential basis by land use, being-	
			a uniform charge on residential and rural ratepayers	
			 a capital value basis for businesses. 	

Emergency management

 $Council \ contributes \ to \ emergency \ preparedness \ and \ management \ services \ within \ the \ region.$

Community outcome	Resilient community	
Purpose / rationale for activity	Wellington region has a wide range of natural hazards (earthquake, flooding, landslide tsunami, storm) and hazard risks (biological, chemical, terrorism, other), and the region wants to be prepared to provide emergency services	
Who benefits? How are the benefits distributed?	The community as a whole benefits from these services	
Timeframe of benefits	Ongoing	
Does anyone cause Council to provide this service?	No	
Rationale for separate funding	There is no particular need to fund this activity separately. Council reports on the service performance for this activity in the annual report.	

Activity	User charges	Subsidies	Targeted rate	General rate
Emergency management				100%

Democratic services

Council conducts democratic elections that are free from interference. Council supports elected members to engage with their communities and to make informed decisions.

Community outcome	Engaged community	
Purpose / rationale for activity	Democracy services enable citizens and communities to engage with decision makers for the benefit of the region. These services also support Councillors in the performance of their roles	
Who benefits? How are the benefits distributed?	The community as a whole benefits from these services.	
Timeframe of benefits	Ongoing	
Does anyone cause Council to provide this service?	No	
Rationale for separate funding	There is no particular need to fund this activity separately. Council reports on the financial and service performance for this activity in its annual report	

Funding policy indication

Activity	User charges	Subsidies	Targeted rate	General rate
Democratic services				100%

Regional initiative - Warm Greater Wellington

Council provides funding for home insulation. The communities in Wainuiomata and Masterton are also offered funding for clean heating because the air sheds in those areas have breached the national standards for air quality.

Community outcome	Resilient community
Purpose / rationale for activity	Good quality insulation helps keep the heat in during winter and out during summer. This makes houses easier and cheaper to heat properly, and more comfortable and healthy to live in.
Who benefits? How are the benefits distributed?	The major beneficiaries are those ratepayers who take up the funding. Wainuiomata and Masterton will also benefit when their airsheds no longer breach quality standards, because Council will then be able to approve consents for industrial discharges to air.
Timeframe of benefits	Ongoing
Does anyone cause Council to provide this service?	No
Rationale for separate funding	Separate funding enables Council to target those who benefit from the activity.

Activity	User charges	Subsidies	Targeted rate	General rate
Regional initiative - Warm Greater Wellington			100%	

Regional initiative - Water Wairarapa

Council is exploring water storage options for agriculture, horticulture, and municipal uses in the Wairarapa.

Community outcome	Strong economy	
Purpose / rationale for activity	Water storage options may increase the productive efficiency of agriculture and horticulture in the Wairarapa. It may also provide additional water for municipal and other community uses in the area.	
Who benefits? How are the benefits distributed?		
Timeframe of benefits	Ongoing	
Does anyone cause Council to provide this service?	No.	
Rationale for separate funding	Separate funding would enhance transparency and accountability for this activity.	

Funding policy indication

Activity	User charges	Subsidies	Targeted rate	General rate
Regional initiative - Water Wairarapa				100%

The funding source for any expenditure beyond 2018/19 will be reviewed by Council if the project proceeds beyond that date.

15. Public transport

Community outcome	Connected community
Purpose / rationale for activity	Public transport makes a significant contribution to the region's economic prosperity in a way that is environmentally and socially sustainable.
Who benefits? How are the benefits distributed?	Private benefits Public transport benefits the people who use it directly, enabling them to get to work, school, retail, and social activities. Public benefits • More efficient land use and compact urban environments support the regional economy. The concentration and efficiency of economic activity, especially in the regional CBD and other commercial centres is increased by public transport. • Employers in the regional business hub (Wellington CBD) and the other regional business centres can attract staff from throughout the region. • Freight can travel more cheaply on less congested roads. • Any industry or activity that relies on people coming together from different parts of the region, including retail, hospitality, and education industries. • Efficient movement of private vehicles benefits everyone who drives on congested roads that are served by public transport, and it reduces the cost of goods and services to the whole region. Environmental benefits The region as a whole benefits from reduced emissions because of shorter private journey times, and because there are fewer vehicles on the road when people use public transport. Health and safety benefits • The whole region benefits from fewer vehicles on roads, and safer driving. • More liveable environments. • The whole region benefits from fewer vehicles on roads, and safer driving. Urban / rural benefits Urban communities are significant beneficiaries of public transport, but rural communities do not benefit to the same extent.
Timeframe of benefits	Ongoing.
Does anyone cause Council to provide this service?	No.
Rationale for separate funding	Public transport is the single largest activity that Council funds. A mixture of user charges (fares) and targeted rates provide transparency to service users, residents, ratepayers, and funders about the costs and relative shares paid by different groups.

Activity	User charges	Subsidies	Targeted rate	General rate
Public transport	35-50% from fares and other user charges	The maximum contribution from Crown agencies, primarily New Zealand Transport Agency (NZTA), Overall, intend to collect 25-35% from NZTA although this may be significantly higher for some specific programmes and investments.	25-35%, calculated on ECV, with differentials based on land use and by location.	

Council applies user charges (fares) for the private benefits gained by people who use public transport.

Council has concluded that the following differentials take account of the specific public and private benefits of public transport, while also taking account of the overall impacts of Council's funding requirements.

Residential (excluding Wairarapa)	1
Residential (Wairarapa and Otaki rating units)	0.5
Wellington CBD	7
Business (excluding Wairarapa)	1. 4
Business (Wairarapa)	1
Rural	0.25

Council will apply the new differentials as a targeted rate, based on ECV. All properties within each differential category will pay the same rates per \$100,000 of ECV.

Council may review these differentials at any time, and particularly if there are major changes in future funding requirements.

This is a considerable change from the previous policy which allocated costs based on a complex set of inputs.

Council will take six years to transition the rates onto the new policy. Until the transition is complete, Council will calculate an annual transition differential so that rates progressively shift to their new levels for each category of land use, and for each location.

16. Water supply

Council provides bulk water to four participating territorial authorities (the cities of Wellington, Hutt, Upper Hutt, and Porirua).

Community outcome	Strong economy, healthy environment, resilient community		
Purpose / rationale for activity	Clean, safe drinking water is essential for life. It is also used for- residential purposes (gardens, swimming pools) community purposes (parks, swimming pools, schools, hospitals, turf, and other recreation services). industrial purposes (hygiene, other uses).		
Who benefits? How are the benefits distributed?	The participating territorial authorities benefit from- • being able to provide potable water for their residents • the efficiency of a coordinated water collection, treatment, and distribution system.		
Timeframe of benefits	Ongoing		
Does anyone cause Council to provide this service?	No		
Rationale for separate funding	Funding water supply services distinctly from other services has benefits for transparency and accountability. Because water is supplied in bulk to territorial authorities, a volumetric levy is a fairer and more efficient funding tool.		

Activity	User charges	Subsidies	Targeted rate	General rate
Water supply	95%-100% volumetric levy on the participating territorial authorities.			
	User charges may also be applied to other bulk water users.			

17. Environment

Resource management - Policy and planning Environmental science - State of Environment monitoring

Community outcome	Healthy environment, engaged community.		
Purpose / rationale for activity	Council regulates the use and development of the environment via the Regional Plan and other planning documents, to ensure that natural and physical resources are managed sustainably.		
Who benefits? How are the benefits distributed?	The community as a whole benefits from the policy, planning and monitoring services. Territorial authorities and individuals, benefit from Council's State of the Environment monitoring information.		
Does anyone contribute to Council's need to provide this activity?	Everyone uses the region's natural resources to some extent.		
Rationale for separate funding	Because the community as a whole is the main beneficiary, there is no particular benefit from distinct funding.		

Funding policy indication

Activity	User charges	Subsidies	Targeted rate	General rate
Resource management - Policy and planning				100%
Environmental science - State of Environment monitoring	10-20%			80-90%

Resource management – Consents Resource management – Compliance and enforcement

Pollution prevention and control

Community outcome	Healthy environment		
Purpose / rationale for activity	Council implements the Regional Plan, with consent, compliance, and pollution services.		
Who benefits? How are the benefits distributed?	Consent applicants benefit from information services. Consent holders benefit from the right to use regional resources, and from monitoring services, because consents may be granted with greater confidence / certainty about the potential impacts.		
Does anyone contribute to Council's need to provide this activity?	Polluters, create the need for pollution controls People who want to use the region's resources create the need for an allocation system.		
Rationale for separate funding	These services are best funded jointly with other Resource management activities.		

Activity	User charges	Subsidies	Targeted rate	General rate
Resource management – Consents	100%, consent applicants			
Resource management – Compliance and enforcement	100% consent holders			Up to 100% for investigations where a
Resource management – Pollution prevention and control	100% identified polluters			liable party cannot be identified.

Land management

- Farm plans, and Farm environment plans, to reduce erosion in the eastern Wairarapa hills, and to support intensively farmed (dairy) areas in Wairarapa and Otaki.
- Wellington Regional Erosion Control Initiative
- · Land management advisory services, mainly in the Wairarapa
- Erosion scheme services and coordination services to rural properties in the Wairarapa.

Community outcome	Healthy environment		
Purpose / rationale for activity	Council seeks to mitigate the environmental impacts of farming, because land management practices can affect soil erosion, soil health water quality, and the health of streams, rivers, and the coast.		
Who benefits? How are the benefits distributed?	 Farmers benefit from- stabilised soils and reduced erosion. water and drainage schemes that enable greater productive use of the land. reputation benefits from clean operations. Rural communities benefit from local catchment schemes that protect local infrastructure (roads, utilities). The community as a whole benefits when farmers reduce their nutrient and sediment discharges. 		
Does anyone cause Council to provide this service?	Farmers who allow stock to graze in or adjacent to waterways. Farmers who allow nutrients to leach into waterways.		
Rationale for separate funding	Because the activity is predominantly focused on services to rural businesses, there are transparency benefits from separate funding.		

Funding policy indication

Activities and programmes	User charges	Subsidies	Targeted rate	General rate
Farm plans	70%			30%
Farm environment plans	50%			50%
Wellington Regional Erosion Control Initiative	40%	30% Crown		30%
Land management advice				100%
Land management erosion schemes	50%-100% to be met from targeted or scheme rates or a direct contribution from both the direct beneficiaries, and the beneficiaries in the economic catchment area.			Up to 50%

Council sets rates on specific properties within erosion schemes in the Wairarapa. Generally, these rates are apportioned to reflect the benefit to each separately rateable property in the part of the district benefiting from the scheme, on the basis of the area and the classification of the property as it appears in the approved classification register.

Soil and plant conservation

Community outcome	Healthy environment
Purpose / rationale for activity	Council seeks to mitigate the environmental impacts of farming, because land management practices create erosion, and affect the health and quality of streams, rivers, and the coast.
Who benefits?	The community as a whole benefits from stabilised soils in its reserves. The benefits from the Akura Conservation Centre are mostly the private landowners who plant poplars and willows for erosion and flood control.
Timeframe of benefits	Ongoing
How are the benefits distributed?	90% private landowners 10% community as a whole.
Does anyone cause Council to provide this service?	Farmers who do not plant tree cover on erosion prone soils.
Rationale for separate funding	Because the activity is predominantly focused on services to rural businesses, there are transparency benefits from separate funding.

Funding policy indication

Activities	User charges	Subsidies	Targeted rate	General rate
Soil conservation reserves	100%			
Akura conservation centre	100%			

Biodiversity management

Community outcome	Healthy environment
Purpose / rationale for activity	Biodiversity contributes to the region's natural character and supports the healthy functioning of ecosystems which in turn provide essential, life supporting services, including purifying air and water.
Who benefits? How are the benefits distributed?	The community as a whole share the benefits of a healthy environment.
Timeframe of benefits	Ongoing
Does anyone cause Council to provide this service?	Farmers who have not yet fenced waterways so that stock can get into them contribute to the need for this activity.
Rationale for separate funding	This activity is one relatively small, part of the larger Group of Activities and separate funding would not be cost effective.

Activities and programmes	User charges	Subsidies	Targeted rate	General rate
Biodiversity management – Key Native Ecosystems programme				100%
Biosecurity services for territorial authorities	100%			
Biodiversity management – other activities				100%

Pest management

Community outcome	Healthy environment		
Purpose / rationale for activity	Pest management supports economic activity and improves environmental outcomes.		
Who benefits? How are the benefits distributed?	Primary producers benefit from reduced loss of pasture reduced loss of crops reduced damage to trees and shrubs sustained and increased primary production. Cattle and deer farmers in operational areas benefit from reduced risk of disease to farmed animals. The regional community benefits from reduced spread of unwanted pest damage to high value ecosystems, and reduced pest impact on safety, amenity, and social values.		
Timeframe of benefits	Ongoing		
Does anyone cause Council to provide this service?	Pest management, including possum control activities are undertaken in line with Biosecurity Act 1993, and the National Policy Direction for Pest Management.		
Rationale for separate funding	Because Council provides two pest management programmes, with different funding policies, separate funding is useful to demonstrate the benefits of each activity.		

Programmes	User charges	Subsidies	Targeted rate	General rate
Regional pest management plan	Up to 10%	Up to 10%		80-100%
Regional predator control programme			40% on all rural properties that are 4ha or more, assessed on a land area basis.	60%

Harbour management

Community outcome	Strong economy
Purpose / rationale for activity	Council provides this service to support safe commercial shipping and recreational activities in the regional harbours.
	Maritime traffic in the harbours benefit from Beacon Hill Communications station, navigational aids, and the enforcement of maritime safety regulations.
Who benefits?	Recreational boat users benefit from navigational aids, education programmes, and the enforcement of maritime safety regulations.
	Other harbour users receive a small benefit from the enforcement of maritime safety regulations.
Timeframe of benefits	Ongoing.
	Commercial shipping is the major economic beneficiary of this service.
How are the benefits distributed?	People using recreational boats and yachts also benefit substantially.
	The rest of the region gets some residual benefit.
Does anyone cause Council to provide this service?	Maritime traffic (commercial and recreational) is the major activity that creates the need for Council to provide navigational aids and safety services.
to provide this service?	Polluters create the need for monitoring, regulations and clean up services.
Rationale for separate funding	Separate funding via targeted rates is not sensible for this activity, because Council cannot identify and targeted land owners who would be the major beneficiaries of services for activities on and about water.

Activities and programmes	User charges	Subsidies	Targeted rate	General rate
Navigational aids and communications service	60% commercial shipping, (collected by CentrePort)			40%
Education; Enforce maritime safety regulations				100%
Pollution clean-up oil		95% Maritime NZ		5%
Pollution clean-up – other	100% charge to polluters, where they can be identified and charged.			Up to 100%

18. Flood protection

Understanding flood risk

Maintaining flood protection and control works

Improving flood security

Community outcome	Resilient community
Purpose / rationale for activity	Council provides flood protection services to protect the lives and property of people within the region.
Who benefits?	Property owners (private, Crown, territorial authorities, others) and residents in flood hazard zones are the major beneficiaries of these activities. They benefit from- information about flood hazards flood warnings flood protection structures that directly protect lives and property, and downstream areas. Local communities and catchments benefit from- Information about flood hazards to support land use planning having their local infrastructure protected (schools, hospitals, roads and emergency lifelines, parks, and reserves). Utilities benefit from- information about flood hazards flood warnings flood protection structures that directly protects their infrastructure (electricity transmission, telecoms, etc). The region as a whole benefits from- advice about flood emergencies any environmental protection that flood protection provides protected arterial transport routes.
How are the benefits distributed?	Property owners (including utility companies), and residents and flood hazard zones are the major beneficiaries of all these activities. Local communities, (including property owners in flood hazard zones) are also substantial beneficiaries of flood protection and control works in their communities. The community as a whole receives a relatively small share of the benefits.
Timeframe of benefits	Ongoing.
Does anyone cause Council to provide this service?	No.
Rationale for separate funding	Because of the substantial private benefits from these activities, and Council's considerable commitment to this group of activities, separate funding provides transparency and accountability benefits.

Council has considered the matters above, including the benefits of flood protection to identifiable groups within the region, and has decided to retain the Flood Protection rate funding policy that applied in 2017/18.

Funding policy indication

· ,				
Activities	User charges	Subsidies	Targeted rates	General rate
Understanding flood risk				100%
Maintaining flood protection and control works			The balance of costs (i.e., to 100%) met via targeted rates on the local authority area or via scheme rates or direct contribution from both the direct beneficiaries on the floodplain	Up to 50%
Improving flood security			and the beneficiaries in the economic catchment area.	

Note: Where a utility provider makes a contribution for protection of infrastructure assets, the revenue is directly applied to alleviate the scheme's costs.

19. Parks

Council manages a network of regional parks and forests for the community's use and enjoyment. Council works with mana whenua and community groups to protect the environment within regional parks

Community outcome	Engaged community	
Purpose / rationale for activity	Council provide parks for community recreation and enjoyment, and to protect regionally significant landscapes, bush, and heritage features.	
Who benefits? How are the benefits distributed?	Individuals and groups who use the camping facilities within regional parks. Organisations that use parks for commercial purposes. This includes, for example- • stock grazing • film making • outdoor activities • education activities. The region and the whole country benefit from being able to enjoy regionally significant landscapes, bush, and heritage features. The whole country benefits from the preservation of nationally significant landscapes, forests, and heritage features.	
Timeframe of benefits	Ongoing.	
Does anyone cause Council to provide this service?	No	
Rationale for separate funding	There is no particular need to fund this activity separately. Council reports on the financial and service performance for this activity in its annual report.	

Activity	User charges	Subsidies	Targeted rate	General rate
Parks	10% for organised events, farming and other leases, license fees, other added value services.			90%

20. Summary table

Group of Activities	Activity	User charges	Subsidies	Targeted rate	General rate
Regional Leadership	Relationships with mana whenua				100%
	Regional transport planning and programmes		About 52% from NZTA		Balance of the funding
	Wellington Regional Strategy			 100%, charged on differential basis by land use, being- a uniform charge on residential and rural ratepayers a capital value basis for businesses. 	
	Emergency management				100%
	Democratic services				100%
	Regional initiative - Warm Greater Wellington			100%	
	Regional initiative - Water Wairarapa				100%
Public transport	Public transport	35-50% from fares and other user charges	The maximum contribution from Crown agencies, primarily New Zealand Transport Agency (NZTA), Overall, intend to collect 25-35% from NZTA although this may be significantly higher for some specific programmes and investments.	25-35% calculated on ECV, with differentials based on land use and by location.	
Water supply	Water supply	95%-100% volumetric levy on the participating territorial authorities. User charges may be applied to other bulk water users.	investments.		

Group of Activities	Activity	User charges	Subsidies	Targeted rate	General rate
Environment	Environmental science - State of Environment monitoring	10-20%			80-90%
	Resource management - Policy and planning				100%
	Resource management – Consents	100%, consent applicants			
	Resource management – Compliance and enforcement	100% consent holders			Up to 100% for investigations
	Resource management – Pollution prevention and control	100% identified polluters			where a liable party cannot be identified.
	Land management - Farm plans	70%			30%
	Land management - Farm environment plans	50%			50%
	Land management - Wellington Regional Erosion Control Initiative	40%	30% Crown		30%
	Land management advice				100%
	Land management, erosion, and drainage schemes			100% to be met from targeted or scheme rates or a direct contribution from both the direct beneficiaries, and the beneficiaries in the economic catchment area.	
	Soil conservation reserves	100%			
	Akura conservation centre	100%			
	Biodiversity management – Key Native Ecosystems programme				100%
	Biosecurity services for territorial authorities	100%			
	Biodiversity management – other activities				100%
	Regional pest management plan	Up to 10%	Up to 10%		80-100%
	Regional predator control programme			40% on all rural properties that are 4ha or more, assessed on a land area basis.	60%

Group of Activities	Activity	User charges	Subsidies	Targeted rate	General rate
Environment, continued	Harbour management - Navigational aids and communications service	60% commercial shipping, (collected by CentrePort)			40%
	Harbour management – Education, and enforce maritime safety regulations				100%
	Harbour management - Pollution clean-up — oil		95% Maritime NZ		5%
	Harbour management - Pollution clean-up – other	100% charge to polluters, where they can be identified and charged.			Up to 100%
Flood Protection	Flood Protection - Understanding flood risk	Apply charges to territorial authorities and other beneficiaries wherever practicable			100%
	Flood Protection - Maintaining flood protection and control works			The balance of costs (i.e., to 100%) met via targeted rates on the local authority area or via scheme rates or direct contribution from both the direct beneficiaries on the floodplain and the beneficiaries in the economic	Up to 50%
	Flood Protection - Improving flood security			catchment area. Where a utility provider makes a contribution for protection of infrastructure assets, the revenue is directly applied to alleviate the scheme's costs.	
Parks	Parks	10% for organised events, farming and other leases, license fees, other added value services.			90%



Report 19.281

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Author Shirley Long, Team Leader Corporate Reporting, Finance

Setting of the Wellington Regional Council rates 2019/20

1. Purpose

To recommend that Council set rates and due dates for the payment of rates for the 2019/20 financial year as set out in this report and authorise penalties for unpaid rates.

2. Background

2.1 Setting of rates

Under section 23 of the Local Government (Rating) Act 2002 (the Act) the Council must set its rates for the 2019/20 financial year, by resolution. Rates must be set in accordance with the relevant provisions of the long-term plan and the funding impact statement for the 2019/20 financial year.

In its rates resolution, the Council must state the date on which the rates are to be paid or, if they are to be paid in instalments, the dates on which specified amounts must be paid.

2.2 Defence land

Section 22 of the Act requires that the general rate and targeted rates set under section 16 assessed for land owned or used by the Crown as an air force base, army camp, naval establishment, or other defence area must not exceed the amount of rates that would otherwise have been assessed if the rates were calculated on land value.

The only facility in the Wellington region that qualifies for this adjustment, Trentham Camp in Upper Hutt, is part residential, part commercial and part rural. The effect of section 22 is to reduce the overall rates for Trentham Camp and adjust the cents in the dollar paid by other properties in Upper Hutt.

2.3 Differential rating categories

The Council's General rate is assessed on the basis of which district the land falls in using an "estimate of projected valuation" under section 131 of the Act. Equalisation is made to recognise the difference in valuation dates throughout

SETTING OF THE WELLINGTON REGIONAL COUNCIL RATES 2019/20

the Wellington region. The "cents in the dollar" calculation is made on the basis of the rateable capital values of properties as at 17 May 2019, supplied by each of the constituent authorities.

Different differentials are applied on the general rate within Wellington City only. The general rate for the other districts within the region is undifferentiated and rated at base category.

	1
Rural	1
Wellington CBD business	1.7
Business	1 3

Targeted rates are differentiated on a number of different matters:

Public transport	Where the land is situated and the use to which the land is put.
River management	Where the land is situated.
Wellington regional strategy	Where the land is situated and the use to which the land is put.
Wairarapa river management schemes	Where the land is situated (in some cases set under section 146 of the Act using approved classification and differential registers) and/or the benefits accruing through the provision of services and in some cases use.
Wairarapa catchment schemes	Where the land is situated (in some cases set under section 146 of the Act using approved classification and differential registers) and in some cases use and land value.
Wairarapa drainage schemes	Where the land is situated (set under section 146 of the Act using approved classification and differential registers).

For the public transport, river management and Wellington regional strategy rates, the Council bases its differential rating categories on those used by each of the territorial authorities in the Wellington region. Differential rating categories for the Wairarapa river management schemes, Wairarapa catchment schemes and Wairarapa drainage schemes are based on areas identified on the approved classification registers held by the Council. The differential rating category for the Warm Greater Wellington rate is based on the service provided, calculated as a percentage of the service.

2.4 Transition under the Revenue and Financing policy

In Long Term Plan 2018-28, Council has adopted Revenue and Financing policy which provides for a six year transition to the full impact of the new Public transport rate, and 2019/20 is the second year of this transition. The transition for each rating category in each location will be calculated as six differentials of approximately even size, applied annually using the equalised capital value for that year. The differentials are based on location and use to which the land is put.

2.5 Authorisation of penalties

Under sections 57 and 58 of the Act, the Council may authorise the imposition of penalties on unpaid rates. In addition to penalties applied to rates that remain unpaid after the instalment due date, the Council can authorise additional penalties to rates unpaid from a previous year or years. The unpaid date for additional arrears penalties is required by the Act to be set based on the date that rates are set and will not necessarily be the same as the dates set by the territorial authorities. The penalties resolution is required to state the date the penalty will be applied.

2.6 Implications of collection arrangements

Because the Council has continued with arrangements for the collection of its rates (other than for properties within Tararua district), for practical purposes it sets instalment dates and penalty provisions that are consistent with those set by the Wellington region's territorial authorities. This means that different provisions apply throughout the region, but that within a district there is consistency between the territorial authority and regional council provisions.

2.7 Policies

The Council's Rates Remission and Postponement Policies contain a number of rating policies that specify the circumstances in which the Council will remit or postpone rates.

3. Communication

The Council's resolution will be notified to the territorial authorities in the Wellington region. Individual property owners will be notified of their rating liability when rates assessment notices are sent out.

In addition, a copy of the resolution will be replaced on Council's website.

4. The decision-making process and significance

The setting of rates implements the funding impact statement in the Council's Annual Plan 2019/20.

The matters requiring decision in this report have been considered by officers against the requirements of Part 6 of the Local Government Act 2002.

The Council's Annual Plan 2019/20 has been developed in accordance with the consultation requirements set out the Local Government Act 2002.

4.1 Engagement

The consultation and engagement on the development of the Long Term Plan 2018-28 has been designed taking into account the Significance and Engagement Policy.

5. Recommendations

That the Council:

- 1. Receives the report.
- 2. Notes the content of the report.
- 3. Sets, pursuant to the Local Government (Rating) Act 2002, the rates as set out below for the period commencing 1 July 2019 and concluding 30 June 2020. All dollar amounts in this resolution are exclusive of Goods and Services Tax (GST) and notes that GST will be added to these amounts at the prevailing rate at the time of supply.

a. General rate

A general rate set under section 13(2)(a) of the Local Government (Rating) Act 2002 as an amount in the dollar of capital value on each rateable rating unit as follows:

General rate	2019/20 Cents per \$ of rateable capital value	2019/20 Revenue required \$
Wellington city - CDB	0.05407	5,363,235
Wellington city - Business	0.04135	1,925,662
Wellington city - Residential	0.03180	18,351,602
Wellington city - Rural	0.03180	254,615
Hutt city	0.04125	8,905,204
Upper Hutt city	0.04240	3,509,895
Porirua city	0.04073	4,253,553
Kāpiti Coast district	0.03633	5,433,613
Masterton district	0.03662	2,184,058
Carterton district	0.03653	1,001,560
South Wairarapa district	0.03626	1,663,512
Tararua district	0.03809	4,065
Total general rate		52,850,574

b. Targeted rate: Public transport

The following differential targeted rate is set under section 16(3)(b) and section 16(4)(b) of the Local Government (Rating) Act 2002 as an amount in the dollar of capital value on each rateable rating unit as follows:

Targeted rate Public transport rate	2019/20 Cents per \$ of rateable capital value	2019/20 Revenue required \$
Wellington city		
Regional CBD	0.24603	24,405,220
Business	0.03269	1,522,547
Residential	0.02789	16,091,016
Rural	0.00708	56,682
Hutt city		
Business	0.05929	2,259,790
Residential	0.05370	9,374,417
Rural	0.01362	43,303
Upper Hutt city		
Business	0.06475	781,199
Residential	0.06019	3,769,614
Rural	0.01524	128,328
Porirua city		
Business	0.06482	720,848
Residential	0.05930	5,161,948
Rural	0.01504	94,187
Kāpiti Coast district		
Business	0.03457	510,541
Residential excl Otaki	0.02965	3,069,352
Residential Otaki rating area	0.02349	265,434
Rural	0.00756	151,083
Masterton district		
Business	0.01859	80,662
Residential	0.01239	336,278
Rural	0.00488	137,342
Carterton district		
Business	0.02344	22,799
Residential	0.01725	150,022
Rural	0.00606	107,550
South Wairarapa district	2.0000	,000
Business	0.02679	56,597
Residential	0.02065	286,869
Rural	0.00684	204,456

c. Targeted rate: River management

The following differential targeted rates are set under section 16(3)(b) and section 16(4)(b) of the Local Government (Rating) Act 2002 as an amount in the dollar of capital value or land value on each rateable rating unit as follows:

Targeted rate	2019/20	2019/20
River management rate based on capital value	Cents per \$ of rateable capital value	Revenue required \$
Wellington city	0.00009	63,468
Hutt city	0.02171	4,687,327
Upper Hutt city	0.00981	812,015
Porirua city	0.00046	47,787
Kāpiti Coast district	0.00905	1,354,266
Carterton district	0.00088	24,179
Total district-wide river management rate		6,989,042
Greytown ward	0.01213	94,400
Total river management rates based upon capital value		7,083,442

Targeted rate		
River management	2019/20	2019/20
	Cents per \$ of rateable land value	Revenue required \$
Forthernton when Donalds Out the Ottobards	0.00463	0.007
Featherston urban: Donalds Creek Stopbank	0.00163	2,667
Total river management rates based upon land value		2,667
Total river management rates		7,086,109

d. Targeted rate: Wellington regional Strategy

The following differential targeted rate is set under section 16(3)(a) and section 16(4)(b) of the Local Government (Rating) Act 2002 as an amount in the dollar of capital value or a fixed amount per rating unit on each rateable rating unit as follows:

Targeted rate Wellington regional strategy rate	\$ per rating unit	2019/20 Cents per \$ of rateable capital value	2019/20 Revenue required \$
Wellington city			
Regional CBD		0.00778	771,961
Business		0.00778	362,455
Residential – per rating unit	\$14.00		1,007,748
Rural – per rating unit	\$28.00		22,120
Hutt city			
Business		0.00906	345,313
Residential – per rating unit	\$14.00		510,594
Rural – per rating unit	\$28.00		13,692
Upper Hutt city			
Business		0.00929	110,202
Residential – per rating unit	\$14.00		209,034
Rural – per rating unit	\$28.00		34,244
Porirua city			
Business		0.00895	99,479
Residential – per rating unit	\$14.00		244,272
Rural – per rating unit	\$28.00		17,248
Kāpiti Coast district			
Business		0.00798	117,820
Residential – per rating unit	\$14.00		293,202
Rural – per rating unit	\$28.00		70,000
Masterton district			
Business		0.00804	34,893
Residential – per rating unit	\$14.00		113,456
Rural – per rating unit	\$28.00		97,020
Carterton district			
Business		0.00802	7,803
Residential – per rating unit	\$14.00		32,928
Rural – per rating unit	\$28.00		48,804
South Wairarapa district			
Business		0.00796	16,820
Residential – per rating unit	\$14.00		44,954
Rural – per rating unit	\$28.00		79,492
Tararua district – per rating unit	\$28.00		252
Total Wellington regional strategy rate			4,705,805

e. Targeted rate: Warm Greater Wellington

The following targeted rate is set under section 16(3)(b) and 16(4)(a) of the Local Government (Rating) Act 2002 as a rate based on the extent of service provided (dollars), calculated as a percentage of the service. In the final year of payment, the rate may be the actual balance rather than a percentage of the service amount:

Targeted rate Warm Greater Wellington Based on extent of service	2019/20 2 Percentage of Revenue re service provided	
For any ratepayer that utilises the service	15.000%	3,209,151

f. Targeted rate: Pest Management

The following differential targeted rates are set under section 16(3)(b) and section 16(4)(a) of the Local Government (Rating) Act 2002 as an amount in the dollar per hectare on each rateable rural rating unit with a land area of 4 or more hectares as follows:

Targeted rate Pest management	2019/20 \$ per hectare	2019/20 Revenue required \$
Rural land area		
Land area of 4 or more hectares in all rural classified areas	0.95798	577,200
Total pest management rate		577,200

g. Targeted rate: River management schemes (1)

The following targeted rates are set under sections 16(3)(b), 16(4)(b) and 146 of the Local Government (Rating) Act 2002 as an amount per hectare on each rateable rating unit in the classified scheme area as follows:

Targeted rate River management schemes 1		2019/20 \$ per hectare	2019/20 Revenue required \$
Waingawa	A	149.74607	5,080
	В	97.33495	12,672
	С	74.87304	8,549
	D	67.38573	157
	Е	59.89843	10,051
	F	52.41112	1,360
	G	22.46191	1,051
	Н	14.97461	2,528
			41,448
Upper Ruamahanga	А	135.43124	12,056
	В	112.85937	744
	С	90.28749	11,265
	D	67.71562	1,193
	Е	45.14375	13,393
	F	22.57187	890
	S	1,271.71035	3,306
			42,847
Middle Ruamahanga	А	133.58145	5,389
	В	111.31787	6,076
	С	89.05430	455
	D	66.79072	7,561
	Е	44.52715	1,343
	F	22.26357	6,582
	S	1,347.14362	2,829
			30,235
Lower Ruamahanga	Α	64.27079	8,064
	В	55.08925	2,966
	С	45.90771	10,282
	D	36.72617	11,698
	Е	27.54463	8,911
	F	18.36308	22,482
	SA	1,611.57080	4,190
	SB	805.78551	1,370
			69,963

Targeted rate River management schemes 1		2019/20 \$ per hectare	2019/20 Revenue required \$
Waiohine Rural	A	46.75400	5,259
	В	38.94400	14,916
	С	31.16300	39,828
	D	23.40400	8,695
	E	15.61400	12,468
	S	778.39400	13,233
			94,400
Mangatarere	A	35.30636	758
	В	33.77130	7,077
	С	28.61789	451
	D	25.32847	1,820
			10,105
Waipoua	A	113.70796	9,949
	В	90.96637	27,320
	С	68.22478	1,532
	D	45.48319	13,519
	SA	3,843.32915	384
	SC	2,296.90086	230
			52,934

Targeted rate River management schemes 1		2019/20 \$ per hectare	2019/20 Revenue required
•		\$ per nectare	Revenue required \$
Kopuaranga	A2	122.71450	3,197
	A3	110.54410	7,617
	A4	61.45830	694
	A5	42.95090	2,479
	A6	24.54390	1,991
	B2	24.54390	1,504
	В3	22.08960	1,622
	B4	12.27250	114
	B5	8.59100	267
	B6	4.90940	590
	SA	153.57000	768
	SB	76.79000	1,075
			21,919
Lower Taueru	Α	4.13994	1,687
	В	0.82799	234
	С	0.41399	74
	S	206.99719	314
			2,308
Lower Whangaehu	Α	22.05553	736
	В	17.64442	1,148
	С	13.23332	720
	D	8.82221	676
	Е	4.41111	769
	S	110.27765	147
			4,196
Total river management scheme rates 1			370,355

h. Targeted rate: River management schemes (2)

The following targeted rate is set under sections 16(3) (b) and 16(4)(b) of the Local Government (Rating) Act 2002 as a dollar amount per point on each rateable rating unit and in some cases a fixed charge per separately used or inhabited part of a rateable rating unit (dwelling) on any unit that has any residential use within the classified scheme area as follows:

Targeted rate River management schemes 2		2019/20 \$ per dwelling	2019/20 \$ per point	2019/20 Revenue required \$
Lower Wairarapa valley	Α		0.23887	690,055
Development Scheme	Sa	19.17852		7,997
	Sb	38.37169		86,797
Total river management scheme rates 2				784.849

i. Targeted rate: Catchment schemes (1)

The following targeted rates are set under sections 16(3)(b), 16(4)(b) and 146 of the Local Government (Rating) Act 2002 as an amount per hectare on each rateable rating unit in the classified scheme area as follows:

Targeted rate Catchment schemes 1		2019/20	2019/20
		\$ per hectare	Revenue required \$
Whareama	A	4.45921	3,190
	В	1.71893	1,637
	С	0.30085	13,711
	D	0.25781	0
	Е	0.21488	3
	F	0.17184	474
			19,016
Homewood	Α	1.97000	4,521
	В	1.71061	945
	С	1.55980	5,713
	D	0.22300	388
			11,566
Maungaraki	Α	0.99000	3,272
	В	0.49000	1,456
			4,728
Upper Kaiwhata	Α	9.80000	320
	В	4.20000	221
	С	0.62000	594
	D	0.39000	801
	Е	0.27000	443
	F	0.14500	66
			2,444
Lower Kaiwhata	Α	16.19000	744
	В	7.10000	315
	С	1.01901	1,181
	D	0.63858	1,890
	Е	0.00000	0
	F	0.21183	74
			4,203
Catchment management scheme 1 rates			41,958
oatonment management scheme i rates			41,330

j. Targeted rate: Catchment schemes (2)

The following targeted rates are set under sections 16(3)(b) and 16(4)(a) of the Local Government (Rating) Act 2002 as an amount in the dollar of land value on each rateable rating unit in the classified scheme area as follows:

Targeted rate Catchment schemes 2		2019/20 Cents per \$ of rateable land	2019/20 Revenue required \$
Awhea-Opouawe	Land value	0.01553	10,523
Mataikona-Whakataki	Land value within scheme area	0.00523	3,885

k. Targeted rate: Catchment schemes (3)

The following targeted rates are set under sections 16(3)(b) and 16(4)(a) of the Local Government (Rating) Act 2002 as a fixed charge per separately used or inhabited part of a rateable rating unit (dwelling) on any unit that has any residential use within the classified scheme area as follows:

Targeted rate Catchment schemes 3		2019/20 \$ per dwelling	2019/20 Revenue required \$
Awhea-Opouawe	Charge per dwelling	\$114.54 / \$57.27	11,821
Maungaraki	Charge per dwelling	\$22.18	421
Mataikona-Whakataki	Charge per dwelling	\$15.30	2,668
Catchment management s	cheme 3 rates		14,910

l. Targeted rate: Catchment schemes (4)

The following targeted rate is set under sections 16(3)(b) and 16(4)(a) of the Local Government (Rating) Act on any rateable rating unit in the classified scheme area as based on the area of land within the rating unit that is protected by the Council's river management activity, calculated as an amount in the dollar per metre of the rating unit's river frontage.

Targeted rate Catchment schemes 4		•		2019/20 Cents per metre of river frontage	2019/20 Revenue required \$
Maungaraki	River frontage	0.03540	1,686		
Catchment manageme	nt scheme 4 rates		1,686		

m. Targeted rate: Pump drainage schemes

The following targeted rates are set under sections 16(3)(b), 16(4)(a) and 146 of the Local Government (Rating) Act 2002 as an amount per hectare on each rateable rating unit in the classified scheme area as follows:

Targeted rate Pump drainage schemes		2019/20 \$ per hectare	2019/20 Revenue required \$
Те Нораі	A	37.14400	46,304
Moonmoot pump	Α	89.11500	20,294
Onoke pump	Α	59.94600	42,767
Pouawha pump	Α	90.42700	85,499
Total pump drainage scheme rates			194,864

n. Targeted rate: Gravity drainage schemes

The following targeted rates are set under sections 16(3)(b), 16(4)(a), 16(4)(b) and 146 of the Local Government (Rating) Act 2002 as an amount per hectare on each rateable rating unit in the classified scheme area as follows:

Targeted rate Gravity drainage schel	nes	2019/20 \$ per hectare	2019/20 Revenue required \$
Okawa	A	7.14724	2,016
Taumata	Α	6.43814	1,871
East Pukio	Α	28.29511	3,213
Longbush	Α	16.06959	3,506
Longbush	В	8.03485	1,010
Otahoua	Α	33.00455	3,060
Te Whiti	Α	9.73253	1,375
Ahikouka	Α	27.70973	3,109
Battersea	Α	15.33805	2,588
Battersea	В	12.67432	2,476
Battersea	С	9.91899	3,154
Battersea	D	5.99678	916
Battersea	Е	5.12856	1,041
Battersea	F	5.17038	364
Manaia Whakawiriwiri	A A	23.20786 11.70593	4,048 8,438
Total gravity drainage	scheme rates	·	42,184

4. That the Wellington Regional Council sets the instalment dates outlined below and pursuant to sections 57 and 58 of the Local Government (Rating) Act 2002 resolves to add penalties to unpaid rates as outlined below:

All instalments are for an equal amount of the annual rates

a. All rating units within Wellington City

Instalment penalty

A 10% penalty will be added to any portion of the current instalment that remains unpaid after the due date as shown in the table below:

Instalment	Due Date	Penalty Date
1	1 September 2019	6 September 2019
2	1 December 2019	6 December 2019
3	1 March 2020	6 March 2020
4	1 June 2020	8 June 2020

Additional arrears penalty

An additional 10% penalty will be imposed on any amount of rates assessed in previous years and remaining unpaid at 2 July 2019. The penalty will be added to rates on 3 July 2019. A further additional 10% penalty will be imposed on 3 January 2020 to rates from previous years to which a penalty has been added on 3 July 2019 that remain unpaid.

b. All rating units within Lower Hutt City

Instalment penalty

A 10% penalty will be added to any portion of the current instalment that remains unpaid after the due date as shown in the table below.

Instalment	Due Date	Penalty Date
1	20 August 2019	22 August 2019
2	21 October 2019	23 October 2019
3	20 December 2019	24 December 2019
4	20 February 2020	24 February 2020
5	20 April 2020	22 April 2020
6	22 June 2020	24 June 2020

Additional arrears penalty

An additional 10% penalty will be imposed on any amount of rates assessed in previous years and remaining unpaid at 2 July 2019. The penalty will be added to rates on 22 August 2019. A further additional 10% penalty will be imposed on 24 February 2020 to rates from previous years to which a penalty has been added on 22 August 2019 that remain unpaid.

c. All rating units within Upper Hutt City

Instalment penalty

A 10% penalty will be added to any portion of the current instalment that remains unpaid after the due date as shown in the table below:

Instalment	Due Date	Penalty Date
1	31 August 2019	3 September 2019
2	31 October 2019	1 November 2019
3	15 January 2020	16 January 2020
4	29 February 2020	3 March 2020
5	30 April 2020	1 May 2020

Additional arrears penalty

An additional 10% penalty will be imposed on any amount of rates assessed in previous years and remaining unpaid at 2 July 2019. The penalty will be added to rates on 5 July 2019. A further additional 10% penalty will be imposed on 7 January 2020 to rates from previous years to which a penalty has been added on 5 July 2019 that remain unpaid.

d. All rating units within Porirua City

Instalment penalty

A 10% penalty will be added to any portion of the current instalment that remains unpaid after the due date as shown in the table below:

Instalment	Due Date	Penalty Date
1	20 August 2019	21 August 2019
2	19 November 2019	20 November 2019
3	18 February 2020	19 February 2020
4	19 May 2020	20 May 2020

Additional arrears penalty

An additional 10% penalty will be imposed on any amount of rates assessed in previous years and remaining unpaid at 2 July 2019. The penalty will be added to rates on 21 August 2019.

e. All rating units within Kapiti Coast District

Instalment penalty

A 10% penalty will be added to any portion of the current instalment that remains unpaid after the due date as shown in the table below:

Instalment	Due Date	Penalty Date
1	9 September 2019	10 September 2019
2	9 December 2019	10 December 2019
3	9 March 2020	10 March 2020
4	9 June 2020	10 June 2020

Additional arrears penalty

An additional 10% penalty will be imposed on any amount of rates assessed in previous years and remaining unpaid at 2 July 2019. The penalty will be added to rates on 5 July 2019.

f. All rating units within Masterton District

Instalment penalty

A 10% penalty will be added to any portion of the current instalment that remains unpaid after the due date as shown in the table below:

Instalment	Due Date	Penalty Date
1	20 August 2019	21 August 2019
2	20 November 2019	21 November 2019
3	20 February 2020	21 February 2020
4	20 May 2020	21 May 2020

Additional arrears penalty

An additional 10% penalty will be imposed to any amount of rates assessed in previous years and remaining unpaid at 2 July 2019. The penalty will be added to rates on 4 July 2019.

g. All rating units within Carterton District

Instalment penalty

A 10% penalty will be added to any portion of the current instalment that remains unpaid after the due date as shown in the table below:

Instalment	Due Date	Penalty Date
1	20 August 2019	21 August 2019
2	20 November 2019	21 November 2019
3	20 February 2020	21 February 2020
4	20 May 2020	21 May 2020

Additional arrears penalty

An additional 10% penalty will be imposed on any amount of rates assessed in previous years and remaining unpaid at 2 July 2019. The penalty will be added to rates on 4 July 2019.

h. All rating units within South Wairarapa District

Instalment penalty

A 10% penalty will be added to any portion of the current instalment that remains unpaid after the due date as shown in the table below:

Instalment	Due Date	Penalty Date
1	20 August 2019	21 August 2019
2	20 November 2019	21 November 2019
3	20 February 2020	21 February 2020
4	20 May 2020	21 May 2020

Additional arrears penalty

An additional 10% penalty will be imposed on any amount of rates assessed in previous years and remaining unpaid at 2 July 2019. The penalty will be added to rates on 3 July 2019. A further additional 10% penalty will be imposed on 6 January 2019 to rates from previous years to which a penalty was added on 3 July 2019 that remain unpaid.

i. All rating units within that part of Tararua District falling within the Wellington Region.

Instalment penalty

A 10% penalty will be added to any portion of the current instalment that remains unpaid after the due date as shown in the table below:

Instalment	Due Date	Penalty Date
Current	6 September 2019	8 September 2019
instalment		

Additional arrears penalty

An additional 10% penalty will be imposed on any amount of rates assessed in previous years and remaining unpaid at 2 July 2019. The penalty will be added to rates on 2 July 2019. A further additional 10% penalty will be imposed on 2 January 2020 to rates from previous years to which a penalty was added on 2 July 2019 that remain unpaid.

5. **Requests** officers to send a copy of these resolutions to all territorial authorities acting as our agents for rates collection and to place this resolution on the Council's website.

Report prepared by: Report approved by:

Shirley LongTeam Leader, Corporate
Reporting, Finance

Alan Bird Chief Financial Officer



 Report
 19.280

 Date
 19 June 2019

 File
 CCAB-8-2339

Committee Council

Author Michael Matthews, Corporate Accountant

Wholesale water levy for 2019/20 and end of year adjustment for levy 2018/19

1. Purpose

To set the wholesale water levy for 2019/20 year and adjust the 2018/19 year levy apportionment.

2. Background

Greater Wellington Regional Council (GWRC) has discussed with its water supply customers (the four metropolitan city councils) the water supply levy for 2019/20.

The Long Term Plan 2018-2028 outlined a levy increase of 3.5 per cent for 2019/20. Estimated increased insurance costs for the bulk water supply assets resulted in an increase of 6.1 per cent in the draft Annual Plan. A reduction in the insurance premiums from estimated to actual has resulted in an increase for 2019/20 of 5.2 percent.

Each of the four metropolitan councils is charged based on the estimated volume of bulk water to be supplied by GWRC.

3. Proposed 2019/20 wholesale water levies

The proposed levy for 2019/20, as detailed in the Annual Plan provides for a 5.2 per cent increase to the current year's levy. If this position is approved, the levy for the 2019/20 financial year will be \$34,788,481 (GST exclusive).

2040/20 1 200

The Levy applicable to each city council would be as follows:

Table 1

	\$ (GST exclusive)
Hutt City Council	9,220,697
Porirua City Council	4,113,376
Upper Hutt City Council	3,512,901
Wellington City Council	17,941,507
Total	34,788,481

4. Proposed end of year adjustment levies for 2018/19

At the beginning of each year an estimate of each city's water consumption is calculated, and charges are raised based on the amount of water supplied in the previous year. Once the amounts of water actually supplied during the 2018/19 year is known an adjustment is made at year end. The metering year ends on the last Wednesday of March and the volumes recorded are used to determine an end of year adjustment. Table 2 shows the end of year adjustments. Consumption figures are reported to all metropolitan councils weekly.

Table 2

Council	Adjustment for 2018/19 \$ (GST exclusive)	Charge or refund	
Hutt City Council	26,939	To pay	
Porirua City Council	17,408	To pay	
Upper Hutt City Council	107,761	To pay	
Wellington City Council	(152,108)	Refund	
Total	-	-	

Although GWRC's overall financial position does not change, some accounting adjustments are needed to reflect the amount of water actually consumed by each city. Accordingly, charges raised to the cities previously are to be revised. On 20 July 2019, a refund will be sent to Wellington City Council. On the same day invoices raised for Hutt, Porirua and Upper Hutt City Councils will be due for payment.

5. Communications

Each of the four city councils will be advised directly of the contributions payable for 2019/20 and adjustments to the levies charges for 2018/19.

7. Consideration of climate change

The matters addressed in this report are of a procedural nature, and there is no need to conduct a climate change assessment.

8. Decision-making process and significance

Officers recognise that the matters referenced in this report may have a high degree of importance to affected or interested parties.

The matters requiring decision in this report have been considered by officers against the requirements of Part 6 of the Local Government Act 2002 (the Act). Part 6 sets out the obligations of local authorities in relation to the making of decisions.

8.1 Significance of the decision

Part 6 requires GWRC to consider the significance of the decision. The term 'significance' has a statutory definition set out in the Act.

Officers have considered the significance of the matter, taking the Council's significance and engagement policy and decision-making guidelines into account. Officers recommend that the matter be considered to have low significance.

Officers do not consider that a formal record outlining consideration of the decision-making process is required in this instance.

8.2 Engagement

The consultation and engagement on the development of the proposed 2019/20 Annual Plan was designed taking into account the Greater Wellington Regional Council Significance and Engagement Policy and legislative requirements.

There has been communication with each of the four city councils regarding the increase in the bulk water levy for 2019/20, and the end of year adjustment for 2018/19.

7. Recommendations

That the Council:

- 1. Receives the report.
- 2. Notes its contents.
- 3. Approves pursuant to section 91 of the Wellington Regional Water Board Act 1972, the wholesale water contributions payable by constituent authorities for 2019/20 be as follows:

	2019/20 Levy \$ (GST exclusive)
Hutt City Council	9,220,697
Porirua City Council	4,113,376
Upper Hutt City Council	3,512,901
Wellington City Council	17,941,507
Total	34,788,481

4. Approves the end of year adjustment levies for 2018/19 be as follows:

2018/19 Adjustments \$ (GST exclusive)

Hutt City Council	26,939	Debit
Porirua City Council	17,408	Debit
Upper Hutt City Council	107,761	Debit
Wellington City Council	(152, 108)	Credit

5. Notes that settlement takes place on 20 July 2019.

Report prepared by: Report approved by: Report approved by: **Michael Matthews** Alan Bird Samantha Gain

Corporate Accountant Chief Financial Officer **GM Corporate Services**



 Report
 19.258

 Date
 17 June 2019

 File
 CCAB-8-2331

Committee Council

Author Natasha Hayes, Senior Strategic Advisor, Regional Transport

Let's Get Wellington Moving programme endorsement, funding and next steps

1. Purpose

To seek agreement for the Let's Get Wellington Moving (LGWM) recommended programme of investment (RPI), acknowledgement and support for the indicative package of investment announced by the Government, approval and funding to proceed with the next step, including early delivery programme and, business case development, and to note the proposed establishment of an integrated delivery vehicle.

2. Summary

LGWM is a joint initiative between the Government, Wellington City Council (WCC), Greater Wellington Regional Council (WCC) and the New Zealand Transport Agency (NZTA). The programme started with the kind of city and region the community wants, and defined the transport system needed to enable that. Its focus is on the area from Ngauranga Gorge to the Airport, encompassing the Wellington Urban Motorway and connections to Wellington Hospital and eastern and southern suburbs.

Extensive engagement, analysis and investigation was completed over several years and was used to inform the development of the *LGWM Vision* and *Recommended Programme of Investment* (RPI). This was followed by engagement with central government on funding and financing options.

On 16 May 2019 the Let's Get Wellington Moving announcement made by the Minister of Transport and supported by Mayor Lester and Chair Laidlaw included an *Indicative Package* and central government funding commitment. This provides a way forward to deliver a step-change in transport to support the city and region's growth, and realises much of the LGWM vision, while being affordable within long-term transport funding priorities.

The next phase of LGWM will include: an early delivery programme; further investigations, business cases and design for a number of major components in

the *Indicative Package*; and, work towards a formalised partnership agreement and integrated delivery model.

LGWM is a once in a generation transport network investment and city-shaping opportunity which has attracted significant central government investment. The LGWM partners are now asked to support the vision, investment direction and next steps for the programme, including agreeing interim funding to progress to the next stage.

3. Background

LGWM is a joint initiative between WCC, GWRC and the NZTA. The goal of this collaborative process was to take a fresh look at our transport system to ensure it supports the way the community wants the city to look, feel and function and support the growth of the city and region, while making it safer and easier to get around. The focus is the area from Ngauranga Gorge to the Wellington International Airport, encompassing the Wellington Urban Motorway and connections to Wellington Regional Hospital and eastern and southern suburbs. This area has an important role for both local and regional journeys.

LGWM has followed an engagement led approach, starting in 2016 with a conversation with the community about the city's transport challenges, attracting over 10,000 responses. Feedback was used to develop 12 guiding transport and urban design principles and to help identify the key problems on the network. This informed the development of LGWM programme objectives and assessment criteria to help evaluate possible options for Wellington's transport future.

The LGWM programme objectives are to develop a transport system that:

- Enhances the liveability of the central city;
- Provides more efficient and reliable access for users;
- Reduces reliance on private vehicle travel;
- Improves safety for all users; and
- Is adaptable to disruptions and future uncertainty.

Ongoing comprehensive stakeholder and community engagement was carried out in 2016 and 2017 through meetings, workshops and focus groups. Information and updates were provided on the LGWM website.

In November and December 2017, LGWM ran an extensive public engagement programme to seek feedback from the community and stakeholder groups on four transport scenarios for Wellington's future to show what sorts of things might need to change and what their associated impact might be.

Nine key themes were identified from the feedback:

- 1. Support for better public transport: now and long-term
- 2. Universal support for reducing congestion
- 3. Widespread support for walking and cycling

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- 4. Opposition to new infrastructure increasing car use
- 5. A regional, integrated approach is required
- 6. It is time to act, while being mindful of cost
- 7. Future-proofed solutions are needed
- 8. Basin traffic flow issues need solving but with no clear view identified
- 9. Wellington-specific solutions are required

To supplement the feedback from the public engagement, LGWM commissioned an independent public opinion survey of Wellington city and Wellington region residents. The survey asked about travel habits, concerns, and views on a range of possible transport solutions and provided feedback from a wide cross-section of the public. Improving public transport was most frequently cited in responses. There was strong public support for significant transport interventions.

Following the scenarios engagement, further investigation and analysis was used alongside engagement feedback to develop the *LGWM Vision*, *Context Recommended Programme of Investment* (RPI). The LGWM Governance Group agreed the RPI in October 2018, subject to funding. The NZTA Board also endorsed the RPI in October 2018.

The RPI was used as the starting point for engagement with central government on funding and financing options. This was supported by financial modelling, which highlighted the challenges in funding the RPI – and other Wellington region transport priorities - under the current funding environment and assumptions.

As a result of these discussions and financial analysis, the Minister of Transport agreed an Indicative Package for LGWM which assumes a funding allocation to the Wellington region of 10.5% of the National Land Transport Fund (NLTF) over the next 30 years, and a 60/40 central/local funding split for the programme as a whole. The *Indicative Package* was endorsed by Cabinet (paper available here: https://www.transport.govt.nz/about/governance/cabinet-papers/) and jointly announced by the Minister of Transport, the WCC Mayor and the GWRC Chair on 16 May 2019.

This announcement provides a way forward to deliver a step-change in transport to support the city and region's growth, and realise much of the *LGWM Vision*, while being affordable within long-term transport funding priorities.

The LGWM programme is fully integrated with concurrent Wellington City transformational work programmes such as 'Planning for Growth' and agreement is now sought from the LGWM partners to move to the next stage of the programme involving detailed investigation and delivery.

The LGWM website (https://getwellymoving.co.nz/) also contains the Programme Business Case and supporting technical documents that provide greater detail on the process and the various investigations used in developing

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the RPI, as well as outlining the *Indicative Package* and the recommended next steps.

4. LGWM vision

Between 50,000 to 80,000 more people are expected to make Wellington city their home over the next 30 years. Wellington city CBD is the region's employment hub with 95,000 jobs and attracting 80,000 journeys from across the city and region every morning. These jobs are forecast to grow to between 115,000 and 125,000 over the next 30 years. Where this population and employment growth occurs, supported by transport systems, will have major implications for the city and region's resilience, liveability, economic prosperity and contribution to greenhouse gas emission reductions.

LGWM presents a significant opportunity for transformational change. LGWM's Vision for Wellington is a great harbour city, accessible to all; with attractive places, shared streets, and efficient local and regional journeys.

To realise this vision LGWM recognises the need to move more people with fewer private motor vehicles; this will require investment in better public transport, walking and cycling. It will also require our city planning rules to prioritise growth around key transport corridors where there are more active and public transport options.

The *LGWM Vision and Context* are provided in **Attachments 1 and 2** to this report.

5. Recommended Programme of Investment (RPI)

The RPI reflects the LGWM partners' ambitions for improving Wellington's transport system over the next two decades. It is a high-level, whole-of-system approach that will enable the growth of the city and the region and seeks to integrate urban development with transport investment, while providing appropriate choices for people to move around.

The RPI (provided in **Attachment 3**) includes a range of improvements that work together. These include:

- High-quality walking and cycling improvements to make the city safer and more attractive for walking and cycling
- Public transport improvements to and through the central city, including high-quality mass transit, integrated with land use so transport investment and urban development support each other
- Multimodal state highway improvements to reduce conflicts and help relocate non-essential cars out of the central city
- A smarter transport network including travel demand management to encourage people to make better travel choices

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6. The Indicative Package

The Government announced the *LGWM Indicative Package* on 16 May 2019. The *Indicative Package* includes many, but not all, of the elements in the RPI. The components of the indicative package include:

Component	Description	Objectives	
A walkable city	Accessibility and amenity improvements, setting safer speeds for vehicles and walking improvements	A city that is safe and attractive to walk around	
Connected cycleways	Cycleways on Featherston Street, Thorndon Quay, Courtenay Place, Dixon Street, Taranaki Street, Willis Street, Victoria Street, Kent and Cambridge Terrace and Bowen Street	A connected and safe central city cycleway network that is integrated with the wider cycleway network	
Public transport to and through the city	Dual public transport spine through the central city on the Golden Mile and Waterfront Quays; rail network improvements; and bus priority on Thorndon Quay and Hutt Road	A reliable public transport system that enables Wellington to grow and encourages public transport mode shift, better public transport choices to the north and enables a 30% increase in rail patronage	
Smarter transport network	Full integrated ticketing; transition to integrated transport network operating systems; travel demand management measures including Mobility as a Service, parking policy improvements and education and engagement	A well-managed transport system that makes best use of infrastructure and helps smooth transition through implementation of the indicative package	
Rapid transit	Provide rapid transit (the term Mass Transit is used in the RPI) as part of the wider public transport network from the railway station to Newtown and to the airport. The design and preferred mode of rapid transit will be determined by the business case	Improve travel choice through the city with an attractive public transport option to the Wellington Regional Hospital and Wellington International Airport and creates an opportunity to share a more compact and sustainable Wellington City.	
Unblocking the Basin Reserve	At-grade changes to improve reliable access for all modes; and grade separation between north-south movements, east-west movements and any rapid transit corridors	Reduces conflict between different movements and modes of transport, creating more reliable access for all transport modes	
Extra Mount Victoria Tunnel	Extra Mount Victoria Tunnel and widening Ruahine St and Wellington Rd to improve access for public transport and enable dedicated walking and cycling routes.	Improves access, reliability and travel choice from the east for all transport modes, relocates through traffic away from Evans Bay route and ensures network function while rapid transit is constructed in Newtown	

The components of the LGWM RPI that are not included in the indicative package are some of the State Highway One improvements such as:

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- Reconfiguring State Highway One into a tunnel under a new city park in Te Aro between the Basin Reserve and the Terrace Tunnel;
- Duplication of the Terrace Tunnel; and
- An additional southbound lane on State Highway One between Ngauranga and Aotea Ouay.

7. Programme Cost and Funding Requirements

7.1 Government funding commitment

The LGWM Indicative Package requires a total funding commitment of \$6.4 billion over 30 years, including capital expenditure, financing costs, operating costs and an allowance for inflation and lost revenue from on-street parking.

The Indicative Package is based on an overall programme funding split of 60:40 between central government and local government. Government proposes to fund its 60% (\$3.8 billion, including \$2.2 billion of capital expenditure) from the NLTF, the dedicated transport fund into which all fuel excise duty, road user charges and motor vehicle relicensing fees are paid. The components of the package are expected to go through the normal NZTA project business case process.

The proposed local funding share of the Indicative Package for WCC and GWRC is 40% or \$2.6 billion, which includes capital expenditure of \$1.5 billion (based on the 30 year inflated figures above).

As part of the announcement, the Government also included a \$4.4 billion (inflated) allowance for other Wellington region transport investments outside of LGWM. This represents a total Government commitment of \$8.2 billion for the Wellington region over the next 30 years (in addition to existing commitments).

The Government's commitments assume that funding of the NLTF increases in line with inflation and that 10.5% of the fund will be available for the Wellington region over the 30 year period, which is broadly in line with Wellington's population share.

7.2 Local funding requirement

The Minister of Transport has made the Government's funding commitment to LGWM contingent on local government meeting 40% of the total cost. However, the Cabinet paper acknowledges that different project components are likely to have different funding splits. While the intention is to end up at a 60:40 split between central and local government, further work will be needed to establish how each of the major programme elements will be funded.

The 60:40 overall cost share is forecast to be broken down as follows:

	1st Decade	2nd Decade	3rd Decade
Central Share	\$0.8b	\$1.4b	\$1.6b
Local Share	\$0.8b	\$0.9b	\$0.9b
Total	\$1.6b	\$2.3b	\$2.5b

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The local share of costs is higher in the earlier years as central government is expected to meet a higher share of the cost of rapid (mass) transit and local government (WCC) is expected to bear the impact of the lost revenue from onstreet car parking.

To develop and agree a full funding proposal including the appropriate allocations to each of the partners will require considerable additional information that will only be available at the conclusion of the further investigations and business case process. This would include information on:

- Capital cost and sequencing of the programme elements;
- Operational costs associated with the operation and maintenance of infrastructure;
- Procurement approach to major programme elements; and ownership of new assets.

There are a number of relevant considerations for determining local funding sources and how the 40% local share will be split between the two local government partners, including:

- The appropriate balance between rates, user charges, and individuals or business who stand to benefit from the investment;
- Where the benefits fall between region and city;
- Asset ownership and operational responsibility;
- Affordability; and
- Funding and financing tools.

Gathering the necessary information to understand and analyse these will require additional information that is not currently available. It is therefore proposed that for the interim period of two years that a simple formula is applied, this is discussed in detail in section 9.

7.3 Relationship to Long Term Plan and Annual Plan

When the 2018-28 Long Term Plans were developed, both Greater Wellington Regional Council and Wellington City Council provided an initial contribution based on the information available at that time. It was made clear in the consultation documents of both Councils that once a preferred option was agreed, changes would be required.

The GWRC Long Term Plan 2018-28 provided for a contribution of \$67m and the WCC Long Term Plan 2018-28 provided for a contribution of \$126m towards LGWM. This comprised a mix of operational funding for investigations and business cases and capital costs for construction.

To meet the local funding requirements of the LGWM it is clear that changes to the funding currently provided for in both Councils' Long Term Plans will be required. This is likely to require a variation to the respective Long Term

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Plans and will be considered as part of the subsequent Annual Plan process for 2020/21 and the preparation of the next Long Term Plan for 2021-31. Public consultation on the overall funding of the LGWM programme would form an important part of this future decision-making process.

8. Next steps

Subject to partner approval of this paper, the next steps will be to progress the following actions:

8.1 Early delivery programme

The purpose of the Early Delivery programme is to make a start on implementing the strategic approach of LGWM to move more people with fewer vehicles, while the larger and more complex components of the programme are being developed.

The following works can be delivered in the short-term and form the basis of the Early Delivery programme. While projects of this size and nature would typically be implemented over a period of up to five years (including investigation, design and implementation), the project team will investigate all avenues to accelerate the programme:

- Central city walking improvements
- Safer speeds in the central city and on the state highway east of Mt Victoria and a new crossing on Cobham Drive
- Bus priority measures
- Thorndon Quay and Hutt Road bus priority, walking and cycling improvements
- Golden Mile bus priority, walking and cycling improvements

Alongside the early delivery programme, officers from GWRC and WCC are working collaboratively to progress delivery of a joint programme of bus priority measures as agreed by both organisations on 13 June 2019.

8.2 Business case development

A substantive component of the next phase of the LGWM programme development is the progressing of the recommended programme through the business case process. This will include a more detailed investigation of the recommended programme including the identification of the preferred route, form and timing of each individual element of the programme.

A key priority over the next year will be the completion of a business case for mass transit, as this will be important in establishing the design, staging and sequencing of other interventions, and to minimise disruptions during construction. At this stage it is expected that the indicative business case for rapid transit will be completed by mid-2020, to allow the partner organisations to include the necessary investments in their long-term plans and the next Regional Land Transport Plan (RLTP).

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The investment cases will also be developed for each programme element including a more detailed assessment of the costs, benefits and funding requirements (from all parties). This will provide greater certainty for the investors of the programme implications and outcomes delivered. Stakeholder engagement will be an important component of this next phase of investigation.

The business case work will be developed in packages to deliver efficiency of process and also to ensure that the right capability is focussed on the right elements of the programme. The packages are currently being scoped and confirmed.

It is anticipated the programme for the delivery of these business cases is as follows:

- Procurement of the business case packages in Quarter 4 of 2019
- Delivery of business cases from Quarter 1 2020 through to mid-2021
- Pre-implementation following business case approval

The completion of the business cases are anticipated to unlock funding for the subsequent phases of the programme development, being consenting, design development and construction.

8.3 Partnership agreement

There is a need to change the governance and management structure as LGWM moves into the detailed investigation and delivery phase. A new partnership agreement and delivery model will be developed for partner consideration.

Initial discussions have focussed on the establishment of an Integrated Delivery Vehicle (IDV) for LGWM, which would initially be responsible for the early delivery programme and preparation of business cases.

The IDV will be guided by a new partnership agreement and delivery model which will set out the governance and management arrangements, including the delegation of decision-making and cost-sharing arrangements between the parties. At this stage, it is envisaged that the IDV will not assume any of the legislative powers/requirements of the three partner organisations. The IDV is expected to be an evolution of the existing memorandum of understanding agreement between the partners, with an increased commitment and requirement for the integrated development and funding of the LGWM programme.

The IDV is focussed on the next two to three years of the LGWM programme development (primarily business case and pre-implementation). However, it will be sufficiently flexible to allow for further development and change to the IDV structure for the subsequent phases of the programme development (implementation) at the end of this initial phase (for example to incorporate urban development opportunities). It is the intention that the new partnership agreement will commit all parties to the agreed approach of the IDV.

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It is planned to have the IDV in place later this year or early next year. The structure and role of the IDV and the governance structure above it will need to be agreed by each of the partner organisations before the IDV can be formally established. In the meantime, the existing LGWM governance structure will continue.

The LGWM partners will be appointing a transition programme director to oversee the transition to the new structure.

9. Proposed cost sharing for the next phase

9.1 Interim Funding Approach

As discussed in section 7, more detailed information will be required to agree the funding splits for the full programme, which will require time to develop. In the meantime, and to enable the programme to progress to the next stage, it is recommended that an interim approach be adopted to the allocation of funding between the three partner organisations. This would cover the next two years of the LGWM programme and would include:

- Further investigations, business cases and design;
- The Early Delivery programme;
- Lost revenue from the removal of on street car parks; and
- Any advance property purchases (as required).

This approach also fits well with the National Land Transport Plan (NLTP) process. The current NLTP covers the 2018-21 period (the next two years). A new NLTP will be prepared for the 2021-23 period.

The interim funding approach will be reviewed after two years once further information is available. It is acknowledged that the partner organisations may incur other costs that fall outside of the interim funding agreement over the next two years. It is the intention that in the review of the funding agreement in two years, these would be considered and taken into account and if necessary "wash up" payments made.

The LGWM programme has developed initial budget estimates for the activities outlined above over the next two years of the programme, as follows:

- 2019/20 \$7m opex, \$3.7m capex
- 2020/21 \$17m opex, \$13m capex

9.2 Interim Funding Split

During the interim period the split between central and local government is proposed as follows:

- Business case development and LGWM management costs 60:40;
- Early delivery programme asset owner (for central government-owned assets);
- Lost revenue from on street parking asset owner (Wellington City Council); and,

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 Advance property purchase costs – case by case basis with the expectation that costs would fall in the interim to the asset owner.

During the interim period the split (of the above 40%) between the two local government partners is proposed as follows:

- Investigations, business cases and LGWM management costs 50:50;
- Early delivery programme asset owner (for local government-owned assets) with FAR rates applying; and
- Advance property purchase costs case by case basis with the expectation that costs would fall in the interim to the asset owner.

To enable a later reconciliation and review of this funding agreement, the partner organisations will need to regularly record and report on any costs incurred.

Both councils are about to finalise and adopt their Annual Plan for 2019/20 at the end June and it is anticipated that the funding allocated in the two council's Annual Plans for 2019/20 will be sufficient to fund the 40% local government share of the operating programme costs for 2019/20. To fund any capital works undertaken, it may be necessary to bring forward capital funding already provided for in subsequent years in each council's Long Term Plan. This process can be completed once a better indication of the likely capital costs in 2019/20 is available.

For both councils, adjustments will likely be needed to the 2020/21 Annual Plan. This will be considered as part of the normal annual plan process.

10. Communication

LGWM is refining its communications and engagement plan to ensure that stakeholders and the public are kept informed on progress and invited to respond at appropriate stages.

The LGWM website www.getwellymoving.co.nz contains a comprehensive record of the LGWM process, and background information, and provides a platform for public interaction with the LGWM team. Now that the Indicative Package has been announced, supporting information is being proactively uploaded to the website.

Targeted communication has commenced as follows:

- The LGWM team has written to more than 350 property owners in the vicinity of the Basin Reserve and Mt Victoria/Ruahine Street/Wellington Road, to ensure that they are aware of the Indicative Package and the possible future impact on properties in the area;
- LGWM has sent an email newsletter to 2,000 email subscribers focused on the programme's next steps; and,
- LGWM has started meeting with stakeholder groups to discuss the indicative package and next the steps for the programme.

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The LGWM website will provide information on the next steps for LGWM and identifies the specific opportunities for public input. This will include:

- Opportunities for the public to have their say on early delivery proposals (including safer speeds and Cobham crossing) from later this year;
- Public consultation on WCC and GWRC's long-term plans (assumed to be in early 2021), which will set out proposals to fund local government's contribution to LGWM; and,
- Input to the more significant elements in the LGWM indicative package (including rapid transit, Basin Reserve and Mt Victoria). It will be some time before the effects of any design options for these programme elements are known. LGWM will work to keep the community informed and engage with the public when the appropriate information is available.

A joint media release has been issued on the contents of this paper and a further media release will be prepared following consideration by both Councils.

11. Consideration of climate change

The matters addressed in this report have been considered by officers in accordance with the process set out in the GWRC Climate Change Consideration Guide. The matters addressed in this paper seek to significantly enhance the public transport network. Officers note that improving public transport capacity, reliability and level of service is expected to increase public transport use which will contribute to an overall reduction in gross regional greenhouse gas emissions.

12. The decision-making process and significance

The matters requiring decision in this report have been considered by officers against the requirements of Part 6 of the Local Government Act 2002 (the Act).

12.1 Significance of the decision

Part 6 requires GWRC to consider the significance of the decision. The term 'significance' has a statutory definition set out in the Act.

Officers have considered the significance of the matter, taking the Council's significance and engagement policy and decision-making guidelines into account. Officers recommend that the matter be considered to have low significance.

Officers recognise that the LGWM programme and matters referenced in this report have a high degree of importance and interest to the regional community. However, the decisions sought through this report are an interim step as part of a longer process, to investigate, fund and deliver a package of improvements, that will lead to the Council making a decision of high significance within the meaning of the Local Government Act 2002.

This report seeks Council's agreement to an interim funding approach and funding split for the next two years. The existing funding allocation in Greater

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Wellington's 2019/20 Annual Plan is expected to be sufficient to fund its share of the local government share of the operating programme costs for 2019/20. Once any capital costs in 2019/20 are better understood, it may be necessary to bring forward capital funding already provided for in subsequent years in each council's Long Term Plan.

Adjustments will likely be needed to the 2020/21 Annual Plan (and variation to the Long Term Plan) and these will be considered as part of the normal annual plan process. Consideration of how to meet the local funding requirements of LGWM beyond this will considered as part of the next Long Term Plan for 2021-31. Public consultation on the overall funding of the LGWM programme would form an important part of these decision-making process.

The LGWM vision and recommended programme of investment is consistent with existing Council policy set out within the Regional Land Transport Plan (RLTP) and Regional Public Transport Plan, and progressing the LGWM programme is consistent with its high priority in the RLTP's list of prioritised significant activities.

12.2 Engagement

Comprehensive, multi-stage engagement with stakeholders, interested parties and the regional community have been carried out as part of the LGWM programme over the past 3-4 years. Details of the engagement process to date is set out in Section 3 of the report and future engagement approach in Section 10.

Views of the community were sought, understood and considered through the these engagement processes and have informed the *LGWM Vision*, *Context* and *Recommended Programme of Investment* provided as **Attachments 1, 2,** and **3** to this report.

13. Recommendations

That the Council:

- 1. **Receives** the report and attachments.
- 2. **Endorses** the Let's Get Wellington Moving Vision, Context and Recommended Programme of Investment included in Attachments 1, 2, and 3, as endorsed by the Let's Get Wellington Moving Governance Group and developed by the Let's Get Wellington Moving Programme after investigation and engagement.
- 3. **Welcomes** the 16 May 2019 Let's Get Wellington Moving announcement made by the Minister of Transport supported by Mayor Lester and Chair Laidlaw.
- 4. **Supports** the Indicative Package of investment for Let's Get Wellington Moving and the Government's proposed funding allocation for the region through the National Land Transport Fund.

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- 5. **Notes** that the Programme Business Case and supporting technical documents developed by the LGWM Programme provides greater detail of both the process and the various investigations of LGWM.
- 6. **Endorses** the early delivery work programme as presented in Section 8.1 of the report.
- 7. **Agrees** to commence further investigations as described in Section 8.2 of the report.
- 8. **Agrees** to work towards a formalised partnership agreement and integrated delivery model for the next phase of the programme involving detailed investigation and delivery.
- 9. **Agrees** to provide a share of the funding as outlined in Section 9 necessary to enable the next phase of work outlined in Section 8 and referred to in Recommendations 6, 7 and 8.
- 10. **Notes** that longer-term funding requirements for implementation will be considered by the partners through future Annual Plan, Long Term Plan, Regional Land Transport Plan, and National Land Transport Programme processes.

Report prepared by: Report approved by: Report approved by:

Natasha Hayes Harriet Shelton Luke Troy

Senior Strategic Advisor, Manager, Regional Transport General Manager, Strategy Regional Transport

Attachment 1: LGWM Vision
Attachment 2: LGWM Context

Attachment 3: LGWM Recommended Programme of Investment

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Attachment 1 to Report 19.258











What's our vision for Wellington?











Who are we?

LET'S GET WELLINGTON MOVING: A COLLABORATIVE APPROACH

Wellington City Council, Greater Wellington Regional Council, and the NZ Transport Agency are working together to deliver a transformational city-shaping programme for Wellington.

This aims to improve the way people get around while enhancing liveability and access, reducing reliance on private vehicles, and improving safety and resilience.

Absolutely Positively **Wellington** City Council
Me Heke Ki Pōneke

Responsible for overall land use and movement planning, spatial planning, local road and public transport infrastructure, and RMA consenting



Responsible for regional transport planning, public transport planning and operation, civil defence, and environmental management



Responsible for state highways and the funding partner for local roads, public transport, and cycling facilities, and for planning and delivering rapid transit

Our focus is on the area from Ngauranga Gorge to the airport, including the Wellington Urban motorway and connections to the central city, hospital, and the eastern and southern suburbs.

LGWM is working with the people of Wellington to prepare for future growth and build on Wellington's unique character as a great place to be.



How did we get to our vision?

WE STARTED WITH THE KIND OF CITY AND REGION OUR COMMUNITY WANTS. AND DEFINED THE TRANSPORT SYSTEM NEEDED TO ENABLE THAT

THE COMMUNITY'S URBAN DESIGN AND TRANSPORT PRINCIPLES

We talked to people across the region and asked them to tell us what they love about Wellington City and what frustrates them about getting around it. Around 10,000 people responded.

We used their feedback to develop 12 guiding principles we've used to plan and assess our programme.







Future proof and resilient



future

Clean and Past, present. green



Set in nature





Compact city



Better public transport



and safe

Travel choice



Predictable travel times

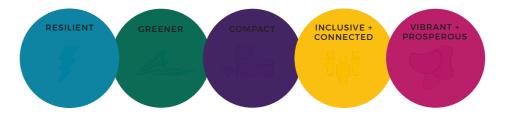


Growth supply



OUR PRIORITIES FOR THE REGION'S SUCCESS

The LGWM partners have shared priorities for the region's future.



LGWM'S PROGRAMME OBJECTIVES

We used the community's principles, alongside our shared priorities, to develop and agree objectives for the programme.

A transport system that:

Enhances the central city

Provides more liveability of the efficient and reliable access for users

Reduces reliance on private vehicle travel

Improves safety for all users

Is adaptable to disruptions and future uncertainty



LIVEABILITY



ACCESS



REDUCED CAR **RELIANCE**



SAFETY



RESILIENCE

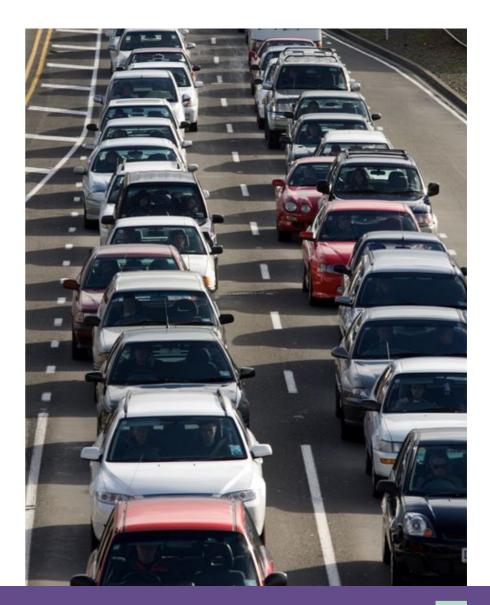
Why is change needed?

WELLINGTON IS:

- · The world's most liveable city¹
- NZ's best tourism destination²
- The engine of the region's **economy and jobs**
- · Attracting more people to live and work here

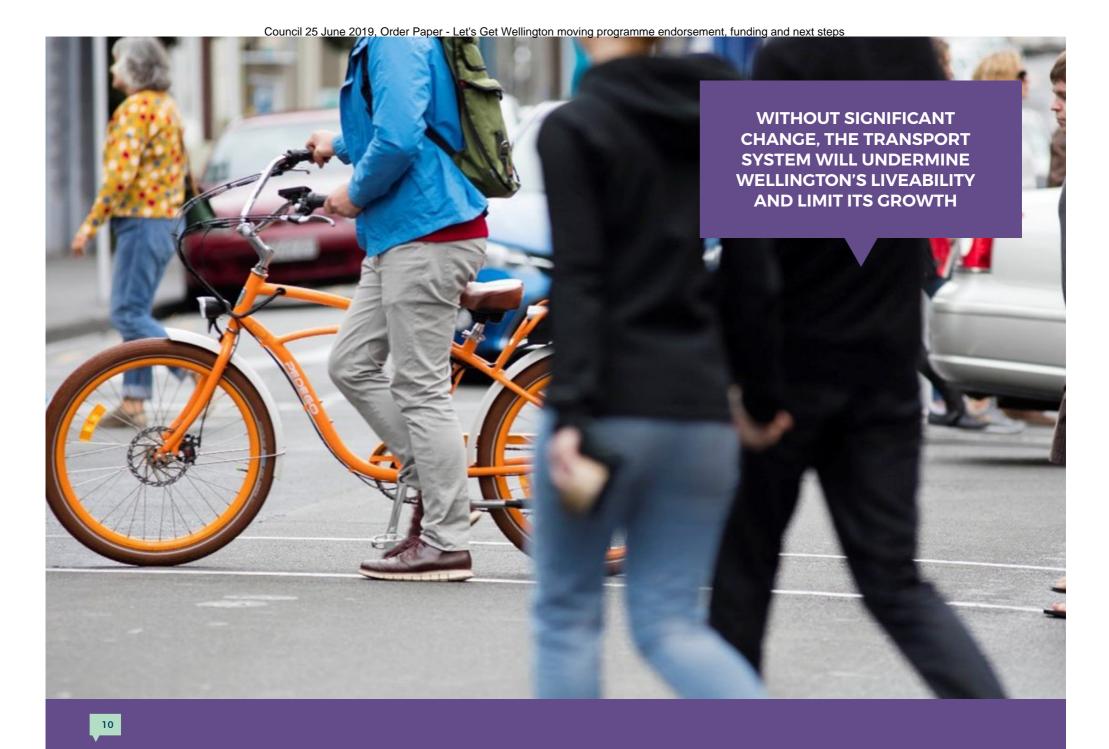
BUT OUR TRANSPORT SYSTEM HAS:

- Growing congestion
- · Buses and trains near capacity
- · Safety issues for walking and cycling
- · Poor resilience to unplanned events



¹ Deutsche Bank Most Liveable Global City 2017 & 2018.

² Lonely Planet 2018



What opportunities can our vision bring?

More reliable

LGWM'S VISION CAN:

Shape Wellington's growth

 by improving accessibility to encourage greater urban density, and supporting higher residential, employment, and commercial opportunities along the mass transit corridor

Create more attractive and safer city streets

 through less traffic, slower speeds, less noise and air pollution, and a better urban environment

Improve travel choices

• to provide safe, convenient, attractive, and reliable journeys

Support greater productivity

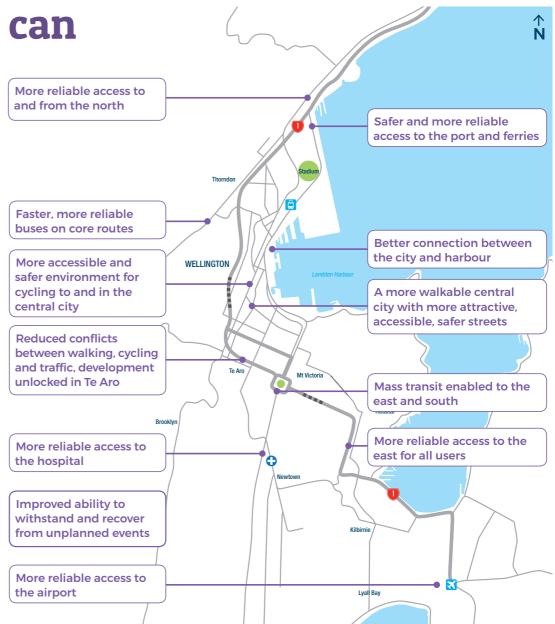
 through more reliable and predictable journey times, so people can use their time better and freight efficiencies can be unlocked

Improve community health and wellbeing

 through better safety and more people walking, cycling and using public transport

Support better environmental outcomes

 through more people using low emission transport - walking, cycling, and public transport - and by delivering a more compact city where more destinations can be reached by these modes



What's our strategic approach?

WE NEED TO MOVE MORE PEOPLE WITH FEWER VEHICLES

Make the most of what we have

- · Optimise the transport system and make it safer
- Encourage people to walk, cycle, and use public transport more, and use cars less

2 Deliver a step change in public transport

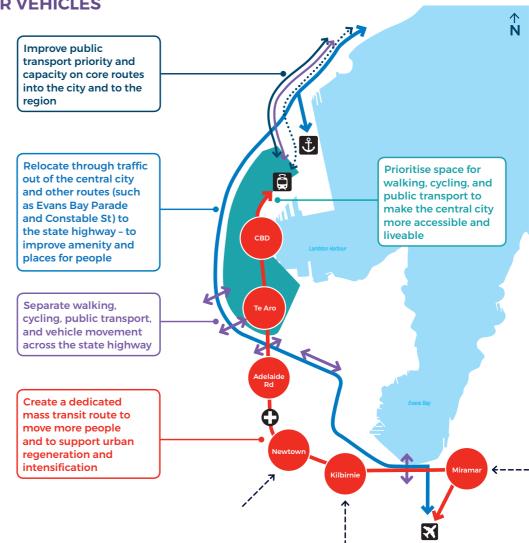
- Substantially improve public transport capacity, quality and performance
- Encourage urban intensification near public transport

Improve journeys to, from and in the central city

- Prioritise people walking, cycling, and using public transport on key corridors
- Improve accessibility and amenity of places and streets
- · Ensure goods and services journeys are reliable

Improve journeys through and around the central city

- Reduce conflicts between different transport users and traffic flows
- Increase the resilience and reliability of our transport corridors, especially to the hospital, port, and airport



How will we know we've achieved our vision?

WE HAVE DEVELOPED KEY PERFORMANCE INDICATORS TO ASSESS THE PERFORMANCE OF OUR PROGRAMME. THE MAN KPIS ARE SHOWN BELOW.

PROGRAMME OBJECTIVES



LIVEABILITY



ACCESS



REDUCED CAR RELIANCE



SAFETY



RESILIENCE

KEY PERFORMANCE INDICATORS



Amenity



Carbon emissions



Urban development potential



Travel time reliability



Network catchment



System occupancy



Level of service walking



Level of service cycling



Safety for walking and cycling



Network resilience

ASSESSMENT

The quality of the urban environment, including greenspace, urban design, traffic volumes/speeds and pedestrian space

Transport-related CO2 emissions in the central city

Opportunities for urban development and value uplift

The reliability of travel time by different modes to key regional destinations

The number of people living within 30 mins of key destinations

The ratio of people travelling to the central city (by all modes) against the number of private vehicles

Delays for people walking in the central city

The quality of cycling facilities

The safety benefits for people walking and cycling in and around the central city

Network resilience to disruption caused by large-scale natural hazards







Absolutely Positively **Wellington** City Council Me Heke Ki Pöneke

Attachment 2 to Report 19.258



Context

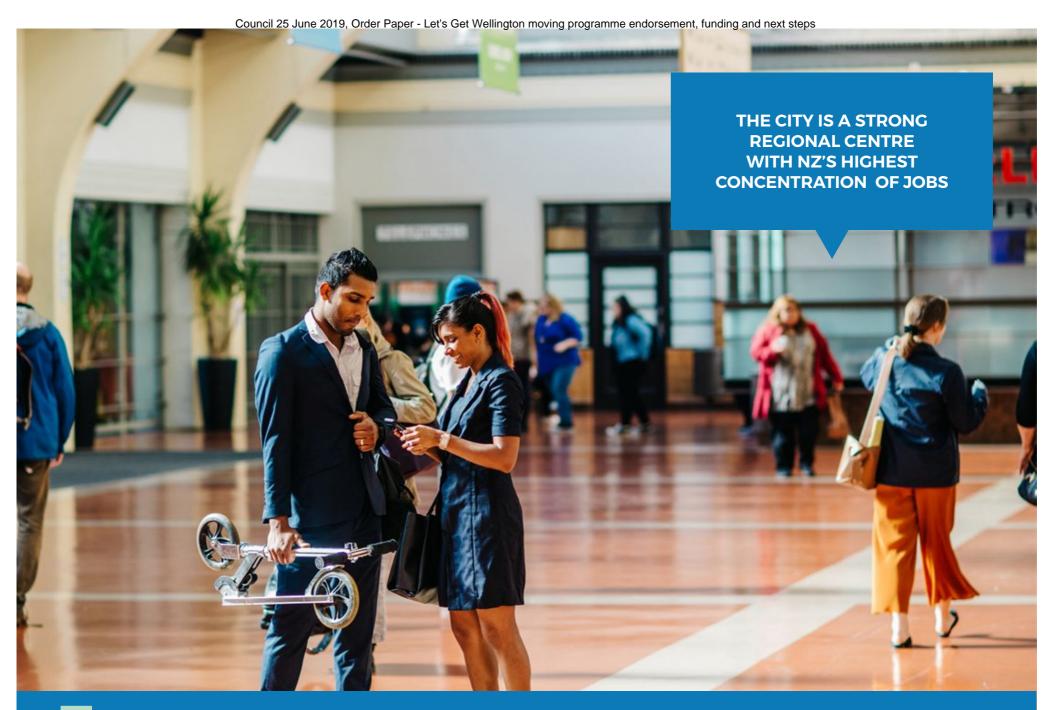
May 2019







Absolutely Positively Wellington City Council Me Heke Ki Pöneke



Council 25 June 2019, Order Paper - Let's Get Wellington moving programme endorsement, funding and next steps

Introduction

PLANNING FOR A GROWING REGION

Our central city is the core of a growing region, an asset for our people, and an enabler for their success.

Our creative capital city is acknowledged internationally for its culture and liveability. We have New Zealand's greatest concentration of jobs. And we lead the country in sustainable transport - with the highest use per capita of public transport and walking.

So it's no surprise that more people want to live, work, and play here. With strong growth projected in residents, jobs, and visitors, the central city offers great opportunities for the region's future prosperity.

But growth - constrained by our hills and harbour - is creating challenges. Our transport system is approaching capacity and without major change, it will start to undermine the very liveability and culture that is Wellington's great strength.

The community wants transport challenges addressed and supports significant change.

The LGWM partners agree.



The central city – an asset for the region's people

TOMORROW'S GLOBALLY COMPETITIVE CITY

NEEDS:

- · A diverse knowledge economy
- · High amenity and liveability
- · High housing density and diversity
- · A compact central city with strong regional connections

ENABLED BY:

An integrated transport system with high-quality walking, cycling, and public transport promoting regional access and urban development

WELLINGTON HAS MANY STRENGTHS TO BUILD ON



Our capital city, centrally located, the seat of Government, and administrative centre of the country



Compact urban form and easy access to the harbour, parks, and the natural environment



International airport and port near the central city

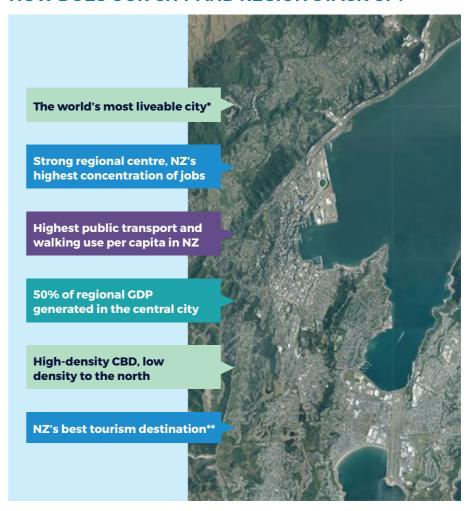


New Zealand's main player in big screen film production



Growing expertise in technology and innovative industries

HOW DOES OUR CITY AND REGION STACK UP?

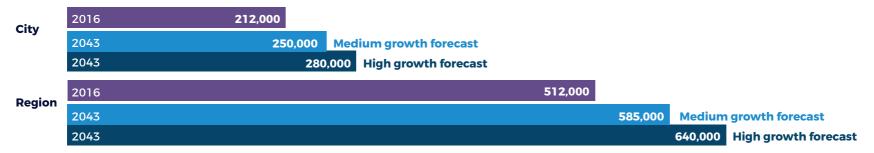


^{*} Deutsche Bank Most Liveable Global City 2017 & 2018

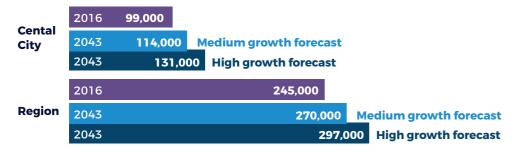
^{**} Lonely Planet 2018

The central city – the core of a growing region

POPULATION



JOBS



More than
40% of the region's
jobs are in the central city

55% to 60% of the region's job growth to 2043 is projected to be in the central city

GROWING TRIP DEMAND





By 2030, the number of passengers using Wellington Airport each year will more than double, from five million to over 10 million, at an average growth rate of 3.4% per year.¹



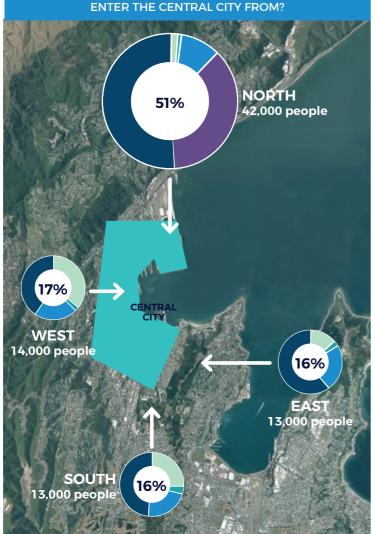
Emergency department attendances will increase 60% between 2016 and 2030, or more than 36,000 additional visits.²

¹ Wellington International Airport Master Plan

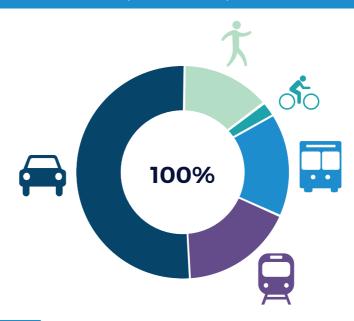
² Capital and Coast DHB Health System Plan 2030

The central city – a focus of regional movements





MODE: IN THE MORNING PEAK¹ HOW DO PEOPLE ENTER THE CENTRAL CITY (ALL DIRECTIONS)?



KEY FACTS

82,000 people enter the central city in the morning peak.

60% of people coming from the east are in cars

HALF of these are in cars, mostly single-occupancy vehicles

PUBLIC TRANSPORT is highest for people travelling from the north (46%)

80,000-90,000 people work in the central city and **25,000 residents** make trips for work and leisure

¹ Figures are for the morning peak - 7am to 9am on a typical working weekday.

Growth is creating major challenges

WELLINGTON IS A GREAT PLACE TO LIVE, WORK, STUDY AND VISIT. BUT OUR TRANSPORT SYSTEM IS STARTING TO CONSTRAIN THE CITY AND REGION'S LIVEABILITY, ECONOMIC GROWTH AND PRODUCTIVITY.

THESE DRIVERS AND CONSTRAINTS...



Population growth



Land use changes



Economic growth



Constrained geography

...ARE HAVING THESE EFFECTS



Housing pressures



Northern growth pressures



Traffic congestion



Safety issues for walking and cycling



Conflict on transport corridors



Disruption from unplanned events

THE TRANSPORT SYSTEM IS APPROACHING CAPACITY

In recent years, most of the growth in travel demand has been due to more walking and cycling, and more use of trains and buses especially to the central city.



Buses are caught in traffic congestion so service efficiency and reliability is severely compromised. Even after the 2018 network changes, Wellington's buses operate near capacity during the peak.



Private vehicle use in the central city has been held in check by congestion, and the cost of commuter car parking. At peak times, parts of the network and routes to the central city operate at capacity.



Traffic impacts negatively on amenity in the central city, and on the safety and convenience of walking and cycling.



In the peak, the commuter rail network is close to capacity. Patronage has grown 20% in the peak over five years.

TRANSPORT, INTENSIFICATION, AND GROWTH

Transport plays a key role in facilitating Wellington's growth, in particular supporting intensification of the central city and the high quality of life it has to offer.

Enabling more people to live and move around the central city is desirable economically as it supports an increasingly productive economy by matching innovative businesses with a highly-skilled labour pool.

Good job opportunities and a high quality of life tend to attract talented people to the city. Intensification is desirable environmentally as it reduces the need for people to travel long distances to access the city.

Doing nothing is not an option

IF WE DON'T ACT

- X The central city won't cope with more buses
- X Trains and buses will become even more crowded, and the road network will become increasingly congested
- Travel times will become more unreliable no matter how you get around, freight and deliveries will become more inefficient
- $m{x}$ There won't be enough transport capacity to cope with medium growth projections
- X Deaths and serious injuries will remain unacceptably high
- X Walking and cycling will become less attractive options
- ★ The transport system will remain vulnerable to disruption from small day-to-day incidents and large-scale events.

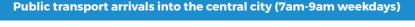
TRANSPORT CONSTRAINTS WILL LIMIT THE REGION'S GROWTH

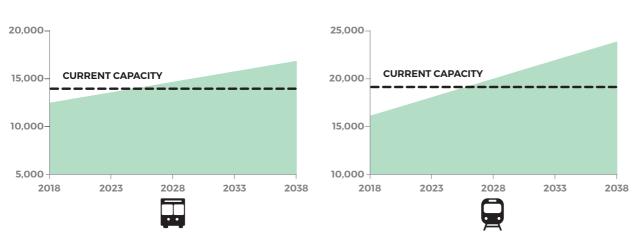
Without extra investment, the central city won't have enough transport capacity to meet the projected growth in population and employment over the medium-term.

The central city hosts the highest concentration of jobs and productivity in the region.

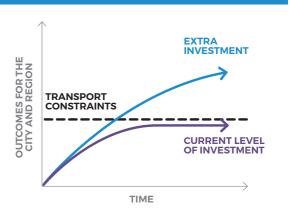
Constraining its growth will impact the economic prosperity of the region as a whole.

BUSES AND TRAINS WILL BE OVER-FULL BY 2028





Growth potential





Unreliable travel times are adding to frustration

TRAVEL TIMES ARE UNRELIABLE

As the transport network becomes increasingly congested, travel times are becoming more variable, and people need to allow more time for their journeys.

AND THERE IS GROWING FRUSTRATION

People and businesses are becoming increasingly frustrated with delays, disruption, and the lack of available travel choices.

Some problems people experience

Travel time reliability, sample routes and modes Range of travel times on each route 50 MINUTES VEHICLE 20 10 BUS

Traffic congestion There aren't the and inefficient enough buses the public transport at peak times bet

"Getting across town"

44Too many cars in the CBD and conflicts between cars, buses, cyclists and pedestrians?

Lack of cycle

lanes and

dedicated bus

lanes, why do buses have to

sit in traffic?

Waiting too long to cross at lights

"Lack of parking and traffic congestion"

I don't feel safe when cycling

iobs in the

Don't do

44 Parking and too much traffic going through the central city?

"Driving across the city"

Public transport

is expensive,

particularly

when travelling

with children or

changing routes

"The traffic around the Basin Reserve"

I have to leave much earlier to get to work on time

"We need an extra truck because one is always stuck in traffic"

Feedback supports major change

SCENARIOS FOR WELLINGTON'S TRANSPORT FUTURE



In late 2017 we released four scenarios for Wellington's transport future and asked for public feedback:

Scenario A - focused on prioritising walking, public transport and cycling, and improving amenity and safety, especially in the central city

Scenario B - added further investment, reducing conflicts at the Basin Reserve, creating a mass transit system on a spine route splitting at the Basin Reserve, and providing better access to the east

Scenario C - added a new tunnel and urban park in Te Aro, to reduce traffic conflicts and unlock redevelopment opportunities

Scenario D - added more capacity through the Terrace Tunnel and a fourth lane southbound on the state highway between Ngauranga and Aotea Quay, enabling less through traffic on the waterfront quays, improving amenity in the central city and access to the port from the north.

STRONG SUPPORT FOR CHANGE

We received feedback from over 2,000 people and 50 stakeholder groups. Of those who stated a preference, the largest proportion supported Scenario D, with significant support for Scenario A. Within Scenario A there was a strong sense that the scenario didn't do enough to improve public transport.

KEY FEEDBACK THEMES

- 1 Support for better public transport: now and long-term
- 2 Universal support for less congestion
- 3 Widespread support for walking and cycling
- 4 Opposition to new infrastructure increasing car use
- 5 A regional, integrated approach is required
- 6 It is time to act, while being mindful of cost
- 7 Future-proofed solutions are needed
- 8 Basin traffic flow issues need solving: but diverse views are held
- 9 Wellington-specific solutions are required

Public opinion backs significant interventions

PUBLIC OPINION SURVEY RESULTS

To supplement the feedback from the public engagement, Research NZ was commissioned to undertake an independent public opinion survey of Wellington City and region residents.

This survey allowed us to hear from a wide cross-section of the public who may not have engaged with LGWM so far.

In the public opinion survey 1,334 residents were asked how much they supported or opposed a range of possible transport solutions

POSSIBLE TRANSPORT SOLUTION % SUPPORT % OPPOSE Light rail from railway station to airport via Newtown Bus rapid transit on major routes to and from central city An extra Mt Vic tunnel with vehicle lanes, cycling and 62 walking facilities Dedicated public-transport-only lanes on the Golden Mile 57 Tunnel under Te Aro for State Highway 1 traffic 56 53 Change road layout at Basin Reserve using a tunnel 50% support An extra Terrace tunnel and fewer lanes on waterfront 49 15 47 18 Give pedestrians priority at traffic lights 45 Network of cycle lanes through the central city Change road layout at Basin Reserve using a bridge 45 17 21 42 Lower the speed limit in parts of the central city Remove car access on the Golden Mile **33** 35 **30** Reduce on-street carparks Change road layout at Basin Reserve - no bridge or tunnel 26 Congestion fee to drive into city during peak times 22 61

NOTE: The survey presented respondents with possible solutions to improve transport in Wellington, and asked them how much they support or oppose each solution on a ten-point scale. Respondents were considered to support a solution when they scored it from 7 to 10, oppose it when they scored it 0 to 3, and were neutral about it when they scored if from 4 to 6.

Developing a bold plan

THE COMMUNITY'S INPUT HAS SHAPED THE RECOMMENDED PROGRAMME

We considered the feedback themes and the public's preferences along with results from the public opinion survey.

Further analysis showed a single public transport spine through the central city on the Golden Mile would not meet growing demand for public transport and future mass transit.

The LGWM Governance Group challenged the team to be bold and develop a long-term solution including:

- · High-quality walking and cycling
- Mass transit from the station to the airport on a second spine through the central city, integrated with land use so transport investment and urban development support each other
- State highway improvements for all modes to reduce conflicts and help remove cars from the central city
- · A smarter transport network including pricing

To learn more, read the Recommended Programme of Investment











Absolutely Positively **Wellington** City Council Me Heke Ki Pöneke



Attachment 3 to Report 19.258

October 2018 Recommended Programme of Investment

Published May 2019







Absolutely Positively
Wellington City Council



Overview

MAKING WELLINGTON A BETTER PLACE BY MOVING MORE PEOPLE WITH FEWER VEHICLES

LGWM used the community's feedback, and our extensive technical work, to develop this Recommended Programme of Investment.

This was endorsed by the LGWM Governance Group in late 2018.

The recommended programme reflects the partners' ambitions for improving Wellington's transport system over the next two decades.

It is a high-level, whole-of-system approach that will enable the growth of the city and the region.

It seeks to integrate urban development with transport investment, and help people get around, whether you're walking, cycling, using public transport, or driving.

At its heart, the programme seeks to deliver a multi-modal transport system that moves more people, goods and services reliably, with fewer vehicles.

FUNDING AND AFFORDABILITY

Once the Recommended Programme of Investment was endorsed by the LGWM Governance Group, it was shared with central government due to its scale and the funding challenges it presents.

The LGWM vision and the recommended programme are ambitious. The Governance Group challenged the LGWM team to be bold so we didn't miss any opportunities to support the city and region's success. As such, LGWM acknowledges the programme as a whole is unlikely to be fundable within current transport funding settings.

However, LGWM's focus on integrating land use with transport investment has the potential to deliver large benefits via urban regeneration and uplift - especially from a new mass transit system.

With this in mind, members of the LGWM Governance Group engaged with transport ministers to develop an innovative funding model for LGWM and to seek support for an initial package of investments that would allow early and substantial progress to be made in realising the ambitions of the recommended programme.

THE INDICATIVE PACKAGE

The recommended programme was agreed by LGWM in late 2018 and used as the starting point for engagement with central government on the way to developing an indicative package.

The government announced the **indicative package for LGWM** on 16 May 2019.

The indicative package includes many, but not all, of the elements in the recommended programme.

Council 25 June 2019, Order Paper - Let's Get Wellington moving programme endorsement, funding and next steps

The recommended programme



Moving more people with fewer vehicles

OUR STRATEGIC APPROACH

Make the most of what we have

- · Optimise the transport system and make it safer
- Encourage people to walk, cycle, and use public transport more, and use cars less

2 Deliver a step change in public transport

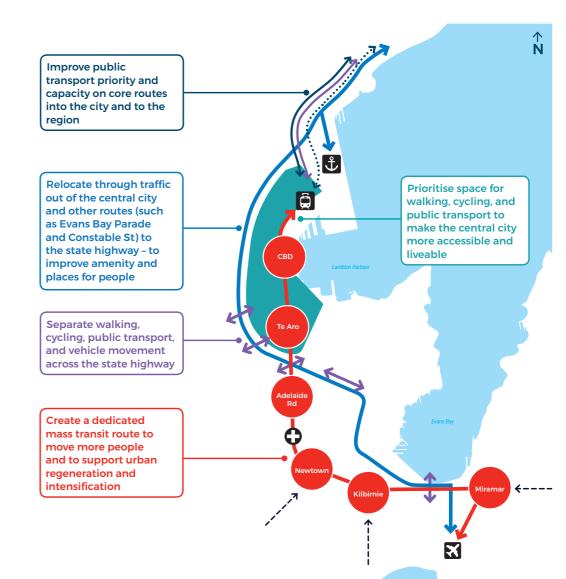
- Substantially improve public transport capacity, quality and performance
- Encourage urban intensification near public transport

Improve journeys to, from and in the central city

- Prioritise people walking, cycling, and using public transport on key corridors
- Improve accessibility and amenity of places and streets
- Ensure those who need to use private vehicles can (e.g. deliveries)

Improve journeys through and around the central city

- Reduce conflicts between different transport users and traffic flows
- Increase the resilience and reliability of our transport corridors, especially to the hospital, port, and airport



The recommended programme

A WHOLE OF SYSTEM APPROACH - A RANGE OF IMPROVEMENTS THAT WORK TOGETHER

HIGH QUALITY WALKING AND CYCLING

So our streets are safer and better places for people

- · Safer speeds in and around the city
- · Walking improvements though the central city including:
 - Footpath widening
 - Improved crossing facilities and reduced waiting times
 - Better shelters, signage, lighting
- · New dedicated walking access through Mt Victoria
- Public space improvements, for example, Dixon, Mercer, through Te Aro, Basin Reserve
- · A network of connected cycleways through the central city
- New dedicated cycleways connecting through Mt Victoria, along Adelaide Rd, and Vivian St
- · New pedestrian crossings, including Cobham Drive



BETTER PUBLIC TRANSPORT WITH HIGH-CAPACITY MASS TRANSIT

So people have more travel choices, and buses and trains are more reliable and attractive

- Mass transit from the railway station to the airport via a new waterfront spine, Taranaki Street, the hospital, Newtown, Kilbirnie, and Miramar (see page 9)
- · Bus priority improvements:
 - Golden Mile spine, with general traffic removal on Willis and parts of Lambton and Courtenay
 - Core routes into the city such as Thorndon Quay and Hutt Road
- · High quality, high frequency buses
- Increased rail network capacity*
- Integrated ticketing*

*implemented outside of LGWM



The recommended programme (continued)

A WHOLE OF SYSTEM APPROACH - A RANGE OF IMPROVEMENTS THAT WORK TOGETHER

URBAN DEVELOPMENT LAND USE CHANGES INTEGRATED WITH TRANSPORT

So people have better travel choices near where they live and work

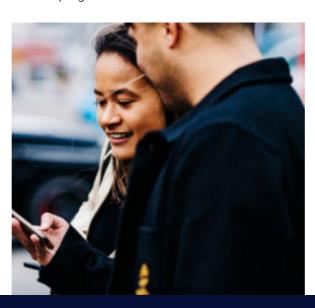
- · District plan changes
- · Other tools to increase housing
- · Building where the market can't deliver
- Capturing increases in land value to support infrastructure investment



SMARTER TRANSPORT NETWORK WITH ROAD PRICING

So people and goods make better use of our transport system with fewer cars

- Smarter pricing (e.g. parking/cordon charges)
- · Mobility as a Service for Wellington
- Network optimisation, safety and operations improvements
- Enhanced Travel Demand Management (TDM)
- Integrated network operating system
- Align parking policy and management with the programme



MULTIMODAL STATE HIGHWAY IMPROVEMENTS

To relocate cars out of the central city and enable better public transport, walking and cycling, and so people can get to key destinations, such as the hospital and airport, more reliably

- · Basin Reserve improvements (see page 11)
- Extra Mt Victoria Tunnel and widening Ruahine St/Wellington Rd
- Reconfiguring SH1 into a tunnel under a new city park in Te Aro
- Extra Terrace Tunnel
- SH1 Southbound widening between Ngauranga and Aotea Quay



What could Wellington's future look like?



Mass transit

CONNECTING THE CENTRAL CITY TO NEWTOWN, MIRAMAR AND THE AIRPORT, SUPPORTING URBAN REGENERATION



Artist impression – possible solution TARANAKI STREET

Mass transit will improve travel choice through the city with attractive public transport on a second spine along the waterfront quays. Mass transit will help shape a more compact and sustainable city and region.

Mass transit will be part of the wider public transport network, with:

- · High frequency services (every 10 minutes or less)
- · Modern, high capacity electric vehicles with superior ride quality
- Fast loading and unloading
- Dedicated lanes with signal priority
- High quality stations with level boarding

Phased development:

- Phase 1: Railway Station to Newtown
- Phase 2: Extension to Miramar and the airport

KEY ISSUES

Further investigation is needed on:

- · Technology (vehicle type)
- · Route choice and extensions
- \cdot The potential for urban development
- · Integration with the wider public transport network
- Funding options
- Supporting land use and policy changes to enable urban development and support the investment in mass transit

FURTHER WORK IS
NEEDED IN LGWM'S NEXT
STAGE TO INVESTIGATE
MASS TRANSIT, AND
DETERMINE THE MOST
APPROPRIATE MODE AND
ROUTE, AND HOW BEST TO
INTEGRATE IT WITH OTHER
PROGRAMME ELEMENTS

A more walkable and attractive central city

BETTER FACILITIES AND PRIORITY FOR PEOPLE WALKING



Walking and public space improvements in the central city will help create an environment that's safe and attractive for people to walk around, and that makes walking a more pleasant transport option for more people.

Walking improvements will include:

- Accessibility and amenity improvements including wider footpaths, improved crossings and priority, shelter, signage, lighting – on main walking routes
- Setting safer speeds for vehicles in the central city and on State Highway 1 east of Mt Victoria
- · Larger-scale walking improvements, to support high-quality public spaces
- Walking improvements included in major programme elements, for example high-quality walking access through Mt Victoria, and walking priority across the state highway in Te Aro
- · A safe crossing for people walking and cycling on State Highway 1 Cobham Drive



Unblocking the Basin

IMPROVING ACCESS FOR ALL MODES WHILE ENHANCING THE BASIN'S VALUE FOR THE COMMUNITY



Improvements near the Basin Reserve will reduce conflicts between different travel movements and modes, creating more reliable access around the Basin regardless of how people travel, and better connections with the community.

Improvements will include:

- · Minor at-grade changes in the short-term to improve reliable access for all modes
- Grade separation between north-south movements, east-west movements, and any mass transit corridors

KEY ISSUES

- Further investigation is needed once the mass transit route is decided to determine which form of grade separation will provide the best outcomes for the transport network and the community
- Engagement with the community will be needed to explore and develop a design that achieves transport outcomes, is sympathetic to the local geography, enhances the use of the Basin, and improves amenity around the reserve.



OPTIONS FOR GRADE
SEPARATION WILL DEPEND
ON KEY DECISIONS ABOUT
THE MASS TRANSIT
MODE AND ROUTE THAT
REQUIRE MORE DETAILED
INVESTIGATION

Te Aro improvements

REDUCING THE IMPACT OF TRAFFIC THROUGH TE ARO BY REMOVING CONFLICTING MOVEMENTS





Putting the state highway into a new tunnel under Te Aro and creating a new urban greenspace above the tunnel will reduce severance in the Te Aro community and significantly improve the urban environment. It will enable regeneration and housing intensification close to jobs, education, and public transport. And it will give people walking, cycling, and on the bus, priority crossing over the state highway. It will also improve regional access to key destinations such as the hospital and airport.

Improvements will include:

- Undergrounding State Highway 1 in both directions on the inner-city bypass alignment
- · Creating a transformational green space above (see illustrations)
- Removing state highway traffic from Vivian Street and Kent/Cambridge Terraces and making Vivian Street a two-way city street

KEY ISSUES

Further investigation is needed to decide on:

- · The form, feasibility, and cost of undergrounding
- \cdot $\;$ The potential for urban regeneration and uplift
- · Integration with other programme elements
- Engagement with the community will be needed to explore and develop a design that achieves the programme's outcomes and maximises the opportunities that the new park will bring



Programme sequence

INDICATIVE TIMING

by 2024

Deliver early improvements including walking, cycling, and public transport that will help keep Wellington moving while starting investigation and design of larger programme elements

UNDERWAY*

Mass transit preparatory work - city to Newtown

Bus priority to the city

District plan changes

Smarter pricing

Basin improvements

Extra Mt Victoria tunnel

Ruahine St/Wellington Rd walking, cycling, widening

* Includes detailed investigation, design, consultation, consenting, and/or early construction work Central city walking

Integrated ticketing*

Mobility as a service

Network optimisation

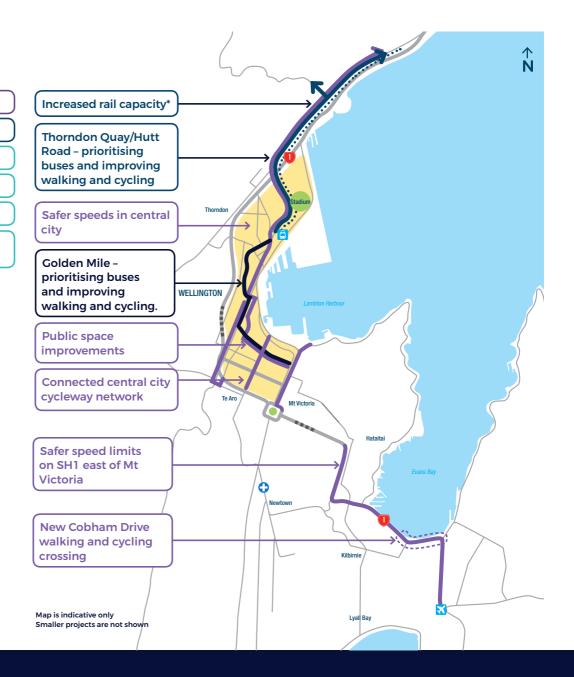
Enhanced TDM

Integrated system operation

* Progressed outside the LGWM programme

ESTIMATED TOTAL CAPITAL EXPENDITURE: \$0.6 BILLION*

*2018 dollars



INDICATIVE TIMING

2024 to 2029

Deliver a step-change in public transport with new mass transit, and reshape the transport system to provide more travel choice and transform Wellington **Smarter pricing**

District plan changes

Technology review

Further rail enhancements WELLINGTON Mass transit city to Newtown **Basin improvements Extra Mt Victoria tunnel** Bus priority to and from the city along core routes New dedicated walking and cycling access through Mt Victoria Ruahine St/Wellington **Rd widening** Map is indicative only Smaller projects are not shown

UNDERWAY*

Mass transit - Newtown to airport

Te Aro tunnel and city park

Extra Terrace Tunnel

Ngauranga to Aotea Quay

* Includes detailed investigation, design, consultation, consenting, and/or early construction work

ESTIMATED TOTAL CAPITAL EXPENDITURE: \$1.7 BILLION*

*2018 dollars

INDICATIVE TIMING

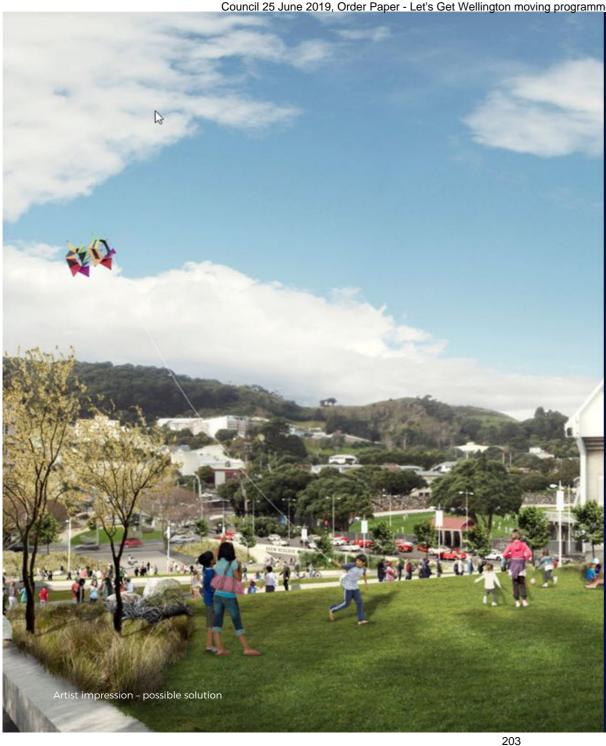
After 2029

Connect mass transit to the airport, adapt the programme to changing technology and to the city and region's growth

Technology review Ngauranga to Aotea Quay WELLINGTON **Extra Terrace Tunnel** Vivian St transformed into a two way city street with walking and cycling enhancements Mt Victoria **Relocate SH1** southbound from Vivian Hataitai St into a new tunnel under Te Aro New city park over Te Aro tunnel Mass transit - Newtown to airport Map is indicative only Smaller projects are not shown

ESTIMATED TOTAL CAPITAL EXPENDITURE: \$1.7 BILLION*

*2018 dollars



Estimated programme performance

Evaluating the recommended programme

ASSESSING PERFORMANCE

LGWM used a range of assessment techniques, including transport modelling, to assess the programme's performance against Key Performance Indicators (KPIs). Other performance measures will be developed as the programme develops.

PROGRAMME OBJECTIVES



LIVEABILITY



ACCESS



REDUCED CAR RELIANCE



SAFETY



RESILIENCE

KEY PERFORMANCE INDICATORS



Amenity



Carbon emissions



Urban development potential



Travel time reliability



Network catchment



System occupancy



Level of service walking



Level of service cycling



Safety for walking and cycling



Network resilience

ASSESSMENT

The quality of the urban environment, including greenspace, urban design, traffic volumes/speeds and pedestrian space

Transport-related CO2 emissions in the central city

Opportunities for urban development and value uplift

The reliability of travel time by different modes to key regional destinations

The number of people living within 30 minutes of key destinations

The ratio of people travelling to the central city (by all modes) against the number of private vehicles

Delays for people walking in the central city

The quality of cycling facilities

The safety benefits for people walking and cycling in and around the central city

Network resilience to disruption caused by large-scale natural hazards

Liveability



AMENITY

Measure of the quality of the urban environment including greenspace, urban design, traffic volumes/speeds, and pedestrian space

Amenity will improve due to more and better walking space, urban activation along side streets, street enhancements along the mass transit route, and lower traffic speeds and volumes.

AMENITY IN SELECTED AREAS





CARBON EMISSIONS

Transport-related CO2 emissions

Emissions are projected to decline due to changes in the vehicle fleet (fuel efficiency and electric vehicles). The programme contributes a further 18% reduction in emissions within the CBD. Road pricing will have the biggest impact on emissions and the programme includes good public transport, walking and cycling options to enable pricing. Mass transit supports more intensive development so more people use public transport and more destinations are walkable and cycleable...

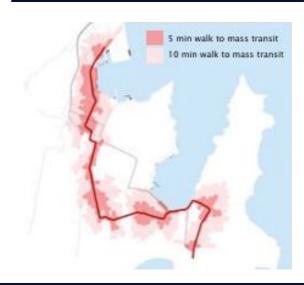


URBAN DEVELOPMENT POTENTIAL

Assessment of the opportunities for urban development and value uplift

Mass transit will facilitate regeneration and more intensive development around stops. This will contribute to land value increase from additional development and jobs facilitated by intensification.

POTENTIAL FOR URBAN DEVELOPMENT



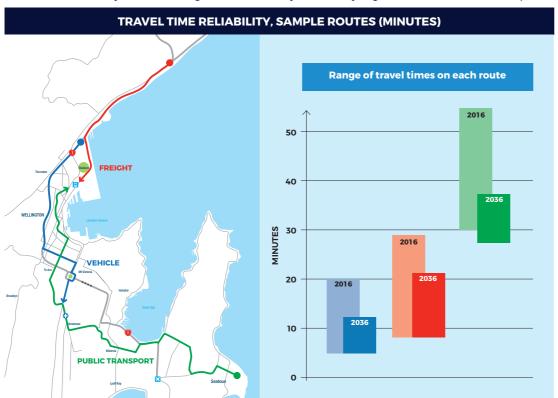
Efficient and reliable access



TRAVEL TIME RELIABILITY

The reliability of travel time for journeys by different modes to key regional locations

Travel time reliability to and through the central city and to key regional destinations will improve.



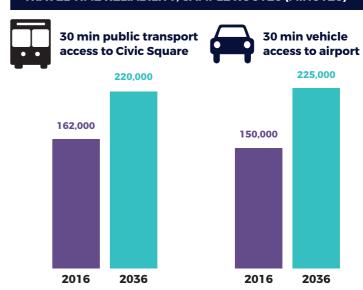


NETWORK CATCHMENT

The number of people living and working within 30 minutes of key locations

Accessibility to the central city and key regional destinations will improve by all modes. In 2036, the programme will increase the number of people within 30 min of Wellington CBD by public transport by 58,000 (36%) and the number of people within 30 min drive of the airport by 75,000 (50%).

TRAVEL TIME RELIABILITY, SAMPLE ROUTES (MINUTES)*



· In the morning peak 7-9am weekdays

Reduced reliance on private vehicles

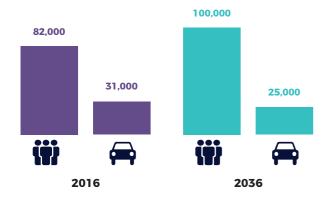


SYSTEM OCCUPANCY

The ratio of people entering the central city (by all modes) against the number of vehicles entering the central city

System occupancy will increase due to more use of public transport, walking and cycling, fewer vehicles entering the central city, and increased car occupancy due to pricing.

PEOPLE AND VEHICLES ENTERING THE CENTRAL CITY IN THE MORNING PEAK





LEVEL OF SERVICE WALKING

Delays for people walking in the city

Key outcomes for people walking:

- ✓ Less traffic across the central city
- ✓ Less waiting time at crossings in the central city
- ✓ Pedestrian crossing priority will be enhanced along key pedestrian routes
- Community severance will be reduced due to walking priority across the state highway in Te Aro
- ✓ Improvements for people crossing the road at stations along the mass transit corridor will provide a benefit to mass transit users and others



LEVEL OF SERVICE CYCLING

An assessment of the quality of cycling facilities

The level of service for cycling will improve from poor to good or very good in the central city and when connecting to the east. Some improvement to the north and south.

CYCLE, LEVEL OF SERVICE MEASURE, DANISH ROAD DIRECTORATE



Safety and resilience

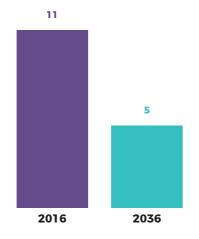


SAFETY FOR WALKING AND CYCLING

An estimate of the safety benefits for people walking and cycling in and around the central city

There will be fewer fatal and serious injury crashes for people walking and cycling due to reduced traffic volumes in the central city, reduced conflicts along the state highway, and lower traffic speeds.

ANNUAL DEATHS AND SERIOUS INJURIES, WALKING AND CYCLING





NETWORK RESILIENCE

An assessment of the network's resilience to disruption caused by largescale natural hazards

Access between communities and key regional facilities (hospital, airport, port) will be more secure following a large-scale natural hazard event.

The transport network will be more resilient to small scale disruption due to additional capacity on both traffic and public transport networks.

Other significant impacts



PARKING

On-street car parks will need to be removed

Where: Through the central city and along main corridors to south. east. north

Why: To reallocate space to moving people

The number of parks affected and location will be determined as detailed design progresses. An initial estimate is that up to 1,500 on-street car parks may be affected.

MITIGATION:

Parking mitigation strategy will be a key element of the programme

Improvements to public transport and walking and cycling links, coupled with pricing, will reduce the demand for parking



BUILT ENVIRONMENT AND HERITAGE

Private property and heritage items will be affected

Where: Along the mass transit route and the state highway

Why: To provide space for mass transit and other key infrastructure works

The impacts may include land take, impact on property frontage or setting, or require a building to be adapted or moved.

MITIGATION:

Detailed design will acknowledge the requirement to preserve heritage features and enhance the overall built environment

Property impacts will be avoided or minimised where possible through detailed design



CONSTRUCTION DISRUPTION

Road or lane closures, reduced speeds, stop/start conditions, and some restrictions on property access will be required

Where: Through the central city and along main corridors to south & east - mass transit and the state highway

Why: To accommodate construction of new and improved infrastructure

Disruption during construction will be significant and city-wide.

MITIGATION:

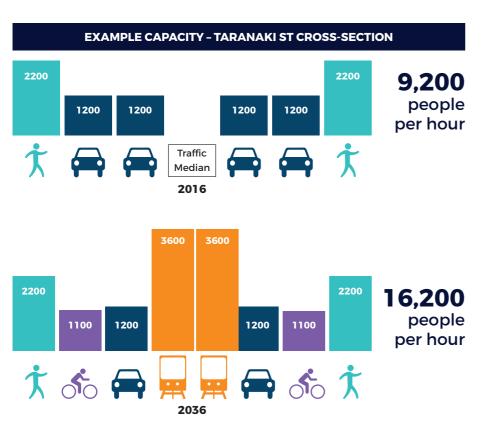
Sequencing and control will be important to manage demand and available capacity

Travel demand management techniques will be employed

Moving more people with fewer vehicles

IMPROVING CAPACITY ON KEY ROUTES

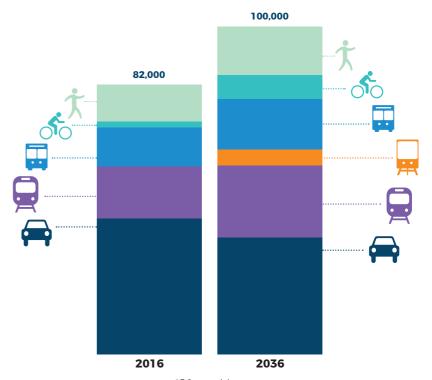
By improving facilities for walking, cycling, and public transport, and creating dedicated/priority routes, key roads can carry many more people at peak times.



REDUCING RELIANCE ON PRIVATE VEHICLES

18,000 more people are forecast to travel into the central city with 6,000 fewer cars.

PEOPLE ENTERING THE CENTRAL CITY IN THE MORNING PEAK*



* 7-9am weekdays

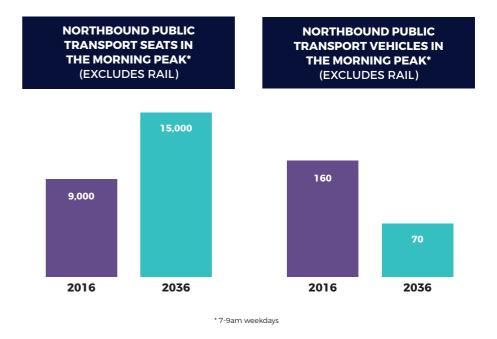
A step-change in public transport

MORE CAPACITY WILL UNLOCK DEMAND

The programme will deliver a step-change in public transport. An increase in capacity and higher-quality services are forecast to unlock demand.

PUBLIC TRANSPORT CAPACITY AND PATRONAGE IN THE MORNING PEAK 50,000 45.000 New public transport capacity 40,000 delivered by programme 35,000 30.000 Current public transport 25.000 capacity 20.000 2018 2023 2028 2033 2038 2043 2048 **Baseline public transport demand Demand unlocked by better services**

MORE PUBLIC TRANSPORT CAPACITY, FEWER PUBLIC TRANSPORT VEHICLES IN THE CENTRAL CITY



Council 25 June 2019, Order Paper - Let's Get Wellington moving programme endorsement, funding and next steps

Economics



Economics

COSTS

Estimated capital costs of the key elements of the recommended programme are shown below.

Mid-range capital cost estimate

Element	\$m*			
Walkable city	70			
Connected cycleways	30			
Public transport	300			
Mass transit - city to Newtown	990			
Mass transit - Newtown to airport	450			
Smarter transport network				
Smarter pricing	30			
Extra Mt Victoria tunnel and Ruahine/Wellington Rd				
Basin Reserve improvements	130			
Extra Terrace Tunnel and 4th lane southbound	400			
Te Aro Tunnel and park	1,100			
TOTAL	4,010			

* 2018 dollars

BENEFITS

The programme is estimated to contribute significant benefits to the city and region including:

- Health benefits from more walking, cycling, and walking to public transport
- Liveability benefits from higher amenity and more green space
- Safety benefits for people walking, on bikes, and in cars due to fewer and less serious crashes
- Environmental benefits such as lower carbon emissions and less noise
- Travel time benefits
- Wider economic benefits from higher productivity and land value uplift
- More reliable, more pleasant and less crowded travel offered by mass transit
- Changes in future distribution of housing in the city and region

BENEFIT COST RATIO

Economic assessment estimates that the programme Benefit Cost Ratio (BCR) will be in a range from 0.6 to 1.4 (see summary below).

Taking account of costs to government, excluding possible third party revenues, the alternative BCR Government (BCR-G) is between 0.7 to 1.7.

Applying a lower discount rate (4% instead of 6%) would increase the full BCR range to 0.7 to 1.7, and the BCR-G to 0.8 to 2.0.

Applying both a 4% discount rate and a longer evaluation period (60 years instead of 40 years) would increase the full BCR to 0.9 to 2.1, and the BCR-G to 1.0 to 2.4.

INDICATIVE BCR SUMMARY - RECOMMENDED PROGRAMME OF INVESTMENT

Full cost BCR			Cost to Government BCR-G			
	Lower benefits	Central	Higher benefits	Lower benefits	Central	Higher benefits
BCR	0.6	1.0	1.4	0.7	1.2	1.7







Absolutely Positively **Wellington** City Council Me Heke Ki Pöneke



 Report
 2019.261

 Date
 12 June 2019

 File
 CCAB-8-2312

Committee Council

Author Francie Morrow – Project Manager, FMPs

Te Kāuru Upper Ruamāhanga Floodplain Management Plan

1. Purpose

To seek adoption of the Te Kāuru Upper Ruamāhanga Floodplain Management Plan (FMP), as recommended by the Te Kāuru Upper Ruamāhanga Floodplain Management Plan Subcommittee (Te Kāuru FMP Subcommittee) and Environment Committee.

2. Consideration by Committee

The matters for decision in this report are subject to prior consideration by the Environment Committee at its meeting on 20 June 2019. At the time of preparing this report the Environment Committee has yet to meet. The recommendation from the Committee to Council was subject to the Te Kāuru Upper Ruamāhanga Floodplain Management Plan documents incorporating any minor amendments considered appropriate by the Chief Executive and Council Chair as an outcome of further engagement with *Rangitāne o Wairarapa*. Officers will provide an update at this Council meeting on the outcome of the Environment Committee's consideration of this matter.

3. Background

The Te Kāuru FMP establishes a framework for Greater Wellington Regional Council (the Council) to proactively manage flood and erosion risks throughout the Te Kāuru Upper Ruamāhanga catchment. The overall vision for the catchment seeks to establish:

"A connected, resilient, prosperous and sustainable community, proud of its rivers, that is involved in managing flood risks in a manner that recognises local identity and protects, enhances or restores natural and cultural values"

The Te Kāuru FMP represents the culmination of seven (7) years of investigating, testing and consulting on the most appropriate and

comprehensive approach for managing the flood and erosion risks to rural and urban land within the Te Kāuru catchment. A suite of methods for the management of flood and erosion risks are set out and together these provide for a comprehensive and long term approach.

The Te Kāuru Upper Ruamāhanga Floodplain Management Plan Subcommittee (Te Kāuru Subcommittee) is responsible for the development and adoption of the Te Kāuru Floodplain Management Plan (FMP).

The FMP has been developed in collaboration with Masterton District Council (MDC), Carterton District Council (CDC), Ngāti Kahungunu ki Wairarapa, Rangitāne o Wairarapa, and the wider community, primarily through Subcommittee.

At its meeting on 21 March 2019, the Environment Committee resolved to release the proposed Te Kāuru FMP for a final round of formal public consultation. The proposed Te Kāuru FMP incorporated all three volumes of the draft Te Kāuru FMP and the changes made from the public engagement on these draft volumes.

4. Consultation and submissions received

The formal consultation period on the proposed Te Kāuru Upper Ruamāhanga Floodplain Management Plan (Te Kāuru), ran from 13 March to 14 April 2019. Consultation events and activities were largely based between 23 March and 7 April 2019. Submissions closed on 14 April 2019. The purpose of this consultation was to present the proposed Te Kāuru Floodplain Management Plan to the community and seek submissions on the plan. In total 532 people were directly engaged with over this period with many more reached through publications such as a catchment wide brochure drop, newspaper, radio and social media activities. A summary of each of the engagement and consultation processes undertaken over the course of this project is included as **Attachment** 1 of this report.

Submissions on the proposed Te Kāuru FMP were received online (by online form), email and postal mail. Submissions closed on 14 April 2019. A total of sixty-one (61) submissions (including five (5) late submissions) were received. Eight (8) submissions were received in support of the proposed Te Kāuru FMP and thirteen (13) were neutral. Forty (40) submissions oppose the proposed Te Kāuru FMP either in whole or part.

The submissions received express a mix of support and opposition to the proposed Te Kāuru FMP. At a broad level:

 Submissions in support of Te Kāuru provide support for the overall approach of developing the FMP, consultation undertaken with riverside landowners, the direction of the FMP and the approach of giving the river more room to move, the recognition of changing community values and mindsets, the recognition of the importance of natural river systems and their ecology, and the governance and funding structures. • Submissions in opposition to the Te Kāuru FMP raise concerns in terms of the FMP development process, its supporting information, its proposed implementation (including concerns with the proposed governance and funding structures), the river management approach including buffers and the implications for affected property owners, particularly in terms of loss of private land, damage to infrastructure, and increased weed and pest management demands.

The matters raised by written submissions and oral presentations are summarised under the following key themes.

- 1. Te Kāuru Vision, Principles and Aims
- 2. Te Kāuru Development Process
- 3. Te Kāuru Implementation
- 4. River Management Approach
- 5. Buffer Management
- 6. Stopbanks and Structural Responses
- 7. Consideration of Cultural Values
- 8. Environmental Enhancement
- 9. Other issues raised

5. Report from Te Kāuru Hearing Subcommittee

On 11 April 2019, the Te Kāuru FMP Subcommittee resolved to establish a Te Kāuru Upper Ruamāhanga FMP Hearing Subcommittee (Hearing Subcommittee) to consider all written and oral submissions on the proposed Te Kāuru FMP. The Te Kāuru FMP Subcommittee also adopted terms of reference for the Hearing Subcommittee (GWRC Report 2019.120).

The Hearing Subcommittee met on 29 and 30 April 2019 to hear 20 oral presentations and consider all the 61 written and 20 oral submissions received on the proposed Te Kāuru FMP. The deliberations of the Hearing Subcommittee were adjourned on 30 April and reconvened on 22 May 2019 to allow consideration of the results of the draft independent model audit report prepared by Land River Sea Consulting Ltd.

The Hearing Subcommittee recommendations were reported to the Te Kāuru Subcommittee on 11 June 2019 (Report 2019.232). This included: noting the interim status of the flood hazard maps within the FMP; the removal of the flood hazard maps for the Waipoua urban area (Reach 13); and removal of the detail of future flood management options for the Masterton urban area which will be determined during Stage 1 of implementation of the FMP.

The recommendations within the Hearings Subcommittee report have been undertaken and are included in the Te Kāuru Upper Ruamāhanga FMP as **Attachment 2** of this report.

6. Report from Te Kāuru FMP Subcommittee

It is recommended by the Te Kāuru Subcommittee and Environment Committee that Council adopts the Te Kāuru FMP for implementation.

7. Communication

All submitters and key stakeholders will be advised by letter once the Plan has been approved by Council.

8. Consideration of climate change

The matters addressed in this report have been considered by officers in accordance with the process set out in the GWRC Climate Change Consideration Guide.

8.1 Mitigation assessment

Mitigation assessments are concerned with the effect of the matter on the climate (i.e. the greenhouse gas emissions generated or removed from the atmosphere as a consequence of the matter) and the actions taken to reduce, neutralise or enhance that effect.

Officers have considered the effect of the matter on the climate. Officers recommend that the matter will have an effect that is not considered significant.

Officers note that the matter does not affect the Council's interests in the Emissions Trading Scheme (ETS) or the Permanent Forest Sink Initiative (PFSI)

8.2 Adaptation assessment

Adaptation assessments relate to the impacts of climate change (e.g. sea level rise or an increase in extreme weather events), and the actions taken to address or avoid those impacts.

GWRC plans for climate change in assessing the degree of future flood hazard and in determining an appropriate response. There are only specific, limited situations in which climate change is not relevant (for example, planning for present-day emergency management).

In assessing flood hazard and determining appropriate structural and/or non-structural responses in areas subject to flood risk, GWRC is applying a rainfall increase of 20% to the flood hydrology in the FMP to account for climate change over the next 100 years.

Guidance from the Ministry for the Environment will be updated from time to time and our approach will be revised in line with any updates.

9. The decision-making process and significance

9.1 The decision-making process

Officers recognise that the matters referenced in this report may have a high degree of importance to affected or interested parties.

The matters requiring decision in this report have been considered by officers against the requirements of Part 6 of the Local Government Act 2002 (the Act). Part 6 sets out the obligations of local authorities in relation to the making of decisions.

The subject matter of this report concludes a decision-making process on a matter that has been assessed to be of high significance within the meaning of the Local Government Act 2002.

The process has involved the identification and detailed analysis of options, and identification of options for public consultation. This report outlines the process of consultation followed, the feedback received and the consideration of that feedback.

Once the FMP has been approved, the next step in this project will be developing an implementation plan, including undertaking the recommendations of the independent modelling audit as a priority.

9.2 Engagement

Through the Te Kāuru FMP development process there have been a number of stages of engagement and consultation with the community, riverside landowners, local councils, iwi, and many other groups and organisations. The Te Kāuru Upper Ruamāhanga Floodplain Management Plan Subcommittee (Te Kāuru FMP Subcommittee) has received a number of reports detailing the various stages of engagement and consultation and the feedback received. Various changes were made to the FMP as a result of these processes, which were workshopped and reported to the Te Kāuru FMP Subcommittee and reported to the Environment Committee. A summary of the engagement and consultation process is included as **Attachment 1** to this report.

In accordance with the significance and engagement policy, officers determined that the appropriate level of engagement is informing and consulting.

10. Recommendations

That the Council:

- 1. **Receives** the report.
- 2. *Notes* the content of the report.
- 3. Adopts the Te Kāuru Upper Ruamāhanga Floodplain Management Plan.

Report prepared by: Report approved by: Report approved by: Report approved by:

Francie MorrowAndy BrownGraeme CampbellWayne O'DonnellProject Manager –
FloodplainTeam Leader,
Investigations,
Strategy and PlanningManager, Flood
ProtectionGeneral Manager,
Catchment
Management

Attachment 1: Summary of engagement and consultation

Attachment 2: Te Kāuru Upper Ruamāhanga Floodplain Management Plan

Attachment 1 to Report 19.261



Te Kāuru Upper Ruamāhanga Floodplain Management Plan

Summary of Communications and Engagement Process

For more information, contact the Greater Wellington Regional Council:

Council 25 June 2019, Order Paper - Adoption of the Te Kauru Upper Ruamahanga River Floodplain Management Plan	

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1. Summary of engagement

Floodplain management planning consists of three phases, and community involvement is important throughout all three phases. Community involvement is needed to ensure the success of the development and ultimately implementation of a floodplain management plan.

Throughout the development of the Te Kāuru Upper Ruamahanga Floodplain Management Plan (Te Kāuru FMP), over 1,600 interactions with people from a wide range of stakeholders and community groups (including Ngāti Kahungunu ki Wairarapa, Rangitāne o Wairarapa, the community, key stakeholders and local authorities (Masterton and Carterton District Councils), and the other interest groups and businesses). Table 1 summarises the engagement periods that have been undertaken.

Table 1: Summary of stages of engagement

Stage	Dates	Purpose	Number of people engaged*
Phase One: In	Phase One: Investigations		
	2012 to 2014	To engage with the community to identify and confirm flood issues, values for the floodplain, Te Kāuru FMP objectives	Not recorded
Flood hazard information release	August 2014	To seek feedback from affected landowners on the flood hazard and provide them with an opportunity to talk it through and ask any questions they had	355
Phase Two: Io	lentify and Assess	Management Options	
	2015 to 2019	To engage with the community to identify and assess the management options against the Te Kāuru FMP objectives	Not recorded
Stage 1	16 July to 16 September 2018	To seek feedback on draft versions of Volume 1 – Background and Overview and Volume 2 – Location Specific Values, Issues and Responses	400
Stage 2a	1 to 11 November 2018	To present updated draft flood maps for the Waipoua River through Masterton urban area	140
Stage 2b	6 to 9 December 2018	To discuss with the public the possible flood management approaches and options for the Waipoua River through the Masterton urban area	81
Stage 2c	23 February to 5 March 2019	To seek feedback and discuss the proposed flood management approaches for the Waipoua river through Masterton urban area, Volume 3.	189
Phase Three: Prepare draft Floodplain Management Plan			
Stage 3	13 March to 14 April 2019	Formal consultation period. To present the proposed Te Kāuru FMP to the community and seek submissions on the plan.	532
Total number	er of engagements	with people	1,697*

^{*}This number does not include social media, website hits or external publications

2. Phase One: Investigations

The purpose of engagement during this first phase is to identify and confirm flood issues, values for the floodplain, FMP objectives. This enables a better understanding of the flood and erosion risks within the catchment to be collated and for additional data to be collected that may otherwise have been missed.

2.1 Establishment of the Te Kāuru Upper Ruamāhanga Floodplain Management Plan Subcommittee

As part of this initial scoping from 2012, it was recommended that an Upper Valley Floodplain Management Subcommittee be formed to ensure there was broader representation in the decision making process for the development of the FMP. The recommendation for how to develop the FMP and for a subcommittee to be established was endorsed at an Environmental Wellbeing Committee meeting on the 11th of September 2012.

In February 2014 that Council signed off on the establishment of the Te Kāuru Upper Ruamāhanga Floodplain Management Plan Subcommittee. The first meeting of the Subcommittee was held shortly after in April 2014.

To ensure wider representation for those making the decisions, the Subcommittee was made up of appointees from the following: community, Ngāti Kahungunu ki Wairarapa, Rangitāne o Wairarapa, existing scheme committees, Masterton District Council (MDC), Carterton District Council (CDC) and GWRC.

2.2 2012 – 2014 General Engagement Overview

Work began on the scoping and development of the Te Kāuru FMP in mid-2012.

Throughout Phase One engagement (2012 until 2014) the community and stakeholders were informed and invited to engage with the project via newspaper articles, direct correspondence, and a range of presentations at community organisation meetings. The local authorities (MDC & CDC) and relevant GWRC committees were informed and engaged in the process with regular reports and presentations. The councils and committees also made key decisions when required.

Some of the main points of communication and engagement from this initial engagement are outlined below.

- In early 2013 a letter was sent to rate payers who contribute to the river management schemes in the Upper Wairarapa. The letter was to inform them that the process for developing the FMP had started and included a newsletter to provide additional information. A letter and newsletter was also sent out to notify those who are part of the scheme advisory committees.
- In mid to late 2013 a presentation on the project purpose, structure, values and general overview was given at the relevant scheme meetings within the catchment, as well as to Ngāti Kahungunu ki Wairarapa representatives, Rangitāne o Wairarapa representatives and key stakeholders including Wellington Fish & Game; Ducks Unlimited; Wairarapa Paddlers; Jet Boaters; Wairarapa Fishing Club; and a number of the Lions and Rotary Clubs.
- Presentations and discussions were also held with the Farmers Reference Group to ensure they were updated on the scope, extent, progress and key issues.

• Through 2014 further presentations and meetings with river management scheme committees, Ngāti Kahungunu ki Wairarapa, Rangitāne o Wairarapa, community groups and organisations and stakeholders occurred. These presentations focused on the modelling outputs and associated changes to flood risk, values and issues, and the scope for Phase Two. These presentations were a chance for those attending to provide feedback on what was being proposed.

2.3 2014 Flood Hazard Information Release

In August 2014, GWRC produced draft flood hazard maps, for public information release, for the Upper Ruamāhanga Catchment. Prior to release the draft hazard maps GWRC, CDC and MDC worked to review and prepare the maps for public information release.

2.3.1 2014 Flood Hazard Information Release Activities

- Flood hazard information was sent out to about 3,000 flood affected properties in the Upper Ruamāhanga catchment on 22 August 2014.
- Following the release via post of this information GWRC received 155 enquires from individual properties (up until 12 Sept 2014). The project team worked to resolve individual issues related to the information face-to-face, by phone and by email.
- On 30 August 2014, following the release of flood hazard information, a community open day was held in the Masterton Town Hall for all those at risk of flooding. This provided attendees the opportunity to talk with the officers and ask questions they had on the information and record their thoughts and concerns about the maps, as well as input into the wider floodplain management planning process. Over 300 people attended this event. Large flood maps were available for people to provide comments on directly and attendees were also given feedback forms to fill out if they wanted to.
- Approximately 90 feedback forms were received from this open day.
- Meetings were held with MDC officers, CDC officers, Ngāti Kahungunu ki Wairarapa, and Rangitāne o Wairarapa, and key stakeholders around the flood hazard information throughout the latter half of 2014.



Figure 2: Te Kāuru Subcommittee Chair Bob Francis talking to the public at the 2014 open day



Figure 1: Te Kāuru Project Team Member, Mark Hooker talking to the public over flood hazard maps at the 2014 open day

2.3.2 2014 Flood Hazard Information Release Outcomes

Feedback from the community, as well as a MDC following the release of these maps raised some concerns around the accuracy of the maps. The key concerns raised were as follows.

- Approach and basis (assumptions and estimates) used in the hydrology for the ungauged portion of the Waipoua catchment affecting the Masterton urban area flood hazard
- Assumptions used for climate change (what are they and why)
- Calibration with the 1998 flood gauging for the Waipoua River in urban Masterton, in terms of design flow and return period
- Defining and describing 'freeboard' and how it is applied and why it is necessary
- Consistent use and definition of key terms (e.g. 'flood risk level' vs 'flood water level')".

As a result of the above concerns the Waipoua Officers Working Group, comprising of planning and engineering officers from MDC and GWRC, was established in mid-2015. Details of this can be found in Section 3.2.

3. Phase Two: Identify and assess management options

Phase Two of floodplain management planning looks to identify, assess, and select management options against the FMP objectives.

Following the general engagement events, three draft volumes of the Te Kāuru FMP were produced. Below is an outline of what each volume included.

- <u>Volume 1:</u> This volume describes why we need Te Kāuru, the vision, the aims, the suite of responses and common methods that will be used, how the plan will be implemented, and how the community can contribute.
- <u>Volume 2</u>: This volume looks at the different location specific management options to be delivered across the rural areas of the Te Kāuru catchment.
- <u>Volume 3:</u> This volume outlines the management outcomes in relation to the Waipoua River through the Masterton urban area.

The draft volumes were released for at each stage of engagement. Feedback was sought from the community and key stakeholders on the different volumes of the draft FMP during Stages 1 and 2 of the Phase Two engagement process.

3.1 2015 – 2019 General Engagement Overview

Phase Two engagement occurred between 2015 and 2018, it involved direct correspondence with affected parties and stakeholders, newspaper articles, social media posts, and presentation format information sharing. MDC, CDC, and GWRC Councillor Committees were engaged throughout the process and provided feedback and comments that allowed for key decisions to be made.

Some of the key engagement activities during this engagement period are as follows.

• 21 February 2015 members of the project team had a stall at the Masterton A & P Show to inform the community of the projects progress and answer any questions.

ATT 2 - TE KAURU UPPER RUAMAHANGA FMP COMMS AND ENGAGEMENT PROCESS SUMMARY REPORT - MAY 2019 PAGE 4 OF 15

- 4 August 2015 members of the project team discussed the future of the Kopuaranga Scheme and possible extension with landowners at a town hall meeting.
- Two drop-in centres in Masterton were held for landowners on the eastern rivers in December 2015 to discuss the options for management of the rivers and seek their feedback. A letter was sent to the landowners notifying them of the upcoming sessions.
- 2015 to 2016 there were a number of meetings held with MDC to discuss different aspects of the plan including the flood mapping, options for minimising the risk to Masterton, the possible impacts on QE Park from the options, options for the management of risk to River Road properties, and wider implications of the FMP.
- In February 2017, eight focus groups with landowners were held to discuss some of the main themes of Volume 1 and 2, such as giving the river more room, and to get further feedback from the landowners on the themes. These groups included a site visit and a round table discussion component
- July to September 2018 was the first stage of engagement on the draft Volume 1 and 2 of the FMP (discussed in Section 3.3 below).
- November 2018 until March 2019 saw the second stage of engagement occur in three parts, this time focusing on the draft Volumes 1 and 3 of the FMP (discussed in Section 3.4 below).

3.2 Waipoua Officers Working Group

The Waipoua Officer Working Group (WOWG) was established in mid-2015 with officers from GWRC and MDC, and built upon earlier meetings held between planning and engineering officers at those councils. Officers were a mix of technical specialists (e.g. hydrologists, flood modeller, engineers) and management or planning personnel (e.g. district planner, project managers, utility and infrastructure managers).

The following officers from the key organisations involved in WOWG were:

- Susan Borrer (GWRC Engineering Modeller);
- Mark Hooker (GWRC Project Engineer)
- Alistair Allan and Francie Morrow (GWRC Project Managers);
- Sue Southey (MDC Manager of Building and Planning);
- James Li (MDC Utility Services Manager);
- David Hopman (MDC Asset and Operations Manager);
- Ken Downing (MDC Technical Services Officer);
- Michael Hewison (Independent Consultant for CDC) and;
- Hamish Wesney (Boffa Miskell Facilitator for WOWG).

The meetings from time to time, also extended to include briefings with Pim Borren (CE MDC), Graeme Campbell (Manager, Flood Protection, GWRC), Wayne O'Donnell (General Manager, GWRC).

Table 2 outlines a time line of WOWG meetings, their topics and key decisions from these meetings

Table 2: Timeline of WOWG Meeting Dates, Topics and Key Decisions

Date	Meeting Topics	Key Decisions
30 October 2015	- Project Plan	Project Plan confirmed
13 November 2015	- Climate Change	
	- Freeboard	
	- Key Terms	
28 January 2016	- Draft MWH Rainfall-Runoff	Peer reviewer selected
•	Modelling Report	
	- Reviewer of Rainfall-Runoff	
	Modelling Report	
21 April 2016	- Peer Review of Rainfall-Runoff	Preliminary list of model outputs
	Modelling Report	
	- Modelling Outputs	
22 June 2016	- Final MWH Rainfall-Runoff	Hydrology parameters
	Modelling Report	
4 July 2017	- Modelling Update	Re-confirmed hydrology
	- Climate Change	parameters
	- Freeboard	Climate change factor
	- Model Review/Audit Process	Sensitivity testing factors
18 December 2017	- Modelling Update	Flow for Colombo Road in 1998
	- Calibration	flood event adjusted
	- Sensitivity testing	Calibration flood events
		Model outputs
27 February 2018	- 1998 Flood Calibration	Reviewer/auditor of model selected
	- 2012 Flood Calibration	
	- Peer Review of Model	
2.7	- Sensitivity Scenarios	
8 June 2018	- Model Peer Review Outcomes	Accepted model peer review
	- 1998 Flood Calibration	findings
	- Climate Change	Re-confirmed climate change
267.1.2010	- Sensitivity Scenarios Results	factor
26 July 2018	- Sensitivity Scenarios Results	Sensitivity scenarios to be used for
	- Producing Flood Hazard Maps	flood hazard maps
24 Assessed 2019	1047 Flood Information	Flood hazard maps to be produced
24 August 2018	- 1947 Flood Information	Re-confirmed sensitivity scenarios to be used for flood hazard maps
	Sensitivity Scenarios ResultsDraft Flood Hazard Maps	to be used for flood hazard maps
24 September 2018	- 1947 Flood Information	Flood Hazard Maps
24 September 2018	- Sensitivity Scenarios Report	1400d Hazard Waps
	- Terminology	
5 February 2019	- Flood Hazard Maps and GIS Data	Flood Hazard Maps
3 Teordary 2017	- Ruamahanga/Waipoua Confluence	Waipoua urban reach response
	D 1D 1771 1	" arpout troui reach response
	reach for inclusion in FMP	
5 June 2019	- Engagement on Draft FMP	All recommendations in Audit
J Julie 2019	- Independent Audit Report Findings and Recommendations	Report to be implemented and
	and Recommendations	changes to FMP
		changes to 1 WII

3.3 Stage 1 Engagement Overview

Stage 1 engagement ran from 16 July to 16 September 2018. The purpose of this engagement was to seek feedback on the draft versions of Volume 1 and 2.

Approximately 400 people engaged with us at numerous events, with many more reached via external publications, social media, and the Te Kāuru website and radio interviews.

Table 3: Number of people attending coffee groups (by river)

Coffee Group	Number of people who attended
Waingawa Coffee Groups	34
Waipoua Coffee Groups	20
Ruamahanga Coffee Groups	59
Kopuaranga Coffee Groups	13
Whangaehu Coffee Group	5
Taueru Coffee Group	3

Table 4: Number of people engage with at Stage 1 events

Event	Number of people engaged with
Coffee Group Meetings	134
Masterton Farmers Market	126
Carterton Farmers Markets	96
Emailed feedback	10
Posted feedback	3
Online feedback	13
Drop-in Centres	25
TOTAL	407

3.3.1 Stage 1 Engagement activities

A 12-page summary document was produced to provide the public with a concise summary of Volume 1. Within the summary document we also included: a feedback form (which could be free posted back); one-page summary of how Te Kāuru links with the Ruamāhanga Whaitua. This was the main document for handing out at all consultation events.

During Stage 1 Engagement, Te Kāuru project team and Subcommittee members attended engagement activities including:

Rural Landowner engagement

- 22 small group discussions, called 'coffee groups', which were hosted by members of the community for riverside landowners;
- Individual letters were also sent to all riverside landowners in the Te Kāuru catchment (467 people);



Figure 3: Mia who attended one of the coffee group meetings (July 2018)

- Stalls at the Farmers Market
 - Masterton (11 Aug, 1 Sept & 8 Sept 2018)
 - Carterton (12 Aug & 2 Sept 2018)



Figure 4: GWRC Councillor Adrienne Staples talking to the public at the Carterton Farmers Market (August 2018)

- Three drop-in centres;
 - Gladstone (4 Sept 2018)
 - Carterton (6 Sept 2018)
 - Masterton (8 Sept 2018)



Figure 5: Drop-in centre set up in Gladstone (September 2018)

- A district wide brochure drop to Masterton and a brochure drop to those in the Te Kāuru catchment in the Carterton district
- Media and social media
 - Information in the local papers;
 - Social media campaigns;
 - Paid radio interviews with Chair of the Te Kāuru Subcommittee Bob Francis and Councillor Adrienne Staples;
 - Information on the Te Kāuru website.

3.3.2 Stage 1 Engagement Outcomes

Stage 1 engagement highlighted a number of areas were further work was needed, such as 'how will pest plants and animals be managed?' or 'how will the planting be implemented?' As a result the project team undertook a number of work streams to ensure the key themes were addressed.

All of these work streams resulted in changes and clarifications within the draft FMP and in turn answered the questions people had asked throughout the engagement period. A separate response to specific questions asked during the coffee meetings was sent to each attendee.

3.4 Stage 2 Engagement Overview

The purposed of Stage 2 was to seek feedback on Volume 1 and 3 of Te Kāuru, with particular emphasis on Volume 3.

Stage Two engagement was broken into three sub-stages, which were used to talk to the community about different aspects of the management for the flood risk from the Waipoua River through the Masterton urban area. The stages, their purpose and number of attendees by event is summarised in Table 5.

Table 5: Stage 2 Engagement Statistics

	Stage 2A	Stage 2B	Stage 2C
Date	1 – 11 Nov 2018	6 – 9 Dec 2018	23 Feb – 3 Mar 2019
Purpose	Engagement on updated draft flood maps for Masterton urban area.	Engagement of possible flood management approaches for Masterton urban area.	Engagement on the proposed flood management approaches for Masterton urban area.
	Nu	mber of people who atten	ded*
Meeting with Oxford St Residents	12	24	15
Masterton Farmers Market	60	20	53
Masterton Car boot sale	64	34	107
Drop-in centres	4	3	1
Papawai & Kaikōkirikiri Trusts Meeting	-	-	6
Waipoua Kaitiaki Group Meeting	-	-	7
Total	140	81	189

^{*}This number does not include social media, website hits or external publications

3.4.1 Stage 2A Engagement

(a) Activities

Stage 2A engagement sought feedback on the updated draft flood maps for the Waipoua River through Masterton urban area. During this time engagement took the follow forms:

- A small group information session with residents of Oxford Street (7 November 2018)
- Stalls at the Masterton Farmers Markets on two consecutive weekends (3 and 10 November 2018)
- Stalls at the Masterton Car Boot Sale on two consecutive weekends (4 and 11 November 2018)
- A drop-in session at the Masterton Library (7 November 2018)
- A letter and information drop to all residents and property owners in Oxford Street and affected areas of Akura Road
- Sit down with operators of Mawley Park
- Information in the Wairarapa Times Age (advertorial)
- Social media campaigns

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• Information on the Te Kāuru website

(b) Outcomes

Stage 2A engagement highlighted an on-going mistrust of flood risk mapping in the Masterton community. There was also a general appreciation from some community members of assessing the risk, and planning for management of the risk in the future.

3.4.2 Stage 2B Engagement

(a) Activities

Stage 2B engagement ran from 6 to 9 December 2018 and was to discuss with the public the possible flood management approaches and options for the Waipoua River through the Masterton urban area. A brochure outlining five flood management approaches was developed to distribute and discuss with the community.

Engagement took the follow forms:

- A letter and brochure drop to all residents and property owners in Oxford Street and affected areas of Akura Road
- A small group information session with residents of Oxford Street (6 December 2018)
- Stalls at the Masterton Farmers Market and Car Boot Sale (8 and 9 December 2018)
- A drop-in session at the Masterton Club (8 December 2018)
- Information in the Wairarapa Times Age (advertisement)
- Social media campaign
- Information on the <u>Te Kāuru</u> website

(b) Outcomes

During each of the engagement sessions we had pages with each of the five flood management options on tables for people to put stickers on which options they supported. The results are listed in Table 6.

Table 6: Support for the differnt flood management options – community

Flood management option	Number supporting
Upgrade or construct stopbanks	8
Improve conveyance of flood water	8
Increase upstream storage	25
Flood resilience and community preparedness	9
Catchment management	9

The community conversations were generally positive, and the community was pleased that plans were being made to manage flood risk. It was quite obvious from community feedback that dams were thought of as a great opportunity for both flood protection and water storage. However when this option was reviewed the costs were prohibitive.

There was a desire from most people we spoke with to manage the risk of flooding to Oxford Street as soon as possible. The residents of Oxford Street will need to remain a key stakeholder group for particular engagement and consideration, particularly during implementation of the FMP.

3.4.3 Stage 2C Engagement

(a) Activities

Stage 2C engagement was run from 23 February to 3 March 2019 to seek feedback and discuss the proposed flood management approaches for the Waipoua River through Masterton urban area, Volume 3.

An A4 folded brochure was delivered to all properties in the Te Kāuru catchment outlining the proposed five stage approach. The 12 page summary document, along with a letter inviting residents to a session at Mawley Park, was delivered to all houses on Oxford Street.

Posters advertising when and where Te Kāuru engagement would take place were put up in several locations in Masterton: New World, Pak'n'Save, Public library (along with a Volume 1 and 3), Aratoi, and the MDC offices.

An updated version of Volume 1, as well as a summary of changes that were made to Volume 1, were also available.

The engagement took a number of forms, including:

- A meeting with members of the Papawai & Kaikōkirikiri Trusts (25 February 2019)
- A small group information session with members of a Waipoua Kaitiaki group (26 February 2019)
- A letter and brochure drop to all residents and property owners in Oxford Street and affected areas of Akura Road
- A small group information session with residents of Oxford Street (27 February 2019)
- Stalls at the Masterton Farmers Market and Car Boot Sale (23/24 February and 2/3 March 2019)
- Two drop-in sessions at the Masterton Club (28 February and 2 March 2019)
- Information in the Wairarapa Times Age and Wairarapa Midweek (advertisements)
- Social media campaign
- Information on the <u>Te Kāuru</u> website

(b) Outcomes

The conversations we had during Stage 2C engagement were varied, as always, but almost everyone we spoke to supported the idea of a staged approach for implementing the outcomes for the Masterton urban area. The concept of gathering more data was acknowledged as important, particularly during the small group discussions.

Following this engagement, feedback had been collected on all three volumes of the FMP. The next steps were to take the volumes and appropriate feedback and combine it into a single proposed Floodplain Management Plan. This was then presented to the community through a formal consultation process, named Stage 3 engagement.

4. Phase Three: Preparation of the Floodplain Management Plan

Phase three of floodplain management planning is about achieving sustainable solutions. The purpose of this phase was to formally consult and seek submissions on the proposed Te Kāuru Upper Ruamāhanga Floodplain Management Plan (a combination of Volumes 1, 2 and 3).

4.1 Stage 3 Engagement Overview

Stage 3 was the formal consultation period on the proposed Te Kāuru Upper Ruamāhanga Floodplain Management Plan (Te Kāuru), which ran from 13 March to 14 April 2019. Consultation events and activities were largely based between 23 March and 7 April 2019. Submissions closed on 14 April 2019.

The purpose of this consultation was to present the proposed Te Kāuru Floodplain Management Plan to the community and seek submissions on the plan. Volumes 1, 2 and 3 have been combined into one document containing Part 1 – Background and Overview and Part 2 – Location Specific Values, Issues and Responses.

Overall approximately 530 people engaged with us at events, with many more reached through the external publications such as the newspaper and social media.

Event	Number of people engaged with
Bankside BBQ	85
Train station handouts	190
Masterton Farmers Market	116
Carterton Farmers Market	40
Masterton Car Boot Sale	94
Farming for the Future	5
Aratoi's Opening of WAI	2
Total	532

Table 7: Number of people engage with at Stage 3 events

4.1.1 Stage 3 Engagement Activities

A 20-page summary document was produced to provide the public with a concise summary of the proposed FMP. Within the summary document we also included: a submission form; guidelines for submitters; and a freepost envelope. This was the main document for handing out at all consultation events with over 450 being given out to the public.

During Stage 3 consultation, the Greater Wellington Regional Council (GWRC) Te Kāuru project team and Subcommittee members attended events to provide the community with the opportunity to discuss the proposed Floodplain Management Plan.

The consultation took a number of forms, including:

- An A4 folded brochure was delivered to all properties in the Te Kāuru catchment outlining the proposed FMP and that formal submissions are open until 14 April 2019.
- A letter, submission form and freepost envelope sent to:
 - All residents and property owners in Oxford Street and affected areas of Akura Road;
 - Stakeholders who we did not have an email address for;
 - All riverside landowners who did not attend a coffee group;
 - River Road residents within the modelled flood risk area (including the River Road major project response);

- Emails (included a submission form) sent to:
 - Coffee group attendees (Stage 1)
 - People who previously provided feedback
 - Stakeholder groups previously identified
 - Subcommittee members to forward to any contacts
- Events and meetings included:
 - Bankside BBQ's (30 and 31 March 2019)
 - Stall at the Masterton Farmers Market (23 and 30 March and 6 April 2019)
 - Stall at Carterton Farmers Market (31 March and 7 April 2019)
 - Stall at the Masterton Car Boot Sale (24 and 31 March and 7 April 2019)
 - Farming for the future conference (27 May 2019)
 - Aratoi Exhibition open of WAI (29 March 2019)
 - Community walk by at Waipoua River and Henley Lake (at various times through the process)
 - Meeting with Fish and Game (2 April 2019)
 - Train Station handouts (Masterton, Solway, Renall Street and Carterton Stations from 5.30am, 28 and 29 March and 1 and 2 April 2019 respectively)

• Media and Social Media

- Information in the Wairarapa Times Age and Wairarapa Midweek (advertisements)
- Radio adverts on The Sound, The Breeze, More FM, Magic Talk
- Social media campaign on Facebook and Instagram
- Information on the Te Kāuru website

As per the previous engagement process, advertising when and where Te Kāuru engagement events would take place were put up in several locations in Masterton: New World, Pak'n'Save, Public library (along with a Part 1 and 2), Aratoi, and the Masterton District Council (MDC) offices. Information and advertising was also placed at the Carterton public library.

Additionally, we also installed four signs at different locations: Carpark at Villa Street, Swing Bridge entrance at Queen Elizabeth Park (Masterton), Colombo Road entrance to McJorrow Park and at Percy Reserve (Fig. 6).









Figure 6: Signs at different locations alongside the Waipoua and Ruamāhanga Rivers

The conversations we had again varied, but we did find that a lot of people had already heard about Te Kāuru and as a result some had come down to see us specifically. We had reoccurring topics regarding water storage and water quality, but also specific questions around individual properties and the impacts for them. Generally, people were polite and interested in learning more about what we were proposing.

4.1.2 Stage 3 Engagement Outcomes

61 submissions were received in total during Stage 3 engagement.

Once the submission period was closed (14 April 2019), the submissions were collated and summarised into a key themes report and a report with officers recommended responses for a Hearings Subcommittee that was established by the Te Kāuru Subcommittee on 11 April 2019.

Hearings were held on 29 and 30 April 2019, where 20 people had the opportunity to speak to their submissions.

On 22 May 2019, the Hearings Subcommittee reconvened to finalise the recommendations report, which will then be presented to the Te Kāuru Subcommittee on 11 June 2019.

5. Next Steps

Stage 3 was the last engagement as part of the development of the Te Kāuru FMP.

There will be further communications with our partners, stakeholders and the community regarding adoption of the FMP. This will include meetings, media releases, social media campaigns, and letters to those who submitted on the FMP.

Community engagement and participation will also form a key part of the implementation of the Te Kāuru FMP, and appropriate communications around these opportunities will continue throughout the implementation of the FMP.

Please note: Full reports on Stage 1 & 2; and Stage 3 Engagement are available on request.

'Guidelines for Floodplain Management Planning' (GWRC, 2013) is also available on request or from the Greater Wellington Regional Council (GWRC) website and outlines the process for developing a Floodplain Management Plan (FMP).



TE KĀURU UPPER RUAMĀHANGA FLOODPLAIN MANAGEMENT PLAN

12 JUNE 2019



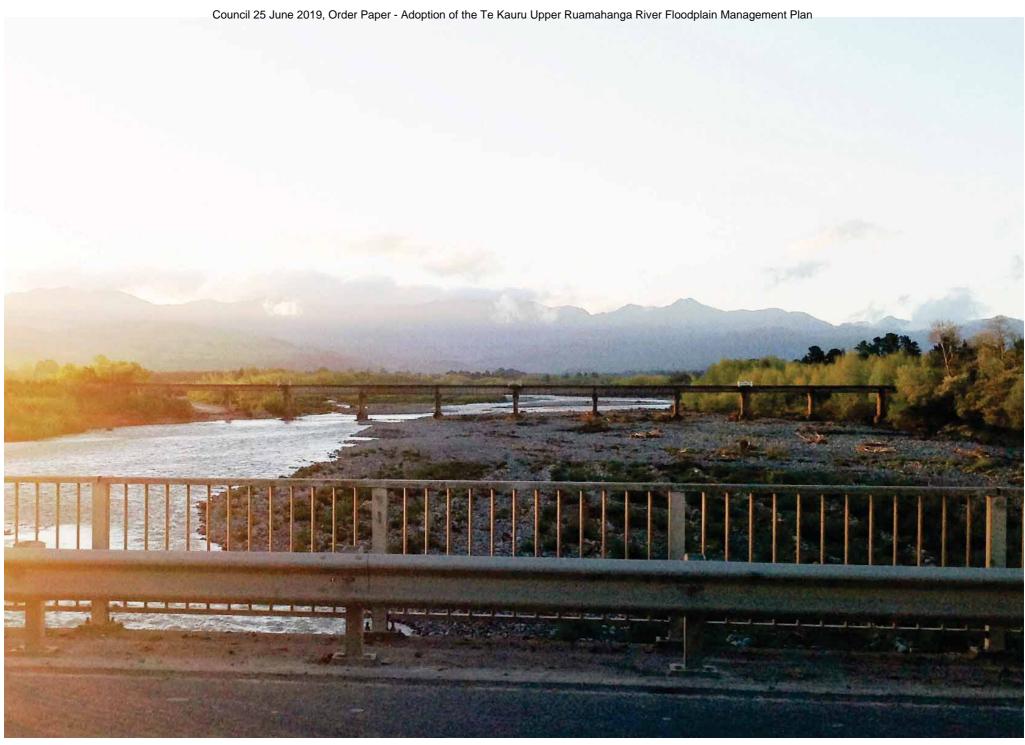


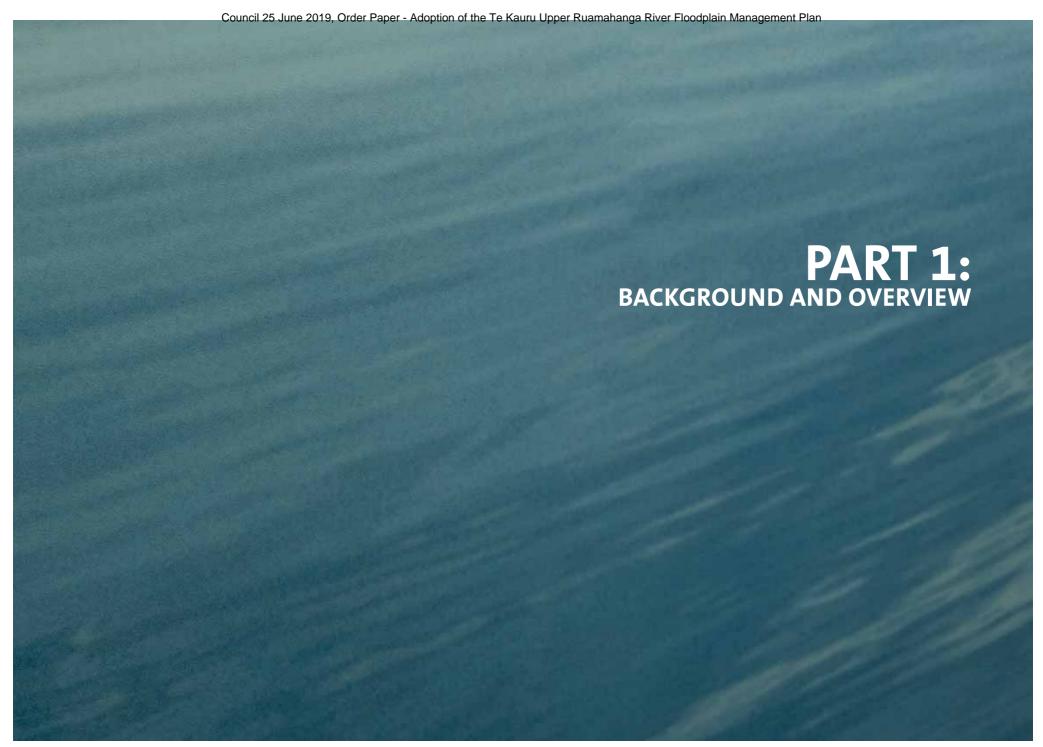
PART 1: BACKGROUND AND OVERVIEW

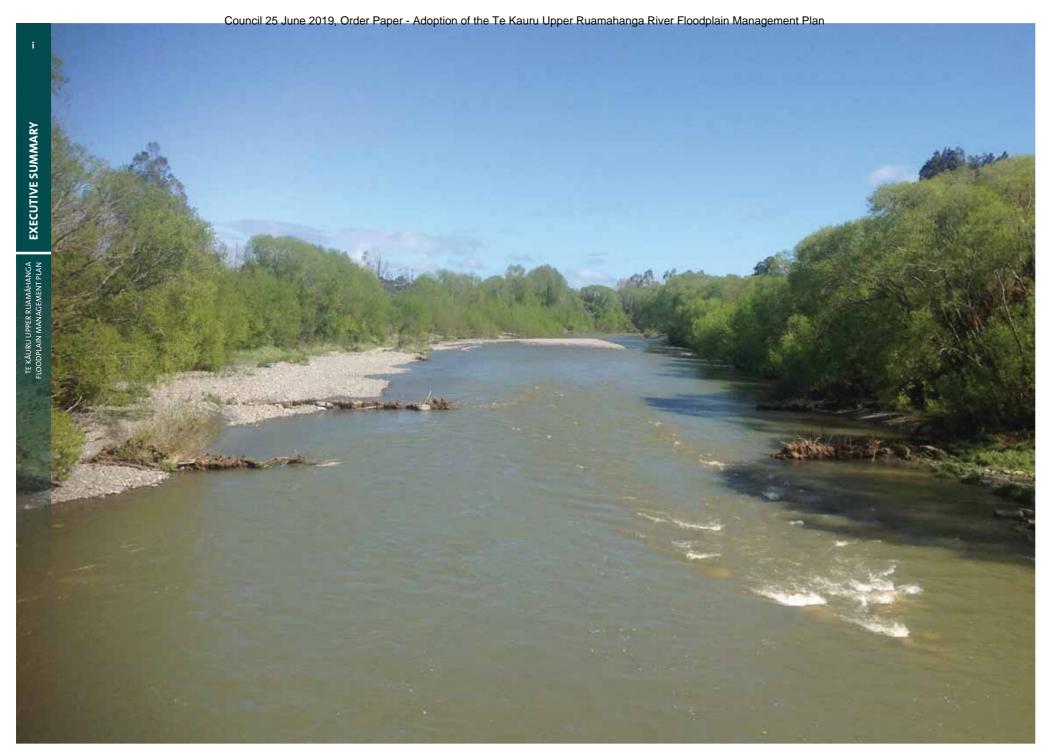
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Executive Summary

This Floodplain Management Plan establishes a framework that will help keep people and property safe by proactively managing flood and erosion risks throughout the Te Käuru Upper Ruamāhanga catchment. Through this framework, the overall vision for the Te Käuru Upper Ruamāhanga catchment seeks to establish:

"A CONNECTED, RESILIENT, PROSPEROUS AND SUSTAINABLE COMMUNITY, PROUD OF ITS RIVERS, THAT IS INVOLVED IN MANAGING FLOOD RISKS IN A MANNER THAT RECOGNISES LOCAL IDENTITY AND PROTECTS, ENHANCES OR RESTORES NATURAL AND CULTURAL VALUES"

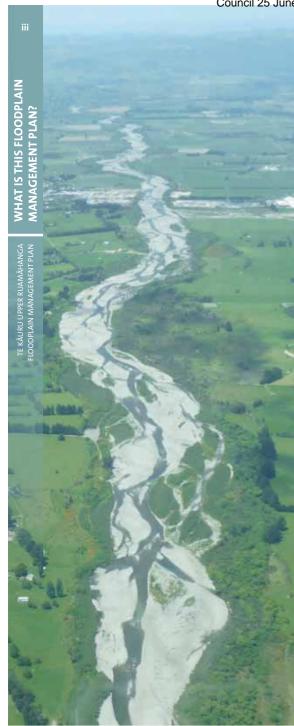
The rivers within the Te Kāuru Upper Ruamāhanga catchment have a history of flooding, causing danger and disruption for people within the catchment. The results of flooding can be devastating and cause damage to property and community assets

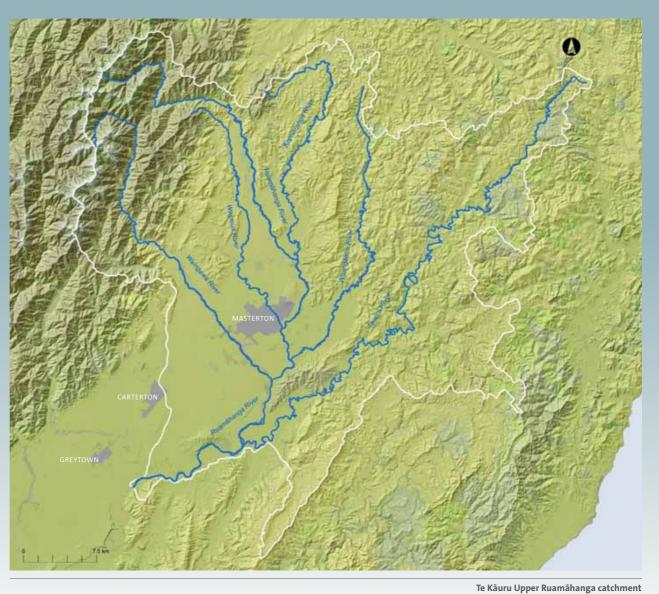
This Floodplain Management Plan represents many years of investigating the most appropriate, comprehensive and long-term approach for managing the flood and erosion risks to both rural and urban land within the Te Käuru Upper Ruamähanga catchment. The process of preparing this Floodplain Management Plan has involved the assessment of various options that were based on a vision and set of aims developed early in the process. Importantly, the practicality, cost, environmental impact, cultural values, views/needs of the community, and legislative and policy requirements have all influenced the document.

This Floodplain Management Plan will be the "blueprint" for ongoing and future flood and erosion works within the Te Käuru Upper Ruamāhanga catchment.

The primary flood and erosion response measures contained in this Floodplain Management Plan are a package of "common methods" and "reach specific responses" (both non-structural and structural) that manage the identified flood and erosion risks throughout Te Käuru Upper Ruamähanga catchment. This Floodplain Management Plan has been put together by Greater Wellington Regional Council in collaboration with Carterton District Council, Masterton District Council, Ngāti Kahungunu ki Wairarapa, Rangitāne o Wairarapa, and the wider community. The Te Käuru Upper Ruamähanga Floodplain Management Plan Subcommittee has facilitated the development of this Flood Management Plan.

This Floodplain Management Plan will be a long-term plan and living document for the approach to flood and erosion management within the Te Käuru Upper Ruamähanga catchment. As such, ongoing monitoring of this Floodplain Management Plan will enable the outcomes to be regularly reviewed. Additionally, a comprehensive review of this Floodplain Management Plan will be undertaken after 20 years, or earlier if the flood hazard is significantly altered by flooding, earthquakes or new information.





1. What is this Floodplain Management Plan?

The Te Kāuru Upper Ruamāhanga Floodplain Management Plan (FMP) describes the long-term approach to floodplain management within the Te Kāuru Upper Ruamāhanga catchment. This encompasses the upper reaches of the Ruamāhanga River to the Waiohine confluence, and includes the Waipoua, Waingawa, Kopuaranga, Whangaehu, and Taueru (Tauweru) rivers from their headwaters within the Tararua Ranges and Eastern Hills to their confluences with the Ruamāhanga River. The catchment has a total area of approximately 1,560km².

Floodplain management planning is commonly used as an effective process to address flooding and erosion issues resulting from our rivers. It provides a long-term plan for managing risks and helping to improve the security and quality of life for present and future generations living on a floodplain. Additionally, it better prepares communities for coping with a flood when it occurs and aims to ensure that any future development considers flood and erosion risk.

FMPs are non-statutory plans and, as such, their policies and flood mitigation methods have no legal standing as regulations. Regardless, FMPs carry considerable weight in any decision-making given the public process undertaken to prepare the plans and Greater Wellington Regional Council's (GWRC) responsibility for flood protection in the region.

In accordance with GWRC guidelines, this FMP contains information about the rivers and associated tributaries, the risk of flooding and erosion, and what has been done to manage the risk so far. It also describes potential environmental, cultural, and recreational values that the community holds in relation to the catchment, and how floodplain management can seek to maintain or improve these values.

Crucially, this FMP sets out the outcomes that the community would like to see achieved in the floodplain, including the measures required to minimise risk in the event of a flood. As part of understanding the desired outcomes of the community in preparing this FMP, different local, regional, and national perspectives from a range of parties have been taken into account. Relevant parties have included the Regional and District Councils, iwi, government agencies, infrastructure providers, community groups, and private land and business owners – all of whom have to consider the consequences of flooding. The development process and involved parties are described in more detail in *Appendix 1* of this document.

Mana whenua articulate the need to care for the mauri, or life-giving properties, of the region, particularly the mauri of fresh and coastal waters on which well-being is dependent. Mana whenua were involved in developing this Floodplain Management Plan and other council processes such as the proposed Natural Resources Plan pNRP and the Ruamähanga Whaitua. Information on their collective and separate values and sites of significance provide valuable information for development of this FMP. Additionally, this Floodplain Management Plan supports many of the objectives of the pNRP for the Wellington Region as well as the recommendations of the Whaitua Implementation Plan (WIP).

River management operations will be undertaken in accordance with any rules that are relevant in the pNRP (including any WIP recommendations up taken by the pNRP) as well as any relevant non-regulatory methods within the pNRP.

This plan is the primary floodplain management guidance document for landowners, government agencies, the community, and decision makers to reference when considering the future planning and administration of the Te Käuru Upper Ruamāhanga catchment. As such, this FMP has been prepared as a living, non-statutory document and it will need to be updated in the future, as required. At the time of any update, all of the interested stakeholders will be consulted to provide input into the long-term management of the river catchment.

This FMP is set out in two parts:

- Part 1 describes why we need this FMP (including the vision and aims), the suite of responses and common methods that will be used throughout the catchment, and how this FMP will be implemented.
- Part 2 sets out the floodplain management outcomes to be delivered across the Te Kāuru Upper Ruamāhanga catchment. The six rivers that make up the Te Kāuru Upper Ruamāhanga catchment have been divided into 20 separate reaches (17 for the western gravel bedded reaches, as well as the three eastern silt bedded rivers) for the purpose of identifying existing values and flood and erosion issues and thereby directing the most suitable floodplain management responses.

2. Why do we need this Floodplain Management Plan?

2.1 Purpose of the Floodplain Management Plan

The purpose of this FMP is to establish a framework that will assist in keeping people and property safe in the Te Kāuru Upper Ruamāhanga catchment. It will do this by proactively managing the river channels as well as providing land use and protection measures to support the continued appropriate use of both rural and urban land and resources in potential flooding and erosion-prone areas. The main purpose of proactively managing flood and erosion risk to people and property is supported by some common underlying themes, including the desire to:

- Avoid risk:
- · Reduce the flood risk to people and property;
- Support a resilient local economy and a scheme that is affordable and fairly funded;
- Work with District Councils to coordinate long-term planning outcomes;
- Recognise the role of tangata whenua and their cultural values;
- Recognise environmental matters; and
- Provide recreational opportunities.

2.2 Principles of River Management with Respect to Flood Protection

Sustainable and effective river management is based upon the following six key interrelating principles, which have been incorporated into the development of this FMP and will be incorporated into the development of Operational Management Plans (OMPs).

- Rivers are dynamic. They are constantly changing and at any time are a physical expression of a combination of their
 physical, climatic and human processes (both past and present) at the catchment and reach level.
- Work with rivers and not against them. Healthy rivers are diverse rivers. Diverse rivers have greater natural character,
 which provides for a greater expression of mauri (life force) and their inherent aquatic and riparian habitats, which in turn
 support greater species diversity.
- Rivers need room to move. Rivers naturally meander, and the meander pattern will tend to migrate downstream over time.
 Central to this process is erosion and deposition of bed and bank material and the relocation of riparian margins.
- River management requires knowledge. Understanding of catchment-specific river histories and bedload transport capacities is needed to predict reach-specific future state, and what is realistically achievable.
- Rivers are managed for a range of flood flows. Both maximum flood and channel carrying capacities are managed to meet
 the community's expectations for protection, and the avoidance and/or mitigation of flood hazards.
- River management requires adaptability. The unpredictability of dynamic rivers combined with fixed channel capacity constraints, means flexibility of management is important to achieve agreed outcomes.

2.3 Values

As with all rivers, the rivers that make up the Te Kāuru Upper Ruamāhanga catchment have a diverse range of values attributed to them. These include a range of intrinsic values encountered throughout the catchment and that influence the way humans relate to and interact with the floodplain. The emphasis of such values shifts in response to the culture of the community and may change as generations come and go.

The Resource Management Act 1991 (RMA) sets out the broad framework through which all New Zealand's rivers must be sustainably managed to provide for our social, economic and cultural well-being and to preserve natural character. Within the regional context of the rivers which make up the Te Kāuru Upper Ruamāhanga catchment, important values are managed through the proposed Natural Resources Plan and the Ruamāhanga Whaitua process, both of which have identified values through input from the local community and tangata whenua.

Throughout the Te Kāuru Upper Ruamāhanga floodplain the specific values of rivers and their associated natural character include: providing food and resources; contributing to identity; providing for livelihood; sustaining health and wellbeing; and providing recreation opportunities. Many of the values recognised today extend back to pre-European settlement – commonly referred to as cultural values in the development of floodplain management plans.

Te Kāuru – the headwaters of the Ruamāhanga – extends from the Tararua Ranges to the Eastern Hills covering an area of 1,560km². The western rivers, with their gravel beds, emerge from the rugged Tararua Ranges, well known for their pristine native forests, onto the fertile Wairarapa Plains. As a result, the upper reaches of these rivers are commonly valued for their beauty, mauri, recreational opportunities and spiritual significance. The eastern rivers, with their silty beds, are characterised by lower undulating hills dominated by agricultural use. Strong cultural and ecological values remain alongside several recreational areas.

Through the FMP development process, specific sites of value have also been identified across the Te Kāuru Upper Ruamāhanga floodplain. These are shown on a series of maps in Part 2 of this FMP and encapsulate the following:

Landscape

Each river has been divided into defined reaches, recognising the unique identity each section of river has in terms of river attributes, landscape context and riparian margins. Recognition of landscape value has been informed through landscape character investigations developed to inform the Regional Plan and includes a refined understanding of the level of landscape modification and scenic value for each reach.

Recreationa

All of the rivers in the Te Käuru Upper Ruamāhanga catchment are recognised as having at least some level of recreation value, reflecting the way in which the rivers are used by groups and individuals for pastimes, hobbies or recreation. Such recreation activities include swimming, kayaking, fishing, duck hunting, jet boating and walking and encompass recreation areas established along river margins.

Heritage

The Ruamāhanga River and its tributaries have played an important role in shaping the historic settlement pattern that has evolved within the Wairarapa Valley. Early settlement historically focussed along the margins of the river, and sites of heritage value remain along parts of the Te Kāuru Upper Ruamāhanga floodplain.

Cultural

Ngāti Kahungunu ki Wairarapa and Rangitāne o Wairarapa have a close relationship with the rivers, wetlands and floodplains throughout the Te Kāuru Upper Ruamāhanga catchment. This includes sites of specific importance and broader, more holistic cultural values. An on-going partnership between GWRC, MDC, CDC and iwi has been established to ensure better understanding of the range of spatial and non-spatial cultural values which exist.

Land use

Land use values include a range of current and future land uses relevant to both urban and rural contexts. This includes future development sites, key infrastructure, and sites of potential contamination included in the Selected Land Use Register.

Ecology

The Te Käuru Upper Ruamähanga catchment is valued for its broad ecological diversity. This includes native and introduced fish species and a range of bird species including several ground nesting species such as the nationally-threatened Buller's Gull. Apart from a more cohesive cover of native vegetation established in the upper reaches of the western rivers, vegetation along the margins of the rivers is dominated by willows, with pockets of important habitat, indigenous forest, stonefield and boulderfield, natural wetlands and ponds.

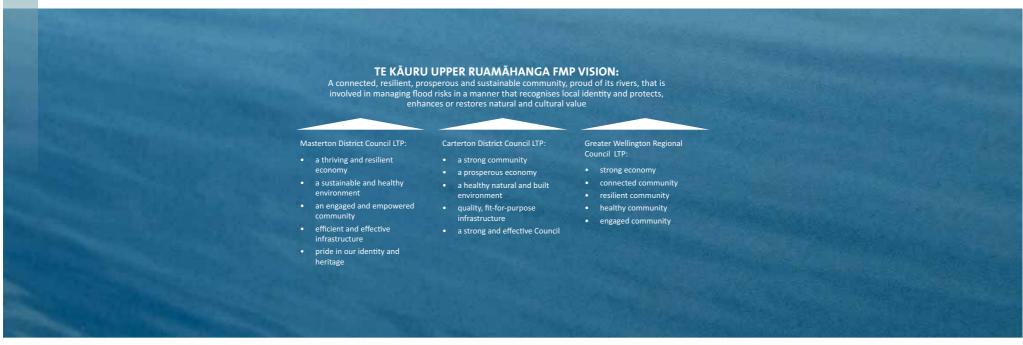
2.4 Vision

The range of values recognised throughout Te Kauru Upper Ruamāhanga forms a primary focus that has shaped and guided the overall vision for this FMP. Key values encapsulated in this vision include: promoting sustainable economic development; protecting and enhancing natural spaces and systems; recognising and improving tangata whenua values; and providing for wider community needs, including building resilient communities. To achieve this vision, this FMP requires people and communities to work together.

The overarching floodplain management vision for the Te Käuru Upper Ruamähanga catchment is to establish:

A CONNECTED, RESILIENT, PROSPEROUS AND SUSTAINABLE COMMUNITY, PROUD OF ITS RIVERS, THAT IS INVOLVED IN MANAGING FLOOD RISKS IN A MANNER THAT RECOGNISES LOCAL IDENTITY AND PROTECTS, ENHANCES OR RESTORES NATURAL AND CULTURAL VALUE

The vision of the Te Kāuru Upper Ruamāhanga FMP is aligned with the expected outcomes stated in the Long Term Plans of the Regional and District Councils as shown on the following diagram.



2.5 Aims

Through the development of this FMP, overarching aims were identified to describe the desired outcomes to be achieved through the FMP. More detailed management objectives for each reach, or that may be required for specific sites, are also included on a reach-by-reach basis in Part 2.

In identifying the overarching aims of this FMP, inspiration was drawn from a range of different sources, including Council policies, mission and purpose statements of organisations involved with this FMP, and the issues and values held by affected communities

While the aims have been split into five groups, a complex relationship exists across the groups and between individual aims. No prioritisation is implied by the numbering of the aims, which has been used purely to assist discussion.

1. To work together to develop a sustainable floodplain management plan

- a. Provide affordable flood hazard management across a whole continuum of flood risk
- b. Align with integrated catchment management principles
- c. Follow the principles set out in the flood protection Code of Practice
- d. Endeavour to make future development and land use compatible with flood risk

2. To support sustainable economic development

- a. Inform the Long Term Plans of local authorities
- b. Reduce the likelihood of loss to private property, business and agriculture
- c. Make property owners aware of their flood risks and damage potential
- d. Manage or reduce the risk to essential public infrastructure and maintain lifelines during flood events

3. To protect and improve the cultural values of rivers

- a. Improve the recognition of the impacts of flood and flood hazard management on cultural activities and values
- b. Improve the mauri of waterways within the catchment
- c. Improve access for mahinga kai and cultural practices
- d. Recognise and consider the interconnectedness of natural systems

4. To recognise local community needs and build resilient communities

- Make communities aware of their flood and erosion risk
- Recognise opportunities to support the sustainable aspirations of the community and landowners
- c. Identify and support opportunities for improved public access to and along rivers
- d. Maintain and improve the level of safety for recreation users of the rivers

5. To protect and enhance our natural spaces

- a. Improve awareness and understanding of the natural values and character of the river environment
- b. Improve recognition of impacts of flood and flood hazard management on environmental and ecological values
- c. Create more space for rivers and their natural processes
- d. Improve the water quality and habitat diversity along the rivers
- e. Make the use or extraction of natural resources, including gravel management, sustainable and compliant with relevant policies



Council 25 June 2019, Order Paper - Adoption of the Te Kauru Upper Ruamahanga River Floodplain Management Plan

2.6 Legislation, Policies and Principles

Decisions concerning the management of flood risk, such as that associated with the Te Kāuru Upper Ruamāhanga catchment, are informed by a mix of national and regional statutes, policies and principles that underlie, and set the context for, effective floodplain management planning.

At a legislative level, floodplain management is principally influenced by four key statutes: the Resource Management Act 1991 (RMA); the Local Government Act 2002 (LGA); the Soil Conservation and Rivers Control Act 1941 (SCRCA) and the Local Government (Rating) Act (2002). Each of these perform a distinct and important role in managing flood risk, including the ability for a range of regulatory and non-regulatory measures to be introduced that enable central and local government to more effectively manage such risks. Provisions in the RMA, for example, provide a regulatory planning context for regional and city/district councils to control land use to avoid or mitigate natural hazards such as flooding, while the LGA and SCRCA enable regional councils to initiate and fund non-regulatory measures, such as stopbank construction and channel maintenance.

At a national level, the National Policy Statement for Freshwater Management (NPS-FM, 2014 (Amended 2017)) provides direction to local authorities on the management of freshwater through the establishment of a framework that considers and recognises Te Mana o te Wai (the integrated and holistic well-being of the water) as an integral part of freshwater management. In addition, it also includes a set of objectives and policies that direct the way water is to be managed in an integrated and sustainable way, with provision made for economic growth within set water quality and quantity limits.

At a policy level, the Regional Policy Statement for the Wellington Region (RPS) plays a prominent role in managing natural hazards, such as river flooding. The RPS does this through the policy framework it establishes for the Region and that GWRC and District Councils are required to give effect to in their respective regional and district plans. Of particular note is the directive in Policy 29 of the RPS that district and regional plans 'avoid subdivision and inappropriate development in areas at high risk from natural hazards'.

GWRC has adopted four core principles that underpin its approach to floodplain management planning, and that reinforce and complement the statutory and policy considerations outlined above. These principles are:

- Avoid building in areas at high risk of flood hazard (e.g. undeveloped 'greenfield' areas)
- Only consider new flood protection infrastructure where existing development is at risk (e.g. dwellings, irrigation infrastructure, dairy sheds)
- Establish standards of flood protection relative to the degree of risk (e.g. a minimum 1% Annual Exceedance Probability (AEP) flood standard for stopbanks constructed to protect existing urban areas and associated land use)
- Plan for climate change in assessing the degree of flood hazard risk and in determining an appropriate response (e.g. a
 O 8 m allowance for sea level rise)

These principles played an influential role in informing the range of responses included within the Te Käuru Upper Ruamāhanga FMP.

Further supplementary detail relating to the core principles is included in Appendix 4.

2.7 Te Kāuru and the Ruamāhanga Whaitua Statement for Freshwater Management (NPS-FM) in the Ruamāhanga Whaitua area. In August of 2018, the Whai Statement for Preshwater Wanagement (NPS-FM) in the Ruamananga Whaitua area. In August of 2018, the Whaitu Implementation Plan (WIP) was finalised and has now been approved by GWRC. The WIP will be integrated into the proposed Natural Resources Plan (pNRP) over the next few years. This FMP recognises that the WIP will have a influence over how flood protection is undertaken now and into the future and how these works can assist in achieving The WIP has outlined the following objectives to meet the NPS-FM • Water quality, algae and invertebrate freshwater objectives for rivers and lakes. The Freshwater Management Units (FMUs) within the Whaitua align with the Te Kāuru River Management Groups. TE KÄURU RIVER MANAGEMENT GROUPS **FMUs AS PER WHAITUA** Waingawa River Upper Ruamāhanga River – Mt Bruce Valley floor streams group, Western hill rivers Upper Ruamāhanga River - Te Ore Ore Valley floor streams group, Northern rivers Upper Ruamāhanga River – Gladstone Kopuaranga River Whangaehu River Northern rivers Taueru River Staff will continue to work across the organisation and with the community to ensure all objectives are optimised. HOW THE TE KAURU FMP AND WHAITUA FIT TOGETHER RESOURCE MANAGEMENT LOCAL GOVERNMENT ACT SOIL CONSERVATION AND **ACT 1991 RIVERS CONTROL ACT 1941 RMA TE KĀURU** . UPPER RUAMĀHANGA **FLOODPLAIN MANAGEMENT** PLAN RUAMĀHANGA WHAITUA INDICATIVE ONLY - FOR MORE INFORMATION SEE APPENDIX 4

Flooding of Bruce Street 1934

2.8 Flood History

There has been a long history of river management within the Te Kāuru Upper Ruamāhanga catchment associated with human settlement and the desire of people to protect themselves and their assets from the threat of flooding. Floods that breached the river banks and flowed across the Te Kāuru Upper Ruamāhanga floodplain occurred relatively frequently, especially in the eastern areas of the catchment.

For early Māori, and later the first European settlers, settlements existed through the establishment of seasonal sites. The timing of these would be driven by a range of factors including flood risk, and their location governed by proximity to important and lucrative resources that were often very close to rivers. These sites provided easier transport links, and improved access to water, food, and fertile land, and eventually led to permanent settlements.

Following the arrival of Europeans, some of these settlement sites have grown into large permanent towns. Their increased size has put them in a position where some parts of the community have spread out into areas of greater hazard. This, combined with changing environmental conditions, can lead to increased conflict between the flood hazard and community aspirations, and if left unchecked results in an increasing risk to life and property.

The Ruamāhanga River is well known to the Wairarapa community for its flood events. During the early 20th century, settlers suffered damage and loss when the Ruamāhanga River overflowed its banks, washing shingle onto valuable pastures. The bed of the river had become badly choked with willows, restricting flood flows, and the channel was of inadequate size for the floodwater volumes and of irregular alignment.

One of the most destructive flood events in the Wairarapa Valley took place in 1947. During this event, the flow in the Ruamähanga River measured 2,580m³/s near Martinborough and was estimated to be a 1% AFP flood event (meaning that there was a 1% chance of this event occurring in any year). The most significant impacts from this event were experienced in the lower reaches of the Ruamähanga catchment, but floodwaters entered Masterton and other Wairarapa towns, and most of the stopbanks on the Ruamähanga River were overtopped. This resulted in thousands of acres of farm land being flooded and thousands of drowned livestock. Individual property damages were also significant.

In response to the ongoing risk of flooding, various river management schemes were proposed and implemented to provide river alignment stabilisation, bank edge protection, and improved stopbanking, to reduce the incidence of flooding to adjacent floodplains along many sections of the river.

The major flood risk to Masterton comes from the Waipoua River. Additionally, the flood risk from the Waipoua River can be compounded by the backing-up effects of flooding in the Ruamähanga River. Because of this, the Waipoua River was substantially modified and straightened in the 1930s and 1940s, including establishing the existing stopbanks constructed along the margins in response to flooding concerns.

The rivers of the Upper Wairarapa Valley are also connected and can be influenced by the same rainfall event, so when one rises the others can follow. This can increase the risk of flooding and lead to serious events that can cause significant levels of property damage. One example of this, largely within the rural areas, was the 1998 flood which caused damage to a large number of private properties and flood protection infrastructure.

The Waingawa River is a steep and powerful river. Fortunately for much of the surrounding community, the river is entrenched within a fairly tight, naturally-confined floodplain. This means that much of the flooding – even in a large flood event – is



contained by the river terraces from where it enters the Wairarapa Plains until it joins the Ruamāhanga River. Within these confining terraces, recent river activity can clearly be seen on the ground, and even more clearly in aerial photography, where overflow paths have left their mark both from deposition and scour. While the flood risk from the Waingawa River is limited by its entrenched form, the erosion risk, both modelled and observed, is of significance. This high energy river regularly reshapes its main channel during each flood event.

Historically, the Whangaehu River has caused issues with extensive flooding across the Wairarapa Plains. During the 1960s and 1970s, river management techniques of straightening the river and intensive willow planting were carried out to manage flooding hazards. Unfortunately, these willows eventually led to significant erosion issues after the river channel became 'choked' with vegetation, resulting in the river channel migrating to adjoining areas. This then led to issues with sedimentation causing further channel constrictions.

A number of significant flood events have also occurred in the Taueru River. Similar to the Whangaehu River, willow trees were planted along the length of the Taueru River and have resulted in channel constrictions. A river management scheme was established in the lower reaches of the river in 1994 to address flooding issues.

In 2004 and 2005, extensive flooding occurred on the Kopuaranga River that consequently led to the formation of a river management scheme. As with the Taueru and Whangaehu Rivers, the scheme's work was mainly focused on managing the impacts of flooding related to willows choking river flows in the channel.

2.9 Future Flooding and Climate Change

While climate modelling and historical data can provide some insight into how natural cycles and climate change will interact, the underlying science continues to evolve. Scientific understanding and/or national guidance may mean future changes for this policy.

2.9.1 Climate Change

International and national agencies predict that climate change will have an effect on river hydrology. Weather patterns are expected to become more erratic: with an increased number of droughts followed by storms of heightened intensity. While these predictions are varied in magnitude, GWRC has utilised a Ministry for the Environment guidance which indicates a 1% AEP rainfall in the Upper Ruamāhanga to be 20% greater by 2100, and this allowance has been used in its modelled flood maps and planning for flood risk management.

NIWA predicts that potential climate change implications for the Te Kāuru Upper Ruamāhanga catchment may include:

- An increased number of droughts followed by storms of greater rainfall intensity;
- · Spring rainfall reduced by up to 15% and winter/autumn rainfall increases;
- · Decreased total volume of precipitation received by the Te Kāuru Upper Ruamāhanga catchment;
- Changes in both high flows and low flows toward more extreme values;
- Increased frequency of high flows; and
- Increased short duration storm intensity with little change in longer duration storm intensity.

2.9.2 Climate Cycles

Short and long-term climate cycles through natural fluctuations such as El Niño-Southern Oscillation (ENSO) and Interdecadal Pacific Oscillations (IPO) also have an impact on climate and river hydrology.

- ENSO cycles, commonly known as El Niño and La Niña, are short term, irregular phase changes in the Pacific Ocean that
 affect rainfall patterns and trade winds. Geographically diverse regions of New Zealand (including within the Wellington
 region) are affected differently by these cycles. For example, the Wairarapa tends to have a drier than normal climate in El
 Niño phases and a wetter climate in La Niña phases.
- IPOs are large scale, long period cycles operating at a multi-decade return that cause a fluctuation in atmospheric pressure
 and sea surface temperatures. IPOs also appear to modulate the impacts of inter-annual ENSO climate variability over New
 Zealand. Typically, high sea surface temperatures have been observed during negative IPO phases leading to higher than
 normal rainfall conditions in the greater Wairarapa region, and low temperatures during positive IPO phases lead to drier
 than normal conditions.

As of 2018, the IPO appears to be approaching the middle of a negative phase, indicating an overall wetter period is likely for the Upper Ruamāhanga catchment.

- There is currently no scientific consensus on how climate change may affect ENSO and IPO cycles. However, climate
 change is likely to increase the frequency and intensity of extreme weather events, regardless of whether they are
 associated with ENSO or IPO.
- . ENSO and IPO cycles represent climate variability on large time scales and may not represent a particular yearly climate.

2.9.3 More Information

More information on the different aspects of climate change can be found at the following websites:

- El Niño and La Niña https://www.niwa.co.nz/climate/information-and-resources/elnino
- Interdecadal Pacific Oscillation https://www.niwa.co.nz/node/111124
- Ministry for the Environment Climate Change http://www.climatechange.govt.nz
- GWRC Climate Change http://www.gw.govt.nz/climate-change/

2.10 Why Change? Drivers and Benefits

The key river management drivers of this FMP include:

- Continued provision of flood hazard management and erosion protection for land beyond the buffers using sustainable
 management approaches;
- · More equitable distribution of scheme resources; and
- Enhancing environmental and cultural values of the rivers by allowing greater expression of natural river processes where
 possible, and attempting to minimise the frequency of in-stream works.

This FMP sets out the methods to achieve the vision and aims

The methods seek to bring a range of benefits as outlined below.

- Equity and social benefit River scheme benefits will be more equitably distributed. In the current situation, some
 landowners receive the highest level of scheme expenditure (e.g. when a landowner does not provide the space for
 buffers). Reactive works will no longer be automatically directed towards properties where buffers have not been provided
 to control erosion, thereby addressing the potential for ongoing unequal cost burdens to other landowners presently
 within the scheme.
- Increased environmental value of the rivers The methods ensure that ecosystems and biodiversity have the opportunity to improve. For example, providing more space for the river channel can result in more diverse aquatic and riparian habitat and better connectivity between terrestrial and aquatic ecosystems. A more naturally meandering river creates more variety of flow velocities, depths, and temperature. This also supports greater habitat diversity than is generally available in more restricted or highly managed river channels, and provides opportunities for diversity of riparian plants, which provide increased food and shelter for terrestrial ecosystems. These outcomes will work to improve natural character and conditions which provide for more variety in aquatic life.
- Increased cultural value This embodies kaitiakitanga (guardianship of, and caring for, the river) by considering the processes on the catchment scale, allowing the rivers to express more of their natural character, behaviour and form.
 These also enhance a river's mana.
- Economic opportunities Potential economic opportunities can occur in association with changes in land uses along river
 corridors. Vegetated buffers may increase productivity in some instances. The honey industry also sees opportunities
 associated with vegetated buffers that produce food for bees.
- Improved recreational and amenity value It is anticipated that improved natural character will support more birds and fish, and improved water quality will enhance recreational opportunities within and along the margins of rivers.

The most significant changes to river management in the Te Kāuru Upper Ruamāhanga catchment are to plant the buffers and to give the river more room. This approach is in line with the RMA, GWRC's proposed Natural Resources Plan; the Ruamāhanga Whaitua's WlP, as well as other national and regional policies. As outlined in Section 2.9, climate change is another driver for change. A background report regarding "Buffer Management – Benefits and Risks" by Professor Russell Death (2018) is available on request.

Changes are occurring internationally as well. The Netherlands is establishing programmes to give the river more capacity. It believes that by giving the river more room, there will be more room available for higher water levels and flood damage will be reduced. Countries such as Russia, Switzerland, Finland, Sweden, Norway, Estonia, and Denmark are undertaking river restoration works for flood protection as well as for habitat enhancement. For more information on the work being undertaken internationally, please see the following link: https://restorerivers.eu/

There are various programmes within GWRC that support the natural character of rivers and riparian vegetation, for example the Land Management team have a riparian programme and the Biodiversity team have a restoration planting programme.

There are also a number of external initiatives such as:

- · Dairy NZ waterway management programmes;
- Department of Conservation (DoC) and Fonterra Living Water;
- Ministry for the Environment Our Fresh Water 2017;
- Waikato Region Healthy Rivers programme;
- Taranaki Regional Council Planted riparian zones; and
- 1 Billion Trees.

2.11 Risks and Constraints

A number of risks associated with the change are acknowledged:

- There is a risk that monitoring and then intervening later will cost more and may be more intense for the river
 environment compared with more frequent, smaller interventions. The size and nature of this depends on future natural
 processes in the catchment which are difficult to predict.
- It is also recognised that the prospect of losing current productive land uses within the existing buffer may not be supported by all landowners.
- Environmental risks include the potential increase of pest animals and plants, such as old man's beard, within larger planted buffers.

There were also several key constraints that had to be considered when assessing management options, including:

- The location of existing assets (such as bridges, roads, houses); and
- Balancing the environmental and cultural values of allowing the river flexibility to behave more naturally with the
 economic costs of the potential loss of productive land.

Consequently, the outcome of this FMP will be a change in the manner in which river management lines are implemented and the way river works are managed, in order to maximise natural river processes and enhance the environment, while providing the agreed level of flood and erosion protection. This follows the vision and aims of this FMP to protect, enhance and restore natural and cultural values while supporting sustainable economic development and resilient communities.



3. Responses and Common Methods

Due to the large area this FMP covers and the varying types of land uses and types of rivers within this catchment, a combination of different flood and erosion management responses has been developed.

There are two distinct types of river management schemes operating within the Te Kāuru Upper Ruamāhanga catchment, which reflect the different natures of the rivers. Schemes covering the western side of the valley are dealing with larger, gravel bedded rivers (the Waingawa, Waipoua and Ruamāhanga Rivers) which are managed within existing river management envelopes (see Section 3.2.2 for more detail). Schemes established on the eastern side include the Kopuaranga, Whangaehu and Taueru Rivers which are smaller, silt bedded rivers coming from the Eastern Hills and do not have river management envelopes. Different management regimes are required for the gravel bedded and silt bedded rivers. Previous management practices are discussed in *Appendix 2*, with river management schemes of the Te Kāuru area are discussed in *Appendix 3*.

This section outlines the 'common methods' employed for selective use throughout the Te Kāuru Upper Ruamāhanga catchment. Some common methods apply across the whole area of the Te Kāuru Upper Ruamāhanga catchment, while others are more specific to a particular type of river management regime that only applies to some reaches. In this context, common methods inform the physical interventions undertaken through river management activities.

In particular, this FMP outlines a river management approach that seeks to allow the rivers to behave more naturally, with less frequent intervention, within the current envelopes. This is an explicit attempt to strike a balance between improving the river environments and recognising the economic value of the adjacent land (and the views of the landowners).

Where specific responses are required to address more complex or location-specific issues, these are identified in Part 2 of this FMP on a reach-by-reach basis. Such responses include further details which set out how and where they apply. In some cases, the responses include exceptions to the common methods and may include project-specific measures to address a particular flood or erosion issue. Major Project Responses have been developed in locations where the issues cannot be managed by normal application of the common methods alone.

The set of response types that have been developed to implement this FMP have been categorised into the following five groups described below:

Structural

River Management

Planning and Policy

Emergency Management

Environmental Enhancement

3.1 Structural Responses

Structural responses encompass the development of structures and other physical works designed to keep flood waters away from existing development. Stopbanks and floodwalls are obvious examples of structural works that are typically designed to a specific flood standard, e.g. 1% AEP. Structural responses typically require ongoing bank edge works and channel management to ensure flood defence structures and physical works remain effective. Within the Te Kāuru Upper Ruamāhanga catchment, rock lines, riparian planted buffers and groynes are all employed to protect flood defences like stopbanks and maintain the channel's position.

New structural methods, such as stopbanks, are not included in the common methods as they are part of a site-specific response.

3.2 River Management Responses

River management responses guide GWRC's ongoing physical interventions in the river environment, and as such they are the "sharp end" of this FMP for many people and groups who have an interest in the river environment. 'River management' refers to works within the bed of the river or on the river berms. All river management works must be undertaken in accordance with GWRC's 'River Management Code of Practice'.

Common methods that apply this type of response will be employed by the Flood Protection Operations team through Operational Management Plans (OMPs). Such plans look five to ten years ahead and are developed to be consistent with the directions given in this FMP. The OMPs will set out, reach by reach, the detailed works and priorities for upcoming annual work programmes. The OMPs may need to be revised to take into account damage following flood events. The annual works programme and plans will provide the detail of exactly what and where different activities will be carried out on an annual basis.

River management common methods (outlined in Sections 3.2.1 to 3.2.11) reflect community desires to allow space and freedom for the river to behave more naturally while providing a degree of certainty and protection to neighbouring landowners. This will be achieved, for example, by:

- Using envelopes in the western rivers as a management method rather than holding the river to a fixed line (either in its
 alignment or in its bed levels) (Section 3.2.2 and 3.2.3), allowing the natural processes of bed scour/deposition and bank
 erosion/accretion associated with meander migration to take place;
- Using riparian planting of buffers within the western rivers and vegetated edge protection within the eastern rivers as
 the preferred edge protection method and allowing buffers to be subjected to natural river process (i.e. flexible buffers)
 (Section 3.2.5, 3.2.6 and 3.2.11); and/or
- Minimising the frequency of interventions in the channel. Where intervention is necessary to maintain a clear fairway and buffer, various good management practices will be used.

The expected outcome is that the river is able to behave in a more natural way with a greater variety of form and habitat as a result. Although it is also intended that GWRC will be required to intervene less frequently in the western river channels with mechanical means, the overall scale of works will not necessarily be less. This FMP acknowledges that active intervention with machinery in the river environment will still be needed. In some cases, for example to re-establish vegetated buffers following major damage, this intervention will be significant. In other locations, regular work with machinery may still be the best way to achieve the overall outcomes of this FMP where other methods are not effective. Through this FMP and the OMPs, alternatives will be considered, and mechanical intervention will be avoided if a better alternative exists (including taking all values described in Section 2.3 above into account).

This FMP and the OMPs seek to strike a balance between the different values in each reach and the benefits of allowing the river to behave more naturally versus the benefits of controlling the river's behaviour to manage flooding and erosion problems (e.g. protect people, properties and productive land). Decisions on which river management common methods to use and how and where to apply them will be made in an open way through the direction given by this FMP, and the direction provided through the OMPs and Code of Practice (described in Section 3.2.1).

The first consideration when assessing any response should be to ask the question: "can we avoid doing work here?"

Interventions to move any of the western rivers out of the buffer will generally take place only when:

- · The historical channel lines indicate an unusually high risk to adjacent land if the river should erode further; or
- The erosion is continuing further landward with no signs of migrating downstream (i.e. a considerable "hook" is developing
 which threatens to result in a major realignment of the river); or
- The erosion has occurred and worsened through a series of minor events, giving concern that the land behind the buffer would be threatened by ongoing erosion in further minor events; or
- There is a threat to public infrastructure.

Exceptional circumstances may arise but the OMPs are expected to follow these principles.

To assist with decision making, a hierarchy of intervention has been developed. The general concept is that where there is erosion risk to land within the buffer, the scale and type of works used would be limited to those which result in a low risk of adverse impact. As the risk presented by a particular situation increases along with its associated potential impacts, then the range of activities available for intervention also increases to include activities assessed as having medium and high risks of adverse impacts (explained in the table overleaf).

3.2.1 Code of Practice

The Code of Practice guides all river management activities undertaken by GWRC for the purposes of flood and erosion protection across the Wellington Region, irrespective of funding, location or whether an activity requires resource consent. This means it applies to permitted activities as well as those activities for which resource consent is required by the Regional Plan.

The Code of Practice aims to achieve:

- Greater awareness of the effect of river management decisions and activities on a river's natural character and other significant river values, at both broad (whole of river) scale and detailed (reach or specific site) scale;
- · Greater consistency of river management practice across the rivers that GWRC administers and manages;
- · Good management of the environmental and cultural impacts of river management activities; and
- Adaptive river management practice to improve environmental outcomes.

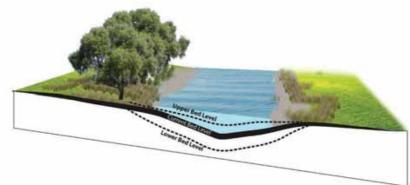
While consideration of individual catchments has fed into the development of the Code of Practice, it is not intended to determine the best method or activity to use at a catchment, river or reach scale. It provides direction on the detail of how different river management activities are carried out on the ground.

This FMP gives direction on where and how the common methods are applied in specific reaches together with an understanding of the identified values to be taken into account. The OMPs must be consistent with these directions and users of the Code of Practice will need to note these directions or restrictions when planning which activities to use (and how/when/where to use them).

This FMP identifies values that should be managed in certain locations or certain constraints that should apply in choosing the river management activities. However, this is not exhaustive and other constraints will apply in different places and at different times. GWRC staff will consider the values at a given location together with the direction in the FMP/OMP when planning annual work programmes. The activities will need to be carried out in accordance with the Code of Practice.

Put simply, this FMP and subsequent OMPs direct which common methods are applicable within each river and/or reach. The decision to implement the available common methods in accordance with the Code of Practice is made by GWRC staff.





3.2.2 River Management Envelopes

River management envelopes define the lateral extent within which the river will be managed. River management envelopes are only used within the western rivers. An 'outer management line' defines the extent that may be eroded in small to moderate floods and/or will be used for riparian planting purposes. The space between the banks of the river and the outer management line is also known as a 'buffer'. GWRC will seek to manage the envelope so that the land outside is protected from erosion to around a 5% AEP level of service (a flood that has a 5% chance of happening every year).

These river management envelopes (also known as design lines) have been in place since the early 1990s. They were established to support good river management practice and also to give a level of confidence and clarity to adjacent landowners as to the maximum lateral extent that the active river channel will be managed to.

The inner management lines indicate the area where the active river channel is most of the time, and the outer management lines indicate the outermost extent to which the river will be managed, thereby giving the river room to move within the buffer.

Landowners make an important contribution to flood and erosion security and ecological benefit by making land available for protection of their own and the community's assets and for allowing natural river behaviour. This contribution is addressed by the approach to strategic land purchase described in Section 3.3.8 of this FMP.

Allowing the river more room will enable the river to adopt a more natural form, which will present less risk of high flows breaching the wider river corridor into people's homes and farms. Wider channels put less pressure on banks, so the buffers are likely to be retained. We are aware, however, that there will be a tendency for lateral shift, which will need to be monitored closely.

Giving the river more room will allow it to have natural resisting elements such as bed armour, vegetation and bar forms. Once these elements are in place erosion rates should decrease.

Also, reducing the channelised floodways within some reaches of Te Kāuru Upper Ruamāhanga catchment will remove the rapid flow of nutrients and other contaminants, therefore reducing their discharge into the coastal marine ecosystems.

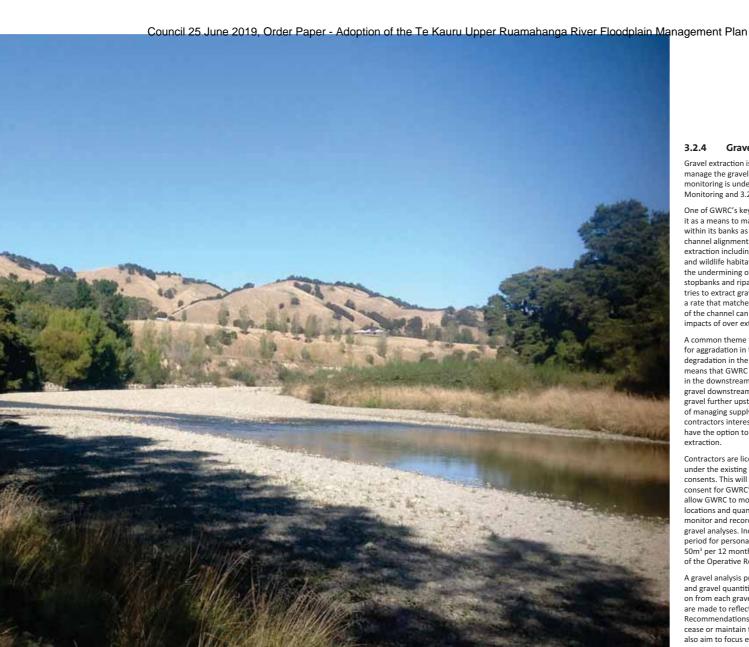
3.2.3 River Bed Level Monitoring

The bed of a river can rise (aggrade) and fall (degrade) over a period of time, and over a longer period of time can fluctuate between these two states. This happens due to natural events but can also be significantly affected by human activities. This process is particularly evident within a gravel bedded river (i.e. the western rivers), where rising and falling bed levels can be observed during a relatively short timeframe.

GWRC has an extensive network of cross sections on all the main rivers in the region and these have been surveyed since the 1990s. Over time, and with more information, longer term rising and falling trends can be recorded to better understand the processes of sediment movement and be used to inform those in the community who are particularly interested in the effect of river bed levels and their close connection to the ground water table.

With sufficient data collected over time, it will be possible to establish river bed envelopes that will include limits for the upper and lower envelope. These envelope limits will be used to identify problems starting to occur so that GWRC can assess the area and determine a response. The actions triggered by these limits may include, for example, a gravel extraction response, a review of the river management envelopes or prioritisation of other management methods in the reach.

Using river bed envelopes and monitoring of long-term rising and falling trends will allow GWRC to make decisions ahead of time regarding when current river management approaches may need to change and how they might change.



16

RESPONSES AND COMMON METHODS

TE KÄURU UPPER RUAMÄHANGA OODPLAIN MANAGEMENT PLAN

3.2.4 Gravel Extraction and Analysis

Gravel extraction is one of the tools used by GWRC to manage the gravel within the western rivers. Various monitoring is undertaken (see Sections 3.2.3 River Bed Level Monitoring and 3.2.8 Pool, Riffle, Run Envelope).

One of GWRC's key objectives for gravel extraction is to use it as a means to maintain the capacity of a river to hold water within its banks as well as to manage problem beaches and channel alignment. However, there are negative effects of extraction including: reduced water quality; impacts on fish and wildlife habitat; increased lateral bank erosion; and the undermining of assets such as bridges, rock structures, stopbanks and riparian planted buffers. Therefore, GWRC tries to extract gravel sustainably, that is, extracting gravel at a rate that matches the gravel supply. This way the capacity of the channel can be maintained while avoiding the negative impacts of over extraction.

A common theme for rivers in the Wellington Region is for aggradation in the flat lower reaches of the river and degradation in the steep higher reaches of the river. This means that GWRC is usually aiming to encourage extraction in the downstream reaches, however, the quality of the gravel downstream is not as desirable to contractors as the gravel further upstream. This provides a continual issue of managing supply and demand. GWRC need to keep contractors interested in extracting the resource as many have the option to abandon river extraction in favour of dry extraction.

Contractors are licensed or may obtain a licence to extract under the existing GWRC river management/operations consents. This will continue with the proposed new global consent for GWRC's Wairarapa operations. The licences allow GWRC to monitor as well as regulate extraction locations and quantities. This is important information to monitor and record as it is vital in carrying out appropriate gravel analyses. Individuals can extract 15m³ per 12 month period for personal use and riverside landowners can extract 50m³ per 12 month period as per R120 of the pNRP and R38 of the Operative Regional Freshwater Plan.

A gravel analysis process is used to establish the locations and gravel quantities required to be extracted. Following on from each gravel analysis a series of recommendations are made to reflect the latest findings in gravel trends. Recommendations may require GWRC to increase, decrease, cease or maintain the current rate of extraction. They may also aim to focus extraction in different areas of the river.

Gravel analysis requires river surveys, which GWRC has set up for all the major rivers and streams throughout the Wellington Region. The survey data is processed by GWRC and compared to data collected from previous surveys.

3.2.5 Riparian Planting of Buffers

A buffer is an envelope of land beyond the river channel on all western rivers that is allocated for erosion control and protection – often, but not exclusively, in the form of trees. Establishing these envelopes is useful for other common river management methods, including: river management envelopes; bed level monitoring; and mixed riparian planting within buffers.

In the Wairarapa, the planting of willow tree buffers for river and erosion management has been a practice for more than 30 years. The advantages of riparian planting of buffers include:

- · Reduced lateral erosion and sedimentation;
- Improved meander alignment and reduced channel distortions;
- · Cover and habitat for wildlife; and
- · Reduced nutrients and pathogens from runoff entering the waterways.

The establishment of vegetation can increase resistance to erosion along a bank edge without preventing it altogether. In effect, it slows the erosion process, meaning less land will be eroded compared to bare, unplanted land. Whilst willow trees are frequently used to bind the river bank material together, this FMP directs a move towards a more diverse mix of planting for both the western and eastern rivers (see Section 3.2.6 Mixed Riparian Planting within Buffers).

Land which is included within buffers may incur erosion damage prior to erosion control measures being established. For example, during a flood event, a buffer may erode prior to subsequent planting being established along a lowered river margin. In some instances, these buffers will naturally refill with gravel and be replanted as river meanders migrate downstream, and at other times these buffers will be artificially reconstructed by machine work and replanted.

Buffers that are already planted may incur some loss of vegetation due to allowing the river more room. This will depend on the land area, soil types, bank slope, land use, and type and density of vegetation.

High banks or erodible cliffs can be included within the buffers. In these cases, vegetation cannot be planted in the buffer because its root zone will be too high above the river to be effective in slowing erosion (or for tree survival). The common method approach is to allow the buffer to partly or fully erode so that riparian planting of buffers can be established at river level to protect the land behind the buffer.

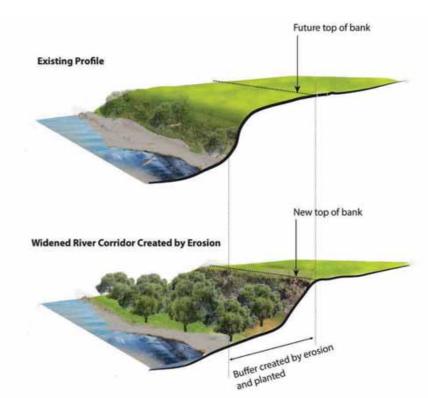
There has been mixed success historically in the establishment of riparian planting of buffers or edges across the catchment as nearly all the land on which these buffers exist is privately owned. Riparian planting of buffers was not previously recognised economically within the schemes for their value in managing river erosion.

There is considerable opportunity to combine riparian planted buffers with environmental enhancements (explained in Section 3.5) such as including wetland areas where appropriate. The Environmental Strategy will identify areas where greater environmental enhancement opportunities exist. This process can also identify sites where landowners are keen to participate in environmental enhancement efforts, areas where wider buffers could be established, and/or areas where additional land could be purchased.

There are many benefits of planting the western buffers and planting the river bank edges of the eastern rivers, including:

- · Bank stabilisation, which helps reduce fine suspended sediment inputs;
- Assisting infiltration of surface runoff, therefore reducing contaminant input to the rivers from land use activities;
- Improvement in water quality by reduction of sediment inputs and contaminants from land use activities;
- · Improvement in biodiversity and visual amenity;
- · Regulation of in-stream temperature;
- · Improving the rivers' natural character; and
- · Improving cultural values with native planting.

It is also recognised that the benefit of a given buffer width is dependent on the land use, soil type, bank slope, and type and density of riparian vegetation.



The width of a buffer has an effect on the benefits to the river. Some studies have indicated that a buffer width of 30m will protect stream health, while others have recommended a 50m buffer width. A significant aspect of buffer planting is the length of the buffer for bank stability. In addition, they also help support invertebrate communities due to a reduction in water temperature.

Economic benefits of riparian planting are related to the economic value of ecosystem services which benefit humans by increasing water quality and aquatic life and decreasing sediment and contaminant loading.

It is recognised that along with benefits there are also risks associated with planting the western river buffers and the eastern river banks, including:

- Potential for increased roughness, sediment migration and channel realignment which may cause unexpected change of
 active channels with potential for overtopping and avulsion;
- Buffers may erode with lateral channel shift and therefore erode the vegetation;
- Weed control costs;
- The balance between giving the river more room for its natural hydromorphology and the constraints of current infrastructure and channel form will be difficult; and
- The need to ensure riparian vegetation planted near electric lines is selected or managed to ensure it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003.

The rivers will need to be monitored via surveys using LiDAR and/or drones to identify any of these potential risks before they become a reality.

With regards to weed control, it is recognised that it may take up to five years post-planting to control weed growth (see Sections 3.2.7, 3.5.3 and 4.4.2).

3.2.6 Mixed Riparian Planting within Buffers

As mentioned in Section 3.2.5, river management in the Wairarapa has relied heavily on willow planting to maintain stable bank edges. This is because willows are fast growing robust trees with branch growth that can reduce flood velocities on berms, and dense root mass that can bind the bank-edge soils together. Willow trees can be mechanically transplanted and have been noticed to be more resilient to stress and more likely to survive compared with many other species.

This FMP encourages a transition from an exotic willow monoculture approach to a mixed native/exotic riparian approach across the entire buffer within the Te Kāuru Upper Ruamāhanga catchment. This approach is used both regionally and nationally. Depending on the location, this could involve using willows for front-line defences and using natives further away from the active bed. Alternatively, under-planting natives into willow stands may occur and when natives are mature enough, the removal, where practicable, of what remains of the willow stands can be carried out. The eastern rivers will continue to have crack willow removal undertaken followed by planting of hybrid willows and/or natives along the bank edges.

Including a range of suitable native plant species provides the added benefit of improving biodiversity, enhancing visual amenity, improving water quality, and further stabilising stream and river beds. There is also a growing realisation of the long-term risk of pests and disease when using only willows for river bank plantings. Mixed planting can reduce this vulnerability.

This FMP encourages the creation of opportunities for innovation and research to explore various options and identify the best methodology for mixed riparian plantings in local circumstances. Examples where mixed riparian planting has happened along the river could be identified to produce information on the implications and potential for success. There is also an opportunity to explore (with tangata whenua) the planting of rongoa, or traditional healing plant species in areas that can be accessed by the public.

Initiatives to plant and maintain mixed riparian planting within buffers should ideally be led by the community. GWRC will be able to provide plants and some resources to assist the planting, but ongoing maintenance will rely on community input. GWRC has already established good working relationships with landowners who are part of river management schemes, but could explore opportunities to broaden the involvement of these groups and those landowners outside of these river scheme areas. Through the Riparian Management Officer (recommended by this FMP in Section 3.5.3), advice and support will be made available to landowners who wish to explore mixed riparian planting within buffers.

3.2.7 Pest Management in Riparian Planted Buffers

Introduced pest plants and animals can threaten our health, economy, Māori heritage, recreation, native plants, animals and habitats. Depending on the species that need to be controlled and the area to be covered, the method and therefore cost of controlling pest management will vary.

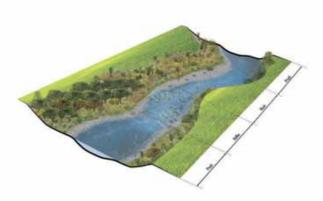
Within the Te Kāuru Upper Ruamāhanga catchment, approximately 880ha of riparian planting (once all planting is complete) will need to be controlled for various pest plants (such as old man's beard and blackberry) and pest animals (such as possums and rabbits). Due to the wide range of species that may impact the buffers, spraying will likely be the most effective method for control of pest plants, while trapping and poisoned bait will be the most effective for pest animal control.

Pest control will be supported by the Riparian Management Officer (Section 3.5.3) and implementation is discussed in Section 4.4.2.





Blackberry along the Ruamāhanga River



3.2.8 Pool, Riffle, Run Envelope

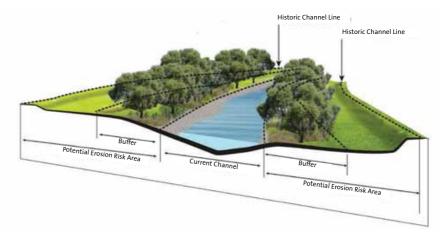
In many rivers, the channel and water level are naturally regulated by sequences of pools, riffles, and runs. A diverse mix of flows and depths is important in a river system to help create the variety of habitats for fish and invertebrate life, and can also support a range of recreation activities. In a meandering river bed, this diversity is largely provided by the number and occurrence of pool-riffle-run sequences.

A pool, riffle, and run count is a method for ensuring habitat and river form diversity is maintained within a managed river system. Within a highly managed or stable river it is practical to set an exact number of pools, riffles, and runs.

The reaches of the gravel fed western rivers flowing from the Tararua Ranges will have a pool, riffle, and run count assigned, with a defined upper and lower acceptable limit per river management reach forming an 'envelope'.

This method will not require intervention in the river system to modify natural changes to the pool, riffle, and run count that may occur during flood events. Use of the pool, riffle, and run count will only be required to inform the planning of the river maintenance works.

The pool, riffle, and run envelope will be included in monitoring and performance measures. By counting the numbers of pools, riffles, and runs, the form of the river and its changes between the surveys can be assessed and compared. In the long-term, it will aid the understanding of the trends occurring in the rivers in connection to river maintenance works.



3.2.9 Historic Channel Lines

The river system has in the past meandered widely across the Wairarapa Plains. Some of these historic channels are clearly identifiable due to old river terraces being visible in the landform (such as the hillside behind Oxford St in Masterton). In other cases, these historic channels have been infilled to change the land use in that area. During large flood events, these areas of infilled or old channels are often reoccupied by rivers and may become areas of higher hazard or subject to greater erosion impacts.

The identification of photographed and observed historic channel extents on plans within this FMP, and on the operational management plans, will raise awareness of historic landforms and assist informed decision making by property and asset owners when siting infrastructure.

These historic channel lines would be used in an information-only approach, to identify those assets of a farm or business that would not otherwise be controlled under district plan rules for avoidance of hazard. This is intended to include irrigators, cattle shelters, some farm outbuildings and other utility type structures. It may also help with siting of roads or other infrastructure.

3.2.10 Isolated Works Support

GWRC may provide, on application, a financial contribution towards river works that fit within the Isolated Works Policy. Isolated works are privately owned flood or erosion protection works that are undertaken outside areas where GWRC manages river schemes. The intent of the contribution is to provide a level of service to the areas that are not eligible for works under river management schemes.

Minor alterations to the Isolated Works Policy will be undertaken to provide an opportunity for people within existing schemes to access this support. For example, support should be available for erosion control within a river management scheme area if erosion control is not provided for directly in the scheme's level of service. As the Policy is currently written, funding is strictly for areas outside of any existing schemes and this is to be reviewed.

3.2.11 Alternative Land uses within Riparian Planted Buffers

Riparian planted buffers, in most instances, currently serve only a single purpose of making land available for erosion control and protection. Some alternate land uses have been trialled to recognise potential revenue streams from these parcels of land that are not available for the adjacent rural land use (usually cropping, dairy or sheep and beef). Such additional revenue streams could include beekeeping and growth of willows as an alternate fodder crop for drought periods.

Through the Community Support Officer (Section 3.5.2) position recommended by this FMP, advice and support will be made available to landowners who wish to explore additional revenue opportunities from the riparian planting of buffers.

There may also be opportunities for land leases for public recreation, access, and flood protection and erosion control purposes.

3.3 Planning and Policy Responses

Planning and Policy responses can include: flood mapping; zoning land; rules restricting the type of development allowed in flood-prone areas; development of standards for activities undertaken in flood prone areas; and plan provisions (i.e. rules or consent conditions) to ensure the operation, maintenance, and protection of flood protection works.

River management envelopes which are subject to active erosion could be recognised within district plans, through hazard mapping, zoning and designations, or any combination of these mechanisms.

Plan provisions may also need to consider such matters as location, building, maintenance, operation, and protection of structures, such as stopbanks, weirs, groynes, flood gates, diversions, or other flood protection measures when writing objectives, policies, and rules.

3.3.1 Land Use Controls

To reflect the updated flood and erosion information, District Plan amendments are required to update recommended land use controls. Amendments include overlays and zones that capture provision of:

- · River Corridor;
- Overflow Path;
- Ponding (inundation area);
- Residual Overflow
- Residual Ponding; and
- Erosion Hazard.

This FMP concludes that the six-tier approach, or similar, more clearly defines the nature and extent of the flood hazards from direct flood risks and "residual" risks. To see this approach advance, changes need to be made to the Wairarapa Combined District Plan (WCDP). This process can either be carried out under a regular District Plan Review or a separate "Plan Change". The main recommended changes to the WCDP involve:

- Introducing and mapping categories of hazard (preferably by way of a Flood Hazard Overlay);
- $\bullet \quad \text{Restricting buildings/structures/earthworks in the River Corridor and Overflow Paths;}\\$
- · Ensuring all new habitable buildings in Ponding and Residual Overflow have elevated floor levels;
- · Not allowing any new subdivision in Ponding Areas, or critical infrastructure that doesn't take the hazard into account; and
- · Requiring setbacks from stopbank structures.

Until the changes to the WCDP are made, the information and outcomes in this FMP provide Carterton District Council and Masterton District Council with information that can be taken into account in any future planning applications. Furthermore, as an interim measure, the District Plan maps could be updated with the revised flood hazard information, without any need to change the underlying policies or rules. The timing of any review or change to the District Plan will be determined by Carterton District Council, Masterton District Council, and South Wairarapa District Council.

3.3.2 Designations

One of the methods GWRC is seeking to use is the Notice of Requirement process (under the RMA) to designate the major projects and the River Management Envelope (buffers) on the western rivers.

Designations do not confer automatic access to the designated land. Most of the land designated for buffers, stopbanks, floodways and drains remain in private ownership. This is described in more detail in Sections 3.3.7 River Management Access and 3.3.8 Strategic Land Purchase. A designation will enable GWRC to:

- prevent unauthorised activities (e.g. structures, planting and pipes) on or under the buffer or stopbank that could affect
 the stopbanks structural integrity;
- · prevent access onto the buffer or stopbank from unauthorised vehicles; and
- prevent the location of obstructions (shelter belts, tree planting, structures) in the floodway that would adversely affect
 the conveyance of floodwater in a flood event occurring within the designated areas.

3.3.3 Flood Hazard Maps

Flood hazard maps were produced prior to the preparation of this FMP to help to understand and communicate the flood issues. The maps are generated using computer modelling to predict flood behaviour, along with historical data to match the model as closely as possible to past events. A 1% AEP event is used in line with regional policy and guidance documents, but a range of other events are also mapped, including historical floods, and those both smaller and larger than the 1% AEP event.

Climate change impacts are included in most of the scenarios because this FMP considers the outcomes with long timeframes where predicted climate change will be significant. Consideration of climate change is required under national guidelines, as well as GWRC policy. Uncertainties in the data and other factors that cannot be included directly in the model are also considered via a freeboard or sensitivity allowance in modelled flood levels.

Mapping is undertaken at a catchment scale rather than modelling the flooding behaviour in detail at a particular site. This scale is appropriate for planning the solutions to flooding, informing emergency management and providing advice on flood hazard for existing or new developments. GWRC uses the information to meet its statutory requirements to understand and manage flood risks. District Councils use the information in carrying out their obligations in district planning, providing Land Information Memoranda (LIMs), and their functions under the Building Act. Flood hazard maps are important inputs to many of the other common methods.

The flood hazard maps are peer reviewed and represent the best information available at a particular point of time. Over time, technology and information change (for example, more powerful computers are developed, and the length of rainfall or river flow records get longer). The flood hazard maps are updated from time to time to reflect these changes and to make sure the information continues to be fit for purpose.

Flood hazard maps will be used to support future plan changes for the WCDP. Depending on the timing of the plan change, and the level of information required at that time, further development work may be required for the flood maps and for erosion hazard areas at that time

3.3.4 Rural Stopbanks Policy

Stopbanks are embankments built to stop floodwater from rivers flooding nearby land. They may just look like grassy banks, but they have been constructed according to specific engineering designs and standards.

The established stopbanks in the Te Käuru Upper Ruamāhanga catchment have a variety of levels of service (or capacity levels) defined by an AEP. The definition and identification of level of service for each stopbank is identified within each reach in Part 2

In assessing the level of service of each stopbank, some existing "legacy" stopbanks within the river schemes have been identified that are less effective in terms of who they benefit and what service they provide. This gives rise to issues of equity between different areas or landowners. To ensure a more equitable outcome can occur, this FMP provides guidance for each stopbank asset, including options such as maintaining, retreating or retiring/transferring the asset. This becomes particularly important when existing stopbanks are located within the buffer. Removing or retreating rural stopbanks from within the buffer will not be considered a high priority for implementation until the integrity of the stopbank is threatened.

This FMP does not propose any new stopbanks to protect rural areas with the exception of consideration of stopbank alignment at Rathkeale College. It is possible in the future that a private landowner may propose to build a stopbank to protect their land. GWRC will consider whether it supports or opposes such a project on a case-by-case basis including consideration of:

- The benefit provided by the stopbank;
- Impacts on the flood hazard to other properties;
- · Vulnerability of the land behind the stopbank, including in the case of stopbank failure;
- Stopbank level of service (including that the level of service is not too high, thereby facilitating inappropriate residential development); and
- · Impacts on river management, particularly distance from the river.

3.3.5 Scheme Funding Decision Making Policy

The 2019 scheme funding model addresses flood events up to a 20% AEP event through annual rates, and between 20% AEP and 5% AEP event through reserves. Floods bigger than a 5% AEP event can access funding from GWRC's Major Flood Damage Reserves. Central government funding may be made available following a major flood that exceeds a 2.5% AEP event. However, if additional funding cannot be obtained, damage may need to be tolerated in events greater than 5% AEP magnitude or repair works may need to be completed using debt funding. The decision-making process regarding works required in excess of these funding levels will be clarified by development of a policy that will determine:

- · What works can be carried out under annual works;
- . What works can be carried out using reserves; and
- How decisions are made regarding works that exceed reserve funds

3.3.6 Abandonment / Retirement of Assets

There are a number of assets that no longer provide the service or perform the function for which they were designed. These assets have been identified within each reach, including the method of retirement/abandonment and an indicative time frame where practical to do so.

As a general rule, assets for flood protection that exist within a river management envelope will be retreated to a less erosion-prone location, or abandoned/retired, although this will not become a priority until the integrity of the stopbank is threatened.

3.3.7 River Management Access

GWRC requires access to land in order for works to be carried out, either for river channel management or for the construction and maintenance of assets. Often this access needs to be ongoing and have a reasonable degree of certainty. There are a number of ways of achieving this, including:

- Informal access agreements;
- Formal access agreements;
- · Esplanade strips (created during subdivision);
- Easements;
- · Designations; and
- Land purchase.

The existing river management schemes rely largely on informal goodwill and willingness by landowners to allow river works and buffer establishment on their properties, although GWRC's existing stopbank assets have been designated in the WCDP. As mentioned in Section 3.3.2, GWRC is seeking to designate the river management envelope in the District Plan. This will clearly identify that this particular area of land is needed for river management purposes and would enable GWRC to control activities and/or structures that can be located on that land. Before any Notice of Requirement to designate land is made, further consultation with the affected community would be required.

3.3.8 Strategic Land Purchase

GWRC's preference is to own the footprint of stopbanks (these may be leased back to the adjacent landowner for grazing). However, some landowners hold concerns about public ownership of river corridors and margins. These include concerns about the security of their property and changes to the way the land would be managed if in public ownership. In most circumstances in the Wairarapa context GWRC has designations over its structural assets.

Implementing the major projects described in this FMP will require significant works on private land. This may require land purchase in the future. Some of these physical works may be many years away but as a high priority in implementing this FMP, GWRC will seek designations over all sites where future major project responses require assets to be built or relocated.

Implementing the river management / buffer approach in this FMP in the western rivers will require changes in land use, such as open areas of river margin being planted with riparian plants. In cases where the landowner would prefer to sell that land to GWRC rather than retain ownership, this FMP seeks funding for GWRC to be able to buy that land. This would also apply to landowners who have already set their land aside to establish riparian planted buffers because it is important that they are treated equally. This FMP does not seek to bring all river corridor or buffer land into public ownership. However, a strategic land purchase list will be developed, costed, and a plan put in place to acquire this land over time through mutual agreement via a strategic land purchase fund. This will need to align with reach-specific buffer recommendations, planned major project responses and high-priority sites identified in the Environmental Strategy. An indicative cost for this, based on purchasing half the land that sits within the river management envelopes, is \$5 million over the life of this plan. GWRC will also support the creation of esplanade strips by District Councils when subdivision of riverside properties takes place.

The strategic land purchase fund will also be available for funding the retreat of infrastructure from the river management envelope. The contribution from GWRC would be in line with funding policies at the time with the remainder to be funded by the asset owner. The contribution from GWRC would be capped at a level based on an estimate of the cost avoided by retreating the asset. For example, GWRC may contribute to a road being retreated where doing so avoids the need to construct rock groynes. GWRC would contribute the difference in cost between building the rock groynes and what a standard, vegetated buffer approach would cost to implement and maintain. A more comprehensive policy will be developed as part of implementing this FMP.

3.3.9 Protection Against Deforestation in Upper Catchment

The upper catchments of the western rivers fall within the Tararua Ranges, including in the Tararua Forest Park. Much of this area is protected as DoC estate. Areas outside of this that are currently forested have differing levels of protection.

Rules are required to prevent deforestation within the upper catchments to ensure that the run-off characteristics of this area remain intact. This can be achieved through Regional Plan and District Plan rules, as well as advice and support from GWRC.

3.4 Emergency Management Responses

Emergency management plays a very important role in floodplain management planning. When a flood emergency occurs, how well a community copes depends entirely on how well prepared it is – this includes the preparedness of emergency services, public agencies, utility services, businesses, and ordinary residents.

3.4.1 Community Resilience

Community resilience means that communities are well prepared and ready for emergencies and have knowledge, skills, resources, and relationships to respond to and recover from a flood event. When a flood emergency happens, how well a community copes depends on how resilient it is.

Wellington Regional Emergency Management Office (WREMO) will work with the community to increase its resilience through public education programmes. Education symposia address three different target groups:

- · Tools for business continuity planning will be offered to the community to increase resilience of their businesses;
- School teachers will be educated about emergency management; and
- · Aged residential care facilities will be addressed specifically as these facilities are one of the most vulnerable areas.

Educational brochures developed by WREMO and supported by the materials from this FMP will be available for the public to inform their personal emergency planning.

An outcome of this FMP will be that GWRC provides WREMO with detailed mapping tailored to emergency management uses. These maps include vulnerable access routes or lifelines, and the scale of events that will cause these lifelines to be cut. Additionally, an address list can be produced for properties located within an extent of the 1% AEP flood event, with the intention that the community preparedness message is delivered to these property owners and occupants. Properties that are vulnerable to more frequent floods will be highlighted.

3.4.2 Flood Forecasting and Warning System

GWRC and WREMO together provide a flood warning service for the Wellington Region. Separately from formal warnings, GWRC also makes environmental data, such as river flows and rainfall amounts, available to anyone via a range of methods including its website.

Flood warning is recognised as a major tool for equipping people to take their own actions to avoid flood risk. In a large flood or in areas that have very low levels of flood protection, flood warning is crucial for people who are exposed to these hazards and for emergency managers who are trying to minimise risk to life and property.

The development of this FMP has led to a number of suggestions for improvements to the system. This has occurred in parallel with a 2016 review of GWRC's and WREMO's flood warning system.

As an example, some potential areas that have already been identified for investigation or improvement are:

- More focus on supporting people to plan their response to flooding, so that the warning will result in people taking
 effective action:
- · Use of automated technology to supplement telephone trees;
- Providing the means for recipients of flood warnings to manage their own subscriptions to alerts (so that details are kept up to date):
- Additional or relocated gauges to provide greater warning time (especially on the upper reaches of rivers);
- Purchasing of advanced weather forecasting and/or supporting improved forecasting through financial contributions (e.g.
 contributing to a new weather radar site);
- · Improved reliability of communications for critical warning sites;
- · Additional resourcing to carry out more river gauging to improve the accuracy of flow estimates;
- · Opportunities to expand or develop the flood forecasting system to give advance warning of flooding; and
- · Developing ways to monitor river flow gauges for landslide dam formation, especially during heavy rainfall events.



ENVIRONMENTAL ISSUES AND ACTIONS

ENVIRONMENTAL ISSUES AND ACTIONS			
ENVIRONMENTAL ISSUES	IMPROVEMENTS		
Public access and private ownership The majority of the land adjacent to the river is	Work with District Councils and support recreation opportunity improvements, including connecting access along the Waipoua, Ruamāhanga and Waingawa Rivers		
in private ownership. Public access to the river is	Support landowners who wish to retire farm land and advocate for improved recreational access		
generally limited to the areas in the DoC estate, including upstream areas of the Ruamāhanga and Waingawa, and urban areas of the Waipoua River	Integrate riparian planting and wetland creation opportunities with buffer establishment. For example, where buffer land is being purchased or retired in partnership with willing landowners, look at opportunities to create a wider buffer to allow for wetland creation/restoration and native planting behind		
Weed management	Weed clearance programmes		
The buffers are infested with weeds including blackberry, tree lucerne and old man's beard	Yearly checks to ensure areas of weed infestation are identified. This shall inform measures required to ensure weeds are kept under control (also see Sections $3.2.7, 3.5.3$ and $4.4.2$)		
Crack Willow and Grev Willow	Reduce the presence of crack willow and restore ecological value to the eastern rivers		
Listorically, crack willow (Salix fragilis) was used extensively through the Te Käuru Upper Ruamāhanga catchment	Use hybrid willows (such as Salix matsudana and tangoio) when carrying out new plantings and, when suitably mature, for use in other protection methods to minimise self-propagation potential		
	Advocate for private planting of natives in association with willows and outside riparian planted buffers		
	Improved buffer planting and widened strips will help improve diversity		
Loss of Diversity	Support landowners who wish to retire farm land and carry out native planting. Provide information on how to access contestable funding to support these efforts		
Loss of mahinga kai	To be developed in association with Kahungunu ki Wairarapa and Rangitāne o Wairarapa		
River management	Minimise impacts by undertaking works in accordance with the Code of Practice (for river		
River management methods, particularly bulldozer	management activities)		
operations in the channel, impact on the environment. These impacts can include loss of aquatic habitat, reduction in water quality and associated reductions in amenity values	Utilise other measures which require less regular and/or extensive in stream river works, where possible		
Straightening of river channels	Seek to allow the river more room to move and maintain natural processes		

3.5.2 Community Support Officer

GWRC works with communities to manage flood risk from the region's rivers and streams. This includes developing floodplain management plans, providing an advice and consultation service in relation to flood and erosion risks, maintaining and building new flood protection works, maintaining or improving the environment and recreational opportunities, and providing management and advice to Civil Defence during large floods.

Further opportunities exist for GWRC to build upon existing relationships with landowners, iwi and the wider community who wish to be involved in the health of river environments.

There is potential to establish a part-time or full-time role to support and advise the community on local projects and initiatives relating to the river environment (i.e. Community Support Officer). The key tasks of this role will include:

- Providing a point of connection with the community;
- · Building relationships with local river recreational groups;
- Reinforcing partnership with iwi;
- Calling for volunteers through GWRC website, social media and volunteer websites;
- · Facilitating practical education days with community groups including schools, marae, and business organisations; and
- Showcasing the areas of concern in the region and the positive results of volunteer efforts at local events to encourage greater participation.

This role could be facilitated by including a portion of current officer working time for community support and drawing on local expertise and knowledge to work with the broader community, current scheme committees, and landowners. For the Eastern Hills area, this role could cross over with Land Management advisors who already work with rural landowners and have established relationships in the area.

 $\label{eq:GWRC} \textbf{GWRC would seek partnerships with other organisations or agencies to fund this role.}$



Photos courtesy of Don Rutherford, riverside landowner undertaking enhancement native tree planting on his section of Waipoua River.

3.5.3 Riparian Management Officer

A new role is sought as part of this FMP to focus on the establishment and maintenance of riparian plantings within the buffer and ensuring that there is a coordinated approach to pest management within the buffers. Responsibilities could include: managing the budget for and distribution of traps and sprays for landowners to undertake their own pest management; assisting in the development of riparian management plans for buffers; coordination of community groups, volunteers, etc. who wish to assist with plantings and maintenance; and undertaking weed management on planted sites for up to five years post-planting, which will be reviewed after two years.

3.5.4 Care Groups and Clubs

Healthy streams and rivers are an asset for any community. They are peaceful and fun places to be near, have cultural significance and can be full of wildlife.

River care groups can participate in their local rivers by involvement in:

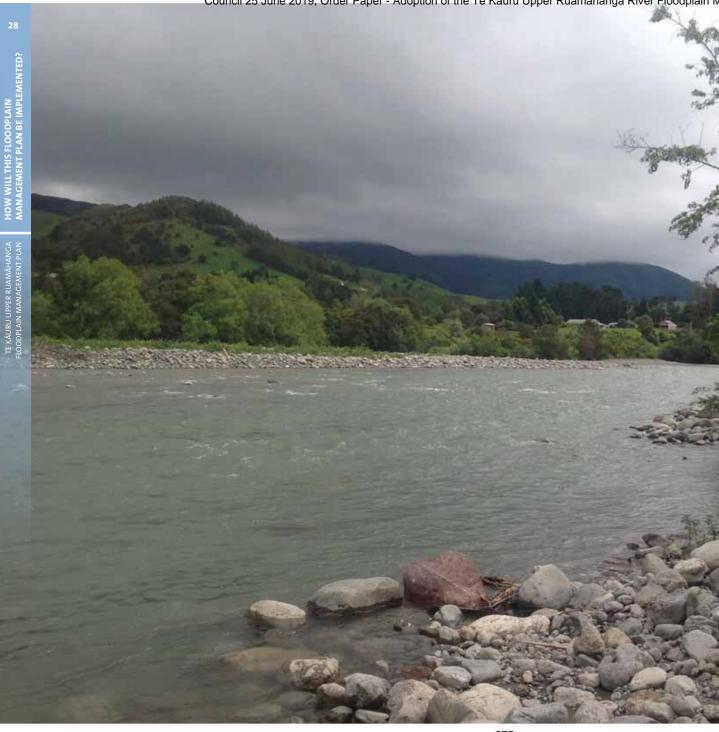
- Delivering native planting programmes and/or other Environmental Strategy outcomes;
- Maintaining vegetation to prevent waterway obstruction;
- · Encouraging the community to take a greater interest and have greater involvement in river environments;
- Advocating and working with landowners to improve access;
- Managing animal and plant pests; and
- Monitoring and reporting on river management and FMP implementation on behalf of the community.

The western rivers of the Wairarapa are perhaps more suited to the care group concept than those in the eastern half of the valley, given that they have better public access and higher rates of recreational use.

There are a number of care groups that GWRC works with in the Wairarapa. The range of tasks carried out by river care groups can include:

- · Strategic planning: developing a stream restoration plan and timeline for the work;
- · Communications: keeping all interested people informed;
- Baseline assessment: walking the river/stream and recording what state it is in at the start, so there is something to measure improvements against;
- Research: working to find the most successful and efficient techniques for improving the health of the stream/river; and
- Operations: rubbish removal, planting, weeding and other jobs to restore and maintain a healthy stream/river.

As mentioned in the previous common method description, establishing a Community Support Officer at GWRC will assist in building community relations and encouraging the establishment of new river care groups in the western half of the catchment.



4. How will this Floodplain Management Plan be Implemented?

This section sets out how the flood protection and management measures in this FMP will be implemented and funded. In short, the implementation measures outlined in this section will be carried out by a number of different authorities and individuals.

4.1 Governance

For over 50 years river management schemes have been maintained to protect people, property, infrastructure, and productive rural land in the Wellington Region. The schemes have been designed to reduce, mitigate, and manage the flooding and erosion risk throughout the region. The schemes have been drafted and implemented at various times based predominantly on the wishes and support of the local communities.

The Te Kāuru Upper Ruamāhanga catchment includes eight existing schemes that make up a large portion of the floodable land area.

Each scheme has an annual maintenance programme which is identified prior to the start of each new financial year. This programme identifies and prioritises work to be carried out within that financial year. Each scheme also has a committee which is made up of directly affected landowners adjacent to the respective river or reach of river, as well as GWRC and territorial authority representatives. Schemes within the Te Käuru Upper Ruamähanga catchment have reported to the Environment Committee of GWRC.

GWRC COMMITTEES

WAINGAWA	WAIPOUA
RIVER	RURAL RIVER
MANAGEMENT	MANAGEMENT
GROUP	GROUP
SCHEME MEMBERS	SCHEME MEMBERS
AND COMMUNITY	AND COMMUNITY
GROUPS	GROUPS

WAIPOUA URBAN RIVER MANAGEMENT GROUP COUNCILS AND COMMUNITY

UPPER MOUNT **BRUCE RIVER** MANAGEMENT **GROUP** SCHEME MEMBERS AND COMMUNITY GROUPS

UPPER UPPER RUAMĀHANGA/ RUAMĀHANGA/ RUAMĀHANGA/ TE ORE ORE GLADSTONE RIVER RIVER MANAGEMENT MANAGEMENT **GROUP** GROUP SCHEME MEMBERS SCHEME MEMBERS AND COMMUNITY AND COMMUNITY GROUPS GROUPS

KOPUARANGA RIVER MANAGEMENT GROUP

FASTERN

SCHEME AREA

REPRESENTATIVES

REPRESENTATIVE FOR

THE THREE EASTERN

SCHEME AREAS

SCHEME MEMBERS AND COMMUNITY GROUPS TAUERU RIVER

MANAGEMENT GROUP SCHEME MEMBERS AND COMMUNITY GROUPS

WHANGAEHU RIVER MANAGEMENT GROUP SCHEME MEMBERS AND COMMUNITY GROUPS

For this FMP, the governance structure will comprise a formal Advisory Committee being the 'Upper Ruamāhanga River Management Advisory Committee'. The specific responsibilities of this committee are outlined in Section 4.2.1 below.

The Advisory Committee will make recommendations regarding implementation of the FMP to GWRC. The Advisory Committee will act as a point of contact for members of the public, landowners and other stakeholders for any issues they have regarding the plan, including the implementation methods and action plan.

The Advisory Committee will be made up of seven representatives from river management groups (renaming of existing scheme committees) within the Te Kāuru Upper Ruamāhanga area (including one from within the eastern scheme areas). It will also include two representatives from Carterton District Council, three from Masterton District Council, two from GWRC and two iwi representatives.

As witnessed through the implementation of previous schemes, community input is invaluable to implementation, given the wealth of local knowledge and experience they contribute. Additionally, the diversity of representation and knowledge within the scheme committees has improved with the inclusion of representatives from DoC, Fish & Game and iwi representatives. This involvement has contributed to an increase in understanding of the broader values and benefits from the river management work undertaken. In time, representation may evolve further so as to continue to represent the communities through which the rivers flow, as these communities change. The scheme committees will be renamed as 'river management groups'.

The river management groups will continue to be made up of landowner representatives and other community groups and organisations. The reporting structure of the river management groups will be retained. In this respect, the river management groups will continue to have an annual meeting supported by Flood Protection staff from the GWRC Masterton office to consider the annual maintenance works programme and associated expenditure. The river management groups' representatives will then be able to take these views to the Advisory Committee which in turn reports to GWRC.

The Advisory Committee will meet more frequently than the existing scheme committees do (perhaps quarterly) in the initial stages of the FMP implementation.

The Advisory Committee will report up to Greater Wellington Regional Council through appropriate committees. Currently, a specific responsibility of the Environment Committee is to, among other things, monitor and oversee the development and implementation of floodplain management plans, including the Te Kāuru Upper Ruamāhanga Floodplain Management Plan. The relevant specific responsibility of the Advisory Committee is that it may consider and make recommendations to Council on flood protection issues relevant to the Wairarapa.

This new governance structure will align with the funding structure changes. Funding changes are to spread the targeted rate portion of rates across the Te Kāuru Upper Ruamāhanga catchment and therefore the governance structure will allow for the Te Kāuru Upper Ruamāhanga catchment community involvement.

4.2 Responsibilities

The following parties have direct or indirect roles in implementing this FMP:

4.2.1 Upper Ruamāhanga River Management Advisory Committee

As discussed in Section 4.1.1, an Advisory Committee will be established to monitor the implementation of this FMP. The role of this Advisory Committee will be to ensure the action plan in this FMP is further developed and implemented, including the monitoring of progress against actions. The Upper Ruamāhanga River Management Advisory Committee (Advisory Committee) will be established by GWRC and operate under an agreed Terms of Reference.

The Advisory Committee will also act as a point of contact for members of the public, landowners and other stakeholders for any issues they have regarding the plan, including the implementation methods and action plan. The Advisory Committee will make recommendations on implementing this FMP to GWRC and other organisations with responsibilities in this area.

4.2.2 Greater Wellington Regional Council

GWRC will be responsible for the overall coordination and monitoring of this FMP, as well as relevant physical flood protection structures and works such as river management and stopbanks. In addition, GWRC will provide flood hazard mapping and advise territorial authorities on flood hazard areas to inform the development of appropriate land use planning controls in the District Plan.

4.2.3 District Councils – Masterton and Carterton

Many of the land use planning control measures will be implemented by Masterton District Council and Carterton District Council through their District Plan. These Councils also have a responsibility to maintain and protect public assets, including several bridges established along local roads. District Councils would also implement some environmental enhancements (e.g. walkways on riverside reserves).

4.2.4 Landowners

Landowners in the floodplain are important parties for implementing identified actions as they are the beneficiaries of successful implementation of this FMP. In addition to landowner representation on the Advisory Committee, landowners may be required to work with GWRC staff on particular projects or works that directly affect their land, for example, the final composition of riparian planted buffers. Landowners also play an ongoing role in maintaining projects or works (e.g. protecting stopbanks or vegetated buffers from damage by machinery or stock).

4.2.5 Community Groups and Other Parties

Interest or community groups can be a valuable resource and may help to implement various actions. They have significant local knowledge that is of importance in the management of the rivers for flood and erosion purposes. For example, community groups could assist and contribute to the work of other parties, including contributing to riparian planting of buffers. The governance structure will encourage community groups to be a part of the river management groups and/or the Advisory Committee.

4.2.6 NZ Transport Agency and KiwiRail

NZ Transport Agency and KiwiRail are responsible for the maintenance and protection of their assets in the Wairarapa, including bridges which cross the Waingawa, Waipoua, Ruamāhanga and Kopuaranga Rivers.

4.2.7 Kahungunu ki Wairarapa and Rangitāne o Wairarapa

Kahungunu ki Wairarapa and Rangitāne o Wairarapa are partners with GWRC within the Wairarapa. This relationship includes maintaining meaningful engagement as required through statutory acknowledgements and as promoted under the pNRP.

OTHER (GRAVEL **ROYALTY AND** RESERVE **INTEREST)** SCHEME RATES WAINGAWA REGIONAL RATE **SCHEME** 44% **REVENUE INFRASTRUCTURE OWNER DIRECT** CONTRIBUTION 26%

4.3 Funding Structure

There are significant costs associated with the flood management responses in this FMP. A new funding structure is proposed to support the implementation of this FMP. The measures will be implemented in accordance with the funding policy in place at the time.

4.3.1 Summary

Previously, landowners within the schemes funded a portion of the total scheme costs, also known as targeted rates. However, to recognise and reflect the wider benefit of the implementation measures of this FMP, it is proposed that these targeted rates be spread over all ratepayers in the Te Kāuru Upper Ruamāhanga catchment.

The funding approach recognises that:

- This FMP seeks to provide greater security, a wider range of benefits, a needs-based approach to river works and some solutions to long-standing problems, particularly relating to water quality. This will, in the long-term, cost more to implement and maintain than the current river schemes cost;
- · This FMP will deliver wider benefits which should be funded from the wider catchment community;
- This FMP is seeking to address current inconsistencies and complexities within and between the schemes; and
- In this FMP, the concept of using the buffer areas for river management purposes will require a change in use of affected land. This contribution has to be recognised or compensated.

The outcomes and feedback received as part of the development of this FMP have informed the FMP funding approach.



4.3.2 Previous Funding Structure

With respect to funding, the schemes were divided into different categories, or classifications, depending on the flood and erosion protection benefit that landowners received. Landowners were then rated on the basis of which pieces of land fell into these different classifications which became outdated as situations changed or as needs changed based on new information. As experienced in the schemes, these rating classifications became outdated as situations changed or as needs changed based on new information. The ratings were also difficult to keep up-to-date as properties changed hands, or were subdivided and developed. They were overly complex – for example, the Kopuaranga scheme had 12 different classifications for a simple scheme of willow tree removal and management and only \$13,000 per year of rates collected. A proportion of the operational costs of the schemes were funded from the general rates paid by ratepayers across the whole Wellington Region (up to 50%).

GWRC agreed through the Long Term Plan (LTP) process in 2018 to retain the current funding policy for flood protection. This is subject to review through the LTP process every three years. The funding policy includes:

- The general rate to fund 100% of the work for the "understanding flood risk" activity, and
- Up to 50% of the funding to come from the general rate for the other two flood protection activities of "implementation" and "operations and maintenance".

Note that the "understanding flood risk" activity is the investigations and modelling required to ascertain flood risk in our region as well as development of mitigation strategies through the development of Floodplain Management Plans.

The balance of the funding is termed the "local share" and must be contributed from the local community in some form. The "local share" is made up of:

- · Local Councils' (TA) contributions for infrastructure protection;
- Gravel royalties;
- · Interest on river scheme reserves; and
- · Scheme landowners via a classification model.

Scheme landowners have previously contributed on average 28% of the total funding but the amount varied from 16 to 51% of the total funding for the schemes in the Te Kāuru Upper Ruamāhanga catchment, depending on the scheme.

The example on page 32 shows the breakdown for contributions to the Waingawa River scheme in the 2017/18 financial year.

The rivers schemes, as a rule, did not carry out major works using loan funding (capital expenditure, or "capex") but rather through annual budgets and use of flood damage reserves following major floods.

4.3.3 Drivers for Change in Funding Models

- This FMP is proposing to spend money on major projects and general works that are not necessarily "scheme" based and
 are a departure from the current scheme approach of annual work programmes. This additional expenditure, likely staged
 over many years, must be funded and it is doubtful that the current scheme funding approaches are appropriate. We
 expect these would be loan-funded projects, or capex, and the existing model doesn't accommodate this easily.
- The projects and new approaches in this FMP to managing the rivers are intended to deliver a wide range of benefits including cultural, environmental, recreational, economic and social. The costs of delivering these wider community benefits should rest with the whole community.
- The previous funding arrangements led to some unintended outcomes. The scheme budgets were determined by how much the landowners were prepared to contribute, and the scheme budgets determined how much and what kinds of work was carried out. Seeking wider funding would assist a more coordinated, consistent, fair and needs-based approach.
- 4. The concept of using the buffer areas for river management purposes means that a change of use in some affected areas is required. A common theme resonating with the landowners of the schemes is that "if the community wants to use this land for community outcomes then the community should be paying for the scheme." This FMP proposes a fair and equitable approach to funding including recognising that some landowners under the existing schemes have already agreed to flood protection measures on their land such as by allowing vegetated buffers to be planted.

4.3.4 Costs and Proposed Funding

At the time of writing, the total funding required to cover the eight schemes in the Te Kāuru Upper Ruamāhanga catchment is approximately \$930,000 per year. Of that, riverside landowners, as a targeted rate, fund approximately \$290,000. If a catchment-wide funding model is adopted and the \$290,000 currently paid by affected landowners was spread across all the ratepayers in the Te Kāuru Upper Ruamāhanga catchment, the rate would be about \$4.8 per \$100,000 of Capital Value (or \$17 per year for a \$350,000 property for example).

The 2017/2018 total revenue in percentage and dollars for the eight schemes in the Te Kāuru Upper Ruamāhanga catchment are listed in the table below. Of this, the targeted rates (collected from scheme members), is the portion that is being proposed be covered by a catchment-wide rating.

2017/2018 Scheme Revenue breakdown

	TOTAL REVENUE FOR EIGHT SCHEMES	PERCENTAGE OF REVENUE
Regional rate	~\$407k	44%
Infrastructure owner direct contribution	~\$174k	19%
SCHEME RATES	~\$290К	28%
Other	~\$80k	9%
Total	~\$930k	\$100%

4.3.5 Cost to Ratepayers

The benefits sought from this FMP include flood hazard and erosion protection, and the enhancement of environmental and cultural values of the river. These aim to benefit the wider community and the environment. The costs involved in this FMP relate to three separate changes or increases to rates: spread of the targeted rate; increased operational expenditure through general responses; and new capital expenditure through major projects. The increases in rates estimated are for the 'local share' as well as the increase in regional portion. These are based on the current model of the regional share being up to 50%. Therefore local share, collected through a targeted rate, is approximately half of the associated costs, but how they are distributed across ratepayers will vary.

Operational expenditure is used for annual expenses involved in flood and erosion protection, including on-going river management work and many of the general responses listed on page 41. While the on-going river management costs are not expected to increase, there are additional operational activities proposed. Consequently a rate increase for all operational activities has been estimated at \$13 per \$100,000 of CV. It is expected that increases will be spread over a number of years.

Capital expenditure funding will be used to finance the Major Projects Responses outlined in Part 2. Further investigations and options consideration of the Waipoua urban flood risk will be undertaken during Stage 1 of implementation. Subsequent Stages of work will be determined upon completion of Stage 1 and are not detailed. The major project responses (including Stage 1 of the Waipoua urban reach only) are estimated to cost a total of \$4 million. \$2 million of this will be rated across the entire region. The remaining \$2 million, the local share, will be funded through a targeted rate across the Upper Ruamāhanga catchment. This would equate to a rates increase of approximately \$3 per \$100,000 of CV. For each of the Major Project Responses, guidance will be sought from MDC, CDC and the asset owner on whether each project will be funded more directly.

The timing of rate increases are estimated to be:

- 1-2 years approximately \$2-3 per \$100,000 CV
- 3-5 years approximately \$5-10 per \$100,000 CV
- 6-10 years to be confirmed

4.3.6 Affordability and Willingness to Pay

Making sure the proposed works and funding arrangements are affordable and spread fairly is important. Staging of works will be crucial in ensuring the works are appropriately funded. This FMP will be implemented over decades and when individual works programmes have been confirmed, the prioritisation and staging of works can be agreed.

Councils fund their infrastructure works through Long Term Plans (LTP). Through the LTP process, councillors weigh up all the work programmes and proposals for new expenditure and make decisions about what work should be undertaken, and when. This FMP will provide a key input to future LTPs and in the end, the pace of implementation will be controlled by Council decisions on expenditure and the budgets / spend outlined in the LTPs.

4.3.7 Scheme Reserves

Previously, the river schemes put money aside in reserve funds to cover years when there was a lot of flood damage. The value of reserves across the schemes varied between approximately 100% and 400% of the annual operational / maintenance budget.

The potential flood damages have not been assessed scheme-by-scheme to determine what the reserve targets should be. However GWRC applies a rule-of-thumb that reserves should be at least 200% of the normal annual operational spend. This reserve would only likely cover the 'clean-up' costs and emergency repairs immediately after the flood event, not any subsequent remediation works.

Without major flood events for many years, the reserve balances have built up. If there is any change to funding arrangements that affect how reserves are managed, then contributions made by scheme members over time need to be recognised and GWRC will ensure that reserve balances and debts are treated fairly.

In adopting a level-of-service based approach and the move towards funding river operations from the wider community, the response to flood damage in the future will be less dictated by reserve balances. The response will instead be to direct community funds into the locations where the urgency is greatest. Over time it is also likely that the existing scheme reserves would be amalgamated into a single reserve. If this approach is adopted, a transitional period would be required, whereby previous scheme reserves could be "earmarked" for expenditure within that scheme area only.

Central government has also indicated that it is considering changes to policies on financial support to regions following a large flood event. This may trigger the need to reconsider appropriate reserve levels in the future. However, a reliance solely on central government support for large events is not assumed in this FMP.

4.4 Outcomes

This section of the FMP provides more detail for how major elements from each group of FMP responses can be implemented over time. It also includes a table of the general responses (Section 4.6.6) that are more catchment-wide (not covered in Part 2) with an indication of cost and priority.

4.4.1 Structural

New structural measures, mainly stopbanks, will be delivered through site-specific Major Project Responses. These responses are described in detail in Part 2 and summarised in the table to the right. The majority of these projects have been developed in response to known problems and situations that have not been resolved through the works programmes contained in the existing schemes.

Response priorities have been indicated as High, Medium or Low. The prioritisation in this FMP has been based on community feedback, the nature of the known hazard, the nature of the associated risks, and the perceived urgency of rectifying the existing situation.

Generally, the High Priority Response Projects (refer summary to the right) will be carried out in the first ten years of FMP's implementation.

Major Project Res	ponse Summary (Refe	er Part 2)			
NAME	MANAGEMENT MEASURE	PRIMARY REASON FOR RESPONSE	PRIORITY	COST	FUNDING
WAIPOUA URBAN REACH	Assess and address flood issue to Masterton	To increase current and future flood protection to urban area of Masterton	High	Stage 1 \$350,000	Capital funding TBC
RIVER ROAD PROPERTIES	Increase bank protection to river edge at River Road and widen river channel	To increase protection to River Road, Masterton	High	\$575,000	Capital funding TBC
RIVER ROAD PROPERTIES	Easements and other legal costs as required	To allow construction/maintenance of groynes and widening of the river	High	\$50,000	Capital funding TBC
MDC WATER SUPPLY	Targeted operational river management with revised emergency management plan	To manage risk of erosion posed to the water supply pipeline	High	Varying but of magnitude of \$5- 20,000 per annum generally, with allowance for targeted emergency works as required	Operational funding
HOMEBUSH WASTE WATER TREATMENT PLANT	Resilience works within headworks facility (plinth for generation, raising electrical works)	To increase resilience of HWWTP headworks in case of stopbank overtopping	TBC	\$50,000	Capital funding TBC
PAIERAU ROAD	Permanent warning signs and improved flood forecasting	To increase the safety of road users by providing permanent warning signs and increasing lead time for road closure to 2.5 hrs	Medium	\$20,000	Capital funding TBC
SOUTH MASTERTON STOPBANK AND URBAN GATEWAY	Contaminated site assessment, visual improvements within the buffer, establishment of public access to the river	Appealing gateway to Masterton, recreational access and contaminated site management	Medium	\$100,000 for contaminated site assessment	Capital funding TBC
RATHKEALE COLLEGE STOPBANK	ТВС	To increase flooding protection to Rathkeale College and reduce erosion risk to stopbank and Rathkeale College	Medium	\$1,000,000 TBC	Capital funding TBC
MDC WATER SUPPLY	Increase bank protection to river edge at Black Creek	To increase protection to water supply pipeline	Low	Up to \$300,000	Capital funding TBC
SOUTH MASTERTON STOPBANK	Retreat existing stopbank to less erosion-prone location outside the buffer	Stopbank is non-critical asset from flood hazard perspective but may be important for preventing contaminated material entering the river	Low	\$485,000	Capital funding TBC
HOOD AERODROME	Rock line connecting terrace with existing rock groyne at the end of the runway	To increase protection to the runway and avoid any contaminated material being eroded into the river	Low	\$755,000	Capital funding TBC

4.4.2 **River Management**

River management will take place under the hierarchy of this FMP, Operational Management Plans (OMPs) (developed on a five-ten year cycle) and annual work programmes.

- FMP: Provides the overall direction at a river- and reach-wide scale and principles/policies that apply across the rivers. States what is trying to be achieved with each reach and may give direction on particular management methods to be used or avoided. It also directs Major Project Responses and any exceptions to the common methods.
- OMPs: Contain five to ten years of works programmes, including detailed priorities and management approaches for these works. The OMPs must be consistent with the FMP but through the preparation of the OMPs, these plans may propose
- Annual work programmes: Annual programmes of work, based on the OMPs but also dealing with reactive work and prioritising various minor repair and buffer implementation projects. Annual work programmes will be worked through with local river committees.

All works in the rivers will be carried out in accordance with GWRC's Code of Practice (CoP). This is a consented document that applies regionally, is evidence-based and regularly updated to provide standards of good management practice. The CoP does not direct which activities should be used in a specific location (this should come through the hierarchy above and the decisions of GWRC staff) but it does provide for the range of river management activities available and the good management practice in how they should be applied.

In-stream works have the potential to affect aquatic and riparian habitat, aquatic species and morphological features. GWRC undertakes a range of in-stream works for flood protection, which are governed by the CoP. Within the CoP all potential effects are acknowledged and assessed to ensure all works are undertaken using good management practice. Good management practice means to plan, communicate, record, review all river works activities and to continually develop and improve methods to achieve improved outcomes for cultural and environmental values.

River management envelopes

The river management envelopes (design lines) within the western rivers have been reviewed following consultation on the draft FMP. There are some areas where the inner and outer management lines obviously do not match the current position of the river. These have been identified and updated in consultation with specific land owners.

A key project to be undertaken as part of implementing this FMP is a full review of the inner and outer management lines to ensure consistency along the various western river reaches. Where applicable, and if deemed necessary, modern geomorphology theory (study of landforms and landscapes, primarily with regard to erosion and deposition of rock and sediments by water) will be applied to envelope locations if there is value in doing so to address specific issues. This may include review of locations where the river envelope (see Section 3.2.2) has not been performing in a way that is consistent with the use of riparian planted buffers as the primary management tool. To ensure ongoing relevance and consistency, it is proposed that the river management envelopes be reviewed every 20 years as part of a major FMP review.

Other management envelopes (bed level and pool/riffle/run) will be developed as an outcome of this FMP. Monitoring and analysis of river bed levels (see Section 3.2.3) and gravel volumes (see section 3.2.4) will be ongoing as further specified in the final FMP.

Buffers

The main change to river management measures outlined in this FMP is to allow rivers to erode the western rivers' buffers from time to time, and to not always intervene urgently with works in the wet to "hold the line" to the inner management line. This shift represents a change in approach from frequent, small, reactive responses to less frequent but more often larger works.

Continued use of non-intrusive works such as dry river bed maintenance works and vegetation maintenance will carry on unchanged from past maintenance activities. In order to achieve this, most buffers should be established with dense vegetation in order to slow erosion. The implementation of this new approach is understood to deliver wider benefits to the river system and in turn, to the community.

To be effective, a buffer must be at, or only slightly above, riverbed level in order for the tree roots to hold the soil. After reaching maturity, willow trees can be "layered" against the bank edge to provide greater protection against erosion. The best sites (and high priority sites for buffer establishment) will be areas where the river has already eroded the buffer, or in some cases where the buffer is in farmland slightly above the riverbed.

This FMP acknowledges that allowing the river room to move may result in an increase in sediment supply to the western rivers from bank erosion. However, due to the unpredictable nature of rivers, it is difficult to say for certain if an increase in erosion will occur. If an increase in erosion does occur the sediment source is likely to be areas in the lower reaches that have previously been artificially constrained. If additional sediment is introduced to the system, it is likely that the sediment will be deposited within the Lower Valley (after the confluence with the Waiohine, but before the coast).

Riparian planting across the entire buffer will be established by planting trees. This would involve willow poles being supported by mixed native vegetation where possible. This will either be on private land with the agreement of the landowner or on publicly-owned land.

High priority sites for riparian planted buffer establishment will be identified through the Operational Management Plans. These sites will generally be:

- · Where there is high erosion risk where regular in-stream works have been required to protect the edge; and
- · Already eroded by the river; or
- Low farmland where riparian plants can be effectively established.

While these sites will be priorities for implementation, there will be an ongoing need to respond to flood behaviour and either reinstate or plant new areas of buffer. Over time, new areas of erosion will occur and create further opportunities. This will require acceptance from landowners that their land may be required for river space, meaning that this land may be allowed to erode back to, or close to, the edge of the river management envelope before physical intervention occurs.

On the other hand, there will be parts of the river management envelope that are low erosion risk. If these areas are high above the river then there is no benefit in installing dense vegetation. Buffer implementation will be driven in large part by flood events and the behaviour of the rivers.

Cliffs are a special case for buffer establishment. Unless there is an exception identified in this FMP or existing erosion control structure (scheme assets), the preferred use of riparian planting of buffers applies to these cliffs too. In this case, the river managers will wait until the buffer has been eroded (or mostly eroded) down to river level before establishing riparian planting within the buffer at the toe of the cliff.

Areas where the buffer management method does not apply (instead relying on a higher level of mechanical intervention, or greater use of rock edge protection for example) are identified in the reach-specific approaches described in Part 2.

The implementation of this changed river management approach will be gradual, taking place over decades. It is also not irreversible, although if unsuccessful, there could be a "re-investment" phase, and a significant reliance on in-stream works involved with regaining the control of river alignment that currently exists. Eroded topsoil would also take some time to reestablish

An adaptive monitoring and management strategy will be developed to support the vision of this FMP. Measuring channel morphology over time, using drones or aerial photography and reporting changes using the Habitat Quality Index (HQI) will form part of the monitoring strategy. Other potential monitoring could include river cross sections, depth distributions, bank vegetation canopy and the calibre of floodplain trees. Some of these monitoring techniques are currently being undertaken, such as river cross sections.

GWRC has a number of existing monitoring regimes in place that can be collated to assist in assessing the effects of planting the buffers on the western rivers as well as stabilising the banks on the eastern rivers.

The implementation of these methods and particularly the planting of new buffer areas requires the support and agreement of landowners. Land purchase is allowed for in this FMP and will be pursued with landowners who prefer not to own the buffers under this change to the management regime. It is not proposed to compulsorily acquire land or use any other powers to compel landowners to establish vegetation on their land. However, landowners will not receive the full level of service (protection) to their land behind the buffer until a buffer is established to provide such protection.

Costs - riparian planting of the buffers

Costs associated with planting the buffers (western rivers) and eastern river banks have been estimated and include ground preparation, plants, planting and fencing (note that weed control is covered separately in Section 4.4.2). These costs will be largely covered by the operations and maintenance costs of flood protection in the Te Kauru Upper Ruamähanga catchment. The responsibility of managing the riparian buffers will be shared between GWRC and with individual landowners. Other funding options will also be explored to supplement this, for example planting initiatives such as "1 Billion Trees" and "Trees that Court"

GWRC will work with other planting initiatives and local nurseries to ensure that sufficient supply is available. We are aware that existing and new suppliers are looking to scale up production to meet anticipated demand in coming years.

The western rivers will have the whole buffer planted and then fenced (at the buffer boundary) to protect the plantings, whereas the eastern rivers do not have buffers so will instead have the crack willow removed and replaced with hybrid willows and/or natives within the riparian margin. Fencing costs relating to the eastern rivers will be explored with the landowners.

Within the western rivers there is a total of 876ha of buffer. Of the 876ha, 537ha or 61% are in pastoral land or vegetation less than 1.5m high and 338ha or 39% are currently vegetated. The eastern rivers, as stated above, will have willows planted along the river bank for erosion protection. It is estimated that the total length in kilometres of all three eastern rivers is 81km.

The estimated cost for planting is approximately \$625,000 per annum, over the life of the plan. As mentioned above, additional avenues for funding will be considered over this time.

Implementation - riparian planting of the buffers

Below is an outline of the planting implementation plan. Assuming that 40% of the buffer area is currently planted, targets for establishing riparian planting of buffers include:

- Year 10: 60% of the total buffer area to be in riparian vegetation
- Year 20: 80% of the total buffer area to be in riparian vegetation
- \bullet $\;$ Year 40: 100 % of the total buffer area to be in riparian vegetation

Further on-site information will be required to develop a detailed plan. This process will be developed in the Operational Management Plans.

PLANTING IMPLEMENTATION PLAN 10 11-40 **PHASE 1 - IDENTIFY HOTSPOTS** Waipoua Waingawa Ruamāhanga - Mt Bruce Ruamāhanga - Te Ore Ore Ruamāhanga - Gladstone Kopuaranga Whangaehu Taueru PHASE 2 - WEED CONTROL SUPPORT FOR **EXISTING RIPARIAN PLANTED BUFFERS** PHASE 3 - LANDOWNER DISCUSSIONS AND SITE PREP PHASE 4 - PLANTING/FENCING OF HOTSPOTS, WEED CONTROL PHASE 5 - LAND PURCHASE PHASE 6 - PLANTING/FENCING OF PURCHASED LAND, WEED CONTROL **PHASE 7 - EVALUATION AND PRIORITISE** ALL RIVERS PHASE 8 - COMMENCE PLANTING/ FENCING/WEED CONTROL BALANCE

Pest plant and animal management

This FMP outlines the following for implementation of management and funding responsibilities of pest control within the Te Käuru Upper Ruamāhanga catchment.

- Establish a riparian management officer position
 - The job would consist of several responsibilities with a focus on the establishment and maintenance of riparian plantings within the buffer and ensuring that there is a coordinated approach to pest management within the buffers. Responsibilities could include managing the budget for and distribution of traps and sprays for landowners to undertake their own pest management; assisting in the development of riparian management plans for buffers; coordination of community groups, volunteers etc. who wish to assist with plantings and maintenance; and undertaking weed management on planted sites for up to five years post planting, which will be reviewed after two years. Approximately \$120,000 per year would be required to establish this position which includes a salary and overheads.
- Provide assistance where required or requested for the management of weeds for up to five years after the buffer is
 planted, including a review after two years
 Responsibilities for weed control of planted buffers would be jointly managed by GWRC. landowners and community
 - groups as appropriate and would be coordinated by the riparian management officer. Following this period of up to five years it would be expected that undertaking weed control would largely be the responsibility of landowners, with advice, provision of spray and assistance from community groups being coordinated by the riparian management officer. Training and certification would also be available for those who require or request spray (that are not already trained).
- Provide advice, traps, bait and bait stations for the management of pest animals
 Responsibility for the control of pest animals within planted buffers would sit with landowners. However, GWRC would provide advice on pest management, supply traps and bait stations to set-up when buffers are initially planted, and supply bait for the stations to landowners for up to five years post-planting.
- Budget for pest management of the Te Kāuru Upper Ruamāhanga buffers
 - This budget would be split into two sections. The first section would cover the initial set-up cost of weed and pest control on recently planted buffers (placing traps and bait stations and pre- and post-planting spraying of weeds for up to five years). The second section of the budget would be an ongoing maintenance budget which would cover costs for providing spray, training for weed control, and bait for pest animal control for the duration of the plan. The budget would vary from year to year depending on the percentage of new area planted each year. An average annual budget of \$82,000 is allocated.

4.4.3 Planning and Policy

The most important planning and policy methods are the land use controls under the Wairarapa Combined District Plan (WCDP). These will be progressed in partnership with the District Councils either as a Plan Change or as part of the review of the WCDP.

A Strategic Land Purchase and Asset Retreat policy and funding, is an important method for enabling the river management implementation described above.

4.4.4 Emergency Management

Emergency management measures will be implemented as described in Section 3.4. These are mainly actions to be taken by departments of GWRC working in partnership with WREMO.

4.4.5 Environmental Enhancement

The key environmental enhancement response is to develop and implement an Environmental Strategy. This will bring different agencies together with a plan and priorities for improvements to the river environments. A Community Support Officer and a Riparian Management Officer form an important part of implementing this, and GWRC will explore options for co-funding from different agencies to deliver environmental outcomes. It is expected that a small amount of increased cost will be involved in river maintenance activities to provide for better river amenities management.

4.4.6 General Responses

Below is a summary table of the general responses discussed throughout this FMP with an indication of priority and cost. These responses are more catchment-wide and are therefore not covered in Part 2. Ongoing river management works costs are included in the table. Although we can't be certain, these are not expected to increase in the future as a result of the changes in operational approaches outlined in this FMP. Operational costs will be reviewed as part of assessing the success of the proposed changes when this FMP is reviewed. There will, however, be an increase in costs for flood and erosion protection associated with the additional outcomes of this FMP listed in the General Responses Summary (page 41) and the Major Project Response Summary (page 35).

GENERAL RESPONSES SUMMARY

ACTION	DESCRIPTION	SECTION REFERENCE	PRIORITY	COST	FUNDING
Ongoing river management work	Based on 2018 operational budgets	n/a	High	Approximately \$930,000 annually	GWRC operational expenditure
Develop bed level envelopes for Waipoua, Waingawa and Ruamāhanga Rivers	A bed envelope with guidance on how to respond to areas of degradation (bed is dropping) and aggradation (bed is filling in)	3.2.3	High	\$200,000	GWRC operational expenditure
Develop pool, run and riffle envelopes	Upper and lower envelopes for pool/riffle/run sequences in different river reaches – to be used in planning programmed physical works	3.2.8	High	\$50,000	GWRC operational expenditure
Riparian planting of buffers	Planting of the full buffer area of the Te Käuru Upper Ruamähanga catchment, including ground preparation, plants, planting and fencing	3.2.5	High	\$625,000 per annum	GWRC operational expenditure
Wairarapa Combined District Plan Review	Developing flood mapping and contributing policy advice for input to District Plan review. New designations for Major Projects.	3.3	High	\$200,000	GWRC loan-funded expenditure
Develop Environmental Strategy	A strategy and action plan for specific enhancements in the river environments – multi-agency	3.5.1	High	\$200,000	GWRC loan-funded expenditure
New governance and funding structures	Establish new governance structures and funding approaches required to implement this FMP. May require changes to Council policies and/or to be implemented via Long Term Plan.	4.1 and 4.3	High	\$50,000	GWRC operational expenditure
Design lines review	Review outer and inner design lines in line with operational experience and any new information	4.4.2	High	\$200,000	GWRC operational expenditure
Pest plant and animal management	Budget set aside to assist with the establishment and ongoing management of pest animal and plant control	4.4.2	High	\$82,500 per annum	GWRC operational expenditure
Operational expenditure	An agreed and understood framework for how works will be prioritised following a major flood, and how this relates to normal scheme governance arrangements	3.3.5	Medium	\$30,000	GWRC operational expenditure
Strategic land purchase and asset retreat	Funding available for purchase of land for FMP implementation – for buffer establishment, future major projects, environmental strategy implementation, etc. Also, for GWRC contribution to retreating public assets out of the buffer when this is a suitable alternative to protecting them in place. Criteria to be developed.	3.3.8	Medium	\$5M	GWRC loan-funded expenditure
Riparian management officer	Resource to assist in the establishment and management of riparian planting the entire buffer	3.5.3	Medium	\$120,000 per annum ongoing	GWRC operational expenditure
Emergency management and flood warning improvements	Collaboration with WREMO on emergency management planning. Technical advice and support to WREMO including new mapping. New flood warning infrastructure such as additional rain gauge or flow monitoring sites.	3.4	Medium	\$100,000	GWRC loan-funded expenditure for infrastructure upgrades
Community support officer	Part or full-time resource to establish/support community groups and help to deliver environmental/recreational/cultural outcomes	3.5.2	Low	\$60,000 per annum ongoing	GWRC operational expenditure, seeking partner support
Major review of FMP	Formal review of FMP performance	4.4.7	Low	\$300,000	GWRC operational expenditure

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4.4.7 Monitoring and Review

Ongoing monitoring of the aims and objectives of this FMP will enable the outcomes to be regularly reviewed. This FMP will be a living document so regular review means that the floodplain management planning process, updated flood hazard maps, and flood hazard mitigation measures, can be updated and changed where the need arises. Outcomes of this FMP will be largely implemented through river management activities authorised through resource consents. Both the resource consents, and the associated Code of Practice, include adaptive management processes whereby improvements can occur as new information and techniques become available. The consents and the Code of Practice are both mandated through a statutory process.

An outline of the monitoring plan for the implementation of the buffers is included in Section 4.4.2.

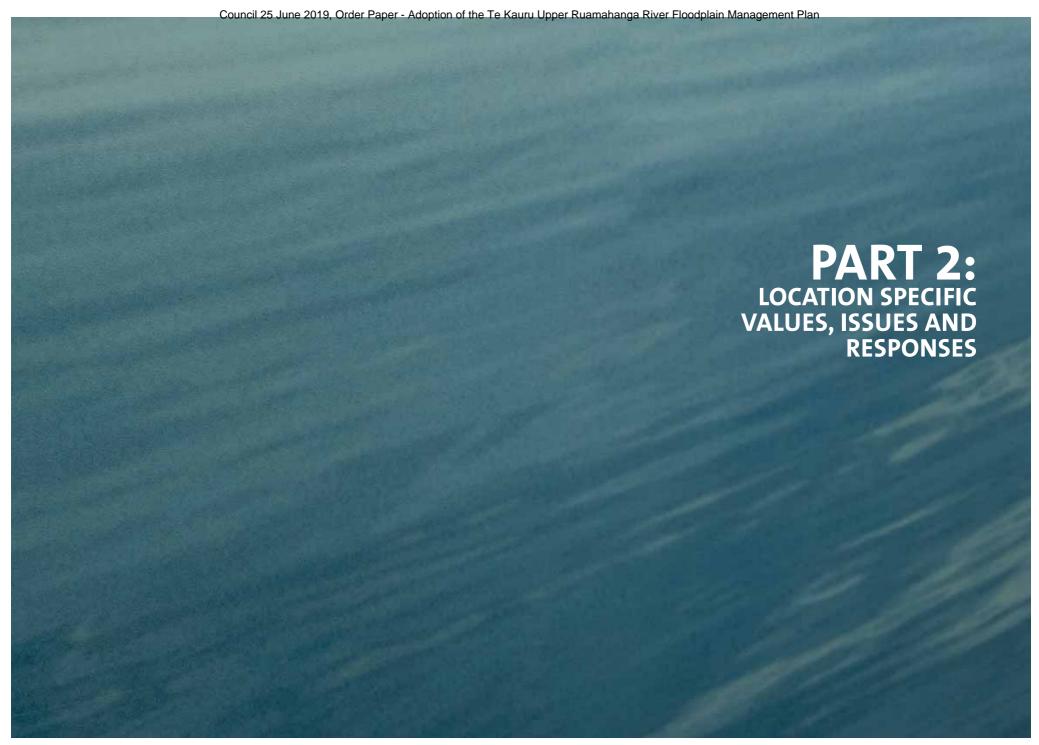
A comprehensive review of the final FMP will be undertaken every 20 years, or earlier if the flood hazard is significantly altered by flooding, earthquakes or new information. A review could also be triggered by major regulatory or resource consent changes.

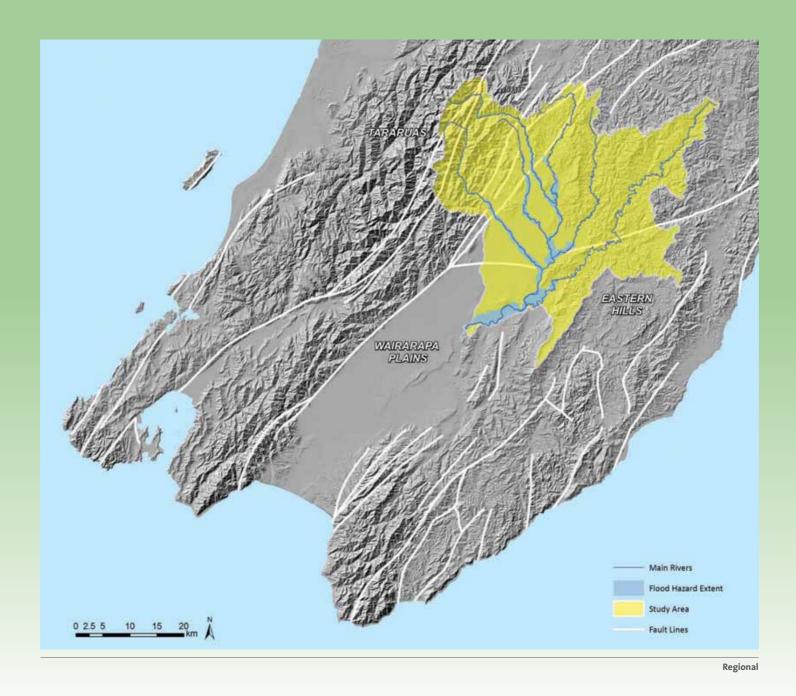
Operational Management Plans (providing more detail on how this FMP will be implemented operationally over five to ten-year horizons) will be completed and reviewed on a more frequent basis. Minor reviews will also be done yearly through GWRC's annual plan process. The comprehensive review would involve re-modelling of the flood hazard to ensure that information was accurate.

The table following summarises what will be reviewed and when.

	REVIEW TIMEFRAME	REVIEW SCOPE	REPORT ON WHAT?
		Implementation programme	What was proposed
		Operational programme summary	What work was done
	ANNUAL		Why the difference
			Proposals for next year
			Summary of implementation status
	EVERY 3 YEARS	Implementation progress	Investment priorities
	(TO FEED INTO	 Priority and costs of major projects and operational 	Staging / speed of implementation
	GWRC/CDC/ MDC	expenditure	Risks and opportunities
	LONG TERM PLANS)	Alignment between different agencies on projects and funding	
		An assessment that key aspects of implementation are on track	Review progress on delivering all high priority major projects
		and a formal report to the Advisory Committee and Wairarapa	Review how Operational Management Plan process has performed
		Committee incorporating external feedback as appropriate	Review how design envelope and buffer approach has performed, and degree of success in implementing it
:	INITIAL 10-YEAR	 Incorporate changes or new information due to other plans external to this FMP 	Incorporate any changes required due to:
	REVIEW	external to this rivii	» Resource consenting outcomes
1			» Waiohine and Lower Wairarapa Valley Floodplain Management Plans
			» Whaitua/Natural Resources Plan outcomes
			» Wairarapa Moana treaty settlement outcomes
		Scope to be agreed with iwi and stakeholders. Expected to include:	To GWRC, MDC, CDC and the Upper Ruamāhanga River Management Advisory Committee as a standalone report and
		 Effectiveness/progress of all common methods and general responses 	updated FMP following consultation with stakeholders.
	EVERY 20 YEARS -	Progress in implementing major project responses, and what has been achieved (e.g. flood damages saved)	
	MAJOR REVIEW	 Appropriateness of governance structure and funding approach 	
		Review of catchment hydrology and flood extents	
		River bed envelopes and river edge envelopes/design lines	
		Learnings from major flood events	
		Future budgets proposed – affordability, value and sufficiency	
		Reprioritising and costing all outstanding works	

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5. Overview and Regional Context

This part of the Te Kāuru Upper Ruamāhanga Floodplain Management Plan (FMP) sets out the spatial floodplain management plan outcomes to be delivered across the Upper Ruamāhanga catchment. This should be read in conjunction with Part 1 of this FMP which sets out the background and overview including implementation and responsibilities.

The six rivers which make up the Upper Ruamāhanga catchment have been divided into 20 separate reaches (17 for the western gravel bedded reaches, and three eastern silt bedded rivers) for the purpose of directing floodplain management responses. These are also set within the broader catchment and regional context introduced at the beginning of this document. Each reach is then described in terms of the following, reflecting a summary of the findings of the phases of the FMP development process:

- · The character and values that exist within each reach, including upstream or downstream influences;
- The identified flood and erosion issues to be addressed (note that any amendments to the flood hazard maps
 resulting from recommendations in the independent audit will be undertaken. Updated flood hazard maps will be issued
 within the next year to be incorporated into the updated Wairarapa Combined District Plan); and
- · The reach-specific flood and erosion responses, including Major Project Responses where relevant.

The reaches of the eastern rivers have been amalgamated for the purpose of defining floodplain management responses, given the similar attributes and outcomes which are shared across this area of the catchment.

5.1 Wairarapa Valley

The Wairarapa Valley is situated in the Wellington Region at the southern end of Te Ika a Maui, the North Island of New Zealand. It has a temperate climate with distinct seasonal variations. It is known for having relatively stable weather patterns, commonly experiencing long hot relatively dry summers and mild winters.

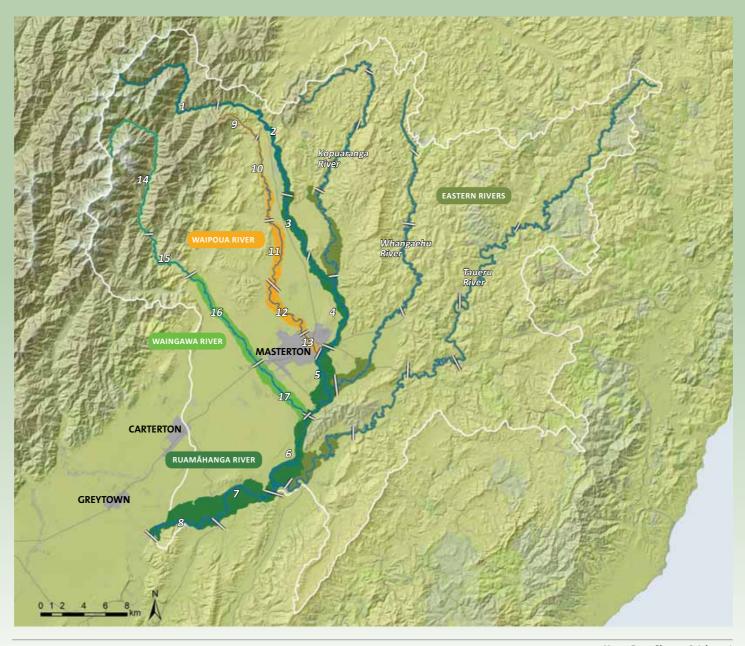
The Wairarapa Valley is made up of: the western Tararua Ranges – formed of greywacke rock of varying ages; the Wairarapa Plains – formed from deposited alluvial gravels and silts; and the eastern hills – formed from deposited marine sediments. The geology of the area is dominated by the underlying active boundary between the Pacific and Australian plates, which have created extensive faulting throughout the valley, predominantly on a north-east/south-west alignment. The largest recorded fault movement occurred in the 1855 Wairarapa magnitude 8.3 earthquake, causing a 13 metre horizontal movement and significant changes to the plains and river systems. These geological and climatic characteristics of the Wairarapa are reflected through the rivers – contrasting between the high energy, gravel bedded western rivers and the low energy, generally soft sediment bedded eastern rivers.

Humans have had an influence on floodplain and channel form characteristics in the Wairarapa since early settlement, and it is suggested that the impact of Western civilisation came at a time when the indigenous vegetation was already in a state of flux. Considerable areas of land were cleared through burning in the first few centuries of Māori settlement and the extent of cleared land increased after the arrival of Europeans.

Early observers estimated that around 200,000 acres of the Wairarapa was grassland, 80,000 acres was forest, 25,000 acres was fern and scrub, and 20,000 acres was swamp. The large areas of natural grassland and the close proximity to Wellington made the Wairarapa an attractive area for farming, and this saw the first sheep station in New Zealand being started in 1844. At the time, the land along the Ruamāhanga River was covered with dense bush, and detailed surveys of the Waingawa River from 1900 show native scrub coverage of the banks and islands.

Farming continued to develop, and the introduction of further exotic species – deer, pigs, and possums – continued a trend of deforestation, exposing further areas of the ranges to natural erosive forces. This would, over time, be seen to have impacts on raising the levels of river beds across the plains. European settlers introduced the use of willows as an early bank erosion and flood protection tool to address some of these impacts. With further population increases, more detailed and varied methods were developed to protect both farmland and homes. These included the use of stopbanks, river diversions, improved willow works, reforestation, and exotic pest control.

Rainfall patterns in the catchment are dominated by the Tararua Ranges. These create a relatively dry plains area (800mm average annual rainfall) with a significant increase in rainfall in the mountains (6000mm average annual rainfall).



Upper Ruamāhanga Catchment

5.2 Rivers and Settlement within the Upper Ruamāhanga Catchment

The Ruamāhanga is the river into which almost all other rivers in the Wairarapa Valley eventually flow. It connects the Tararuas to Wairarapa Moana, eventually flowing from there into Raukawa Moana / Palliser Bay. The Upper Ruamāhanga catchment extends from the Tararua Ranges to the confluence with the Waiohine River, covering an area of 1,560km² through which the Waipoua, Waingawa, Whangaehu, Kopuaranga and Taueru (Tauweru) rivers and their tributaries flow.

The western rivers emerging from the rugged Tararua Ranges are well known for their pristine environments near the headwaters and as a result they are much valued for their beauty, mauri, recreational opportunities and spiritual significance. The eastern tributary landform is characterised by undulating hills which are today dominated by agricultural use. However, there remains a strong cultural significance within and around these eastern rivers for tangata whenua, and they are popular in some areas for recreational pursuits.

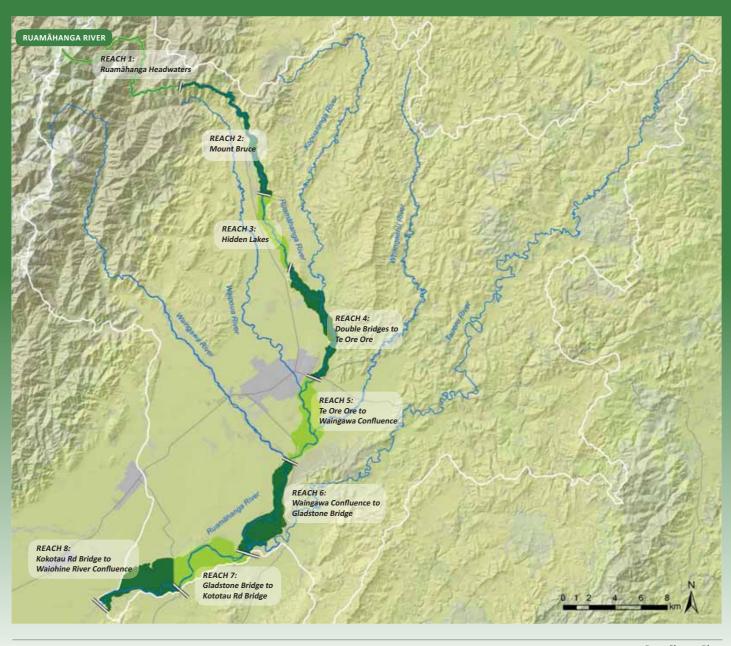
Both the western and eastern tributaries run out onto the fertile Wairarapa Plains which have been formed over time through deposition of alluvial material, including greywacke alluvium from the Tararua Ranges and alluvial silts and sands eroded from a mixture of mudstones, sandstones and limestones which form the Eastern Wairarapa Hills. The land use of the catchment is dominated by native forest in the upper Tararua Ranges, which transitions into a range of primary production activities (plantation forestry, dry stock grazing, dairying, and cropping), rural lifestyle development, and urban areas on the floodplain.

Tangata whenua have a long-standing connection with the Ruamāhanga River and all of its tributaries spanning many generations. Both Ngāti Kahungunu ki Wairarapa and Rangitāne o Wairarapa currently share in the role of kaitiaki for these catchments.

While non-Māori have been present in the Wairarapa for a shorter period, over several generations they also have developed strong ties to the land and landforms. Some of the families were present on the first European settler ships, and they have made their mark on the modern social, political and physical landscape through recurrent involvement in the ongoing development changes in the Wairarapa.

Today the Wairarapa has a distinct identity. It has both a legacy of, and a future rich with, cultural significance to Māori. With strong agricultural roots – the leading industry in the area – it is also noted for the quality of its landscape and associated recreational opportunities, and its hosting of a number of regional events and concerts. Home to some 40,000 residents, the Wairarapa has produced or become home to more than a representative share of well-known ambassadors ranging from noted scientists and engineers to popular musicians and film directors.

All rivers of the catchment have a diverse range of values attributed to them, and as generations come and go the emphasis on these values shifts in response to the culture of the people who value them.



6. Ruamāhanga River

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

The main river channel from the State Highway 2 Bridge near Mount Bruce downstream to the Waiohine confluence extends some 58km. 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).

Different soil types have developed at various locations on the floodplain depending on the rate of flood deposition, the source of material, time since deposition, and natural drainage. The natural fertility and erodibility of these soils is quite variable. Inappropriate land use and lack of shelter may cause wind erosion.

Land use in the catchment includes native forest in the upper catchment within the Tararua Ranges, which transitions to a range of primary production activities (dairying, dry stock grazing, cropping, and plantation forestry), rural lifestyle development, and urban areas (Masterton) on the floodplain.

The Ruamāhanga River has many significant wāhi tapu and archaeological sites associated with its waters and banks, which include urupā, pā, kainga, and middens. Several of the archaeological sites are recorded with the New Zealand Archaeological Association (NZAA) and some urupā also have a registered title.

Key recreational activities include: hill walking; wilderness fishing in the Tararua Ranges; jet boating below confluence with the Waingawa River; and kayaking. The Ruamāhanga is also well known for its good quality swimming holes and gravel beaches suitable for summer picnics.

The Ruamāhanga River is an important ecological corridor including nesting sites for birds, habitat and migratory trout for both native and exotic fish species. It is also becoming nationally important for threatened bird life. In recent years it has been recorded as bucking the national trend of decline in black billed gull species, and supports populations of black fronted dotterel, pied stilts, black shags and NZ pipit. The current river managers have worked over the past decade to improve their management techniques to lessen harm to the habitats of these species, with positive impacts on the bird populations.

Within the project extent, 26 different species of fish have been identified, and at some point each of these would have lived in or passed through the Ruamāhanpag River. Over half of the 20 species of native fish found within the Te Kāuru Upper Ruamāhanga catchment are considered to be "at risk", meaning that their population nationwide is considered to be declining. The associated restoration of the Wairarapa eel (tuna) fishery is of particular significance to Māori.

General Issues

The Ruamāhanga River is well known to the Wairarapa community for its flood flows. The relatively entrenched upper reaches of the Ruamāhanga River contain much of the flood water, confining it between old river terraces, and its passage is controlled in several locations by prominent rocky outcrops. As it turns to the south at its confluence with the Kopuaranga River it opens into a broader floodplain, and the modelled flood events show a greater extent of the adjacent land under water. This trend of a broadening floodplain continues to its confluence with the Waiohine River.

The flooding of the Ruamāhanga River also strongly influences the flooding in each of its tributaries. If a flood event occurs in the Ruamāhanga River at the same time as one in any of the tributary rivers, much higher flood levels are experienced in the tributary.

There are several sites of particular concern in relation to erosion risk. These include the banks of the river adjacent to Hidden Lakes and the areas around Henley Lakes and eastern Masterton, both of which are protected by substantial erosion protection works. Flood protection work has recently been upgraded to protect the Homebush Wastewater Treatment Plant. There is also a former Masterton landfill site and several stock bridges and structures related to farming activities along the length of the river at potential erosion risk.

General issues relating to the Upper Ruamāhanga River include:

- lateral erosion of the river banks occurring due to natural processes in the river such as meandering of the channel, degradation and aggradation of the river bed. The stability of river banks can be compromised by degradation or can be affected by additional erosion pressure as the river tries to wind its way around aggradated islands in the middle of the channel:
- reduced channel capacity to carry flood waters due to aggradation occurring, generally in the lower reaches;
- invasive introduced vegetation species including yellow lupin, 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;
- numerous private water intakes from the river channel that require protection to ensure water supply;
- the river being restricted within the design lines, creating additional erosion pressure and reduced flood capacity;
 and
- the value of the rivers for recreation and habitat at times conflicting with river management works.

Ruamāhanga Headwaters - Reach 1

Character

The upper reaches of the Ruamāhanga River flow through Tararua Forest Park. The river follows a narrow gravel-choked valley surrounded by steep bush-clad mountainous terrain. Much of the headwaters of the Upper Ruamāhanga are in a natural state with pools and rapids enclosed by diverse areas of native vegetation.

Key Characteristics

Narrow gravel valleys with boulder gardens and pools

Predominant cover of native vegetation along margins

Wilderness recreation opportunities

Values

The headwaters of the Upper Ruamāhanga are protected as part of the DoC estate which provides the setting for wilderness experiences. Overall the landscape has very low levels of landscape modification with corresponding very high scenic value. The entirety of this reach is zoned Rural (Conservation) in the Wairarapa Combined District Plan (WCDP, 2013).

Due to the strong underlying wilderness and scenic values, this reach contains popular walking and tramping tracks with huts, leading into the Tararua Ranges. Wilderness fishing is popular, with some grade 2+ kayaking also occurring through boulder gardens and sharp ends. All recreation access is limited to foot access only.

Substantial ecological values have been identified along this reach in association with its underlying conservation value. This includes terrestrial habitats associated with fenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefields and boulderfields.

Wāhi tapu have been identified in this area with the headwaters providing an important cultural connection to the Tararua Ranges.

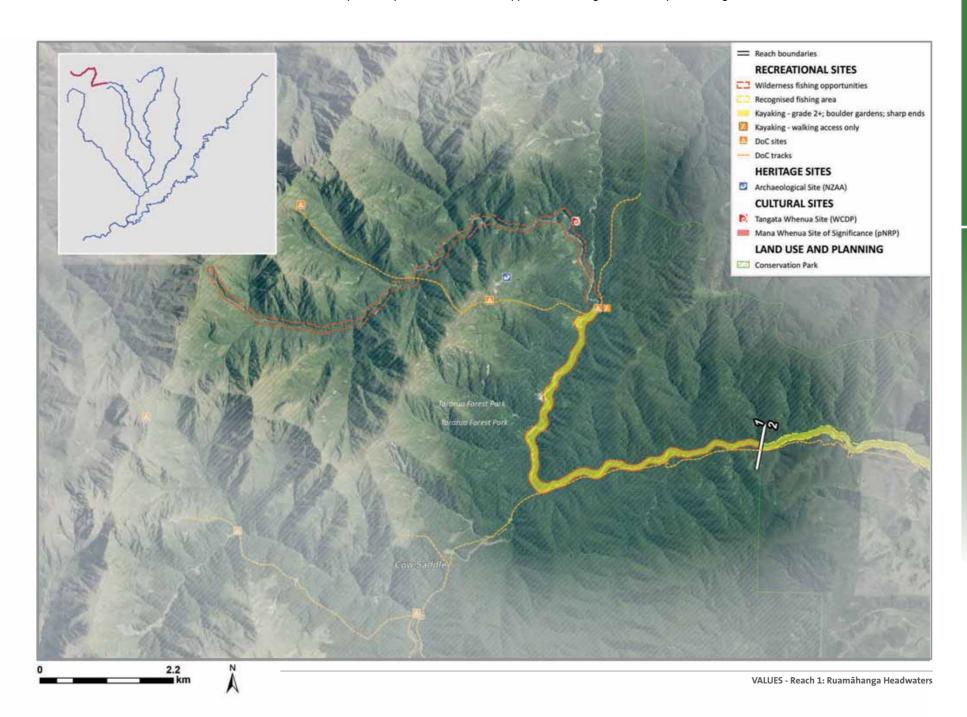
Key Floodplain Management Points

- · Encourage continued recognition of the values and character of this reach.
- Support initiatives that aim to preserve or improve the natural values of this reach.

There is no intent to carry out any maintenance activity within this reach as part of this FMP. There are no specific flood and erosion issues identified for this reach.

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES
- v		Entire reach	River management	Isolated works support, Code of Practice
OMMON		Entire reach	Planning and policy	Protection against deforestation in upper catchment
MET CO		Entire reach	Emergency management	Emergency management planning, flood forecasting and warning system
		Entire reach	Environmental enhancement	Community Support Officer

LANDSCAPE	VALUES	– RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
LANDSCAPE	SCENIC					
		VALUES	VALUES	VALUES	PLANNING	VALUES
MODIFICATION	VALUE					
Very Low	Very High	Walking tracks and huts (DoC), angler access,	-	Sacred place, wāhi tapu; stopover	Rural (Conservation), Road, River	Fenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and
		kayak access (foot only), kayaking, wilderness		camp, puni; wāhi whakawātea		boulderfields
		fishing		***		



Mount Bruce - Reach 2

Character

This reach flows from the base of the Tararua Forest Park south of Mount Bruce (Pukaha) into the Upper Ruamāhanga Plains. In this area, the river remains partially contained within the semi-enclosed flat valley floor which follows the base of the Tararua Ranges. The formative influence of the river remains clearly apparent along adjacent terraces aligned in a north-south direction beyond the main channel of the river.

In the upper section of this reach, the river passes through a series of gorges in the vicinity of Mount Bruce Bridge. Below this, much of the river settles into a series of pools, runs and riffles with narrow braids. The margins of the river are predominantly enclosed by mixed native and exotic vegetation which separates the river from adjoining farmland. A more significant area of podocarp forest is also apparent at Dunvegan Forest on the western banks.

Key Characteristics

Steep rock-lined gorges containing boulders, pools and rapids

Distinct river terraces stepping down to the river corridor

Mixed exotic and remnant native vegetation

Values

This reach of the river is slightly more modified than the headwaters of the Ruamāhanga, with much of the surrounding landscape used for primary production. Whilst parts of the reach continue through gorges surrounded by indigenous vegetation. The presence of exotic scrub and State Highway 2 also influence its character and values. Overall it has a low level of modification and corresponding high scenic value.

The upper parts of this reach contain popular walking, fishing and kayaking areas accessed from Mount Bruce Bridge and connecting with Tararua Forest Park. South of Mount Bruce Bridge, the presence of flat water with riffles and braids means the area is valued for kayaking, although this area is infrequently fished.

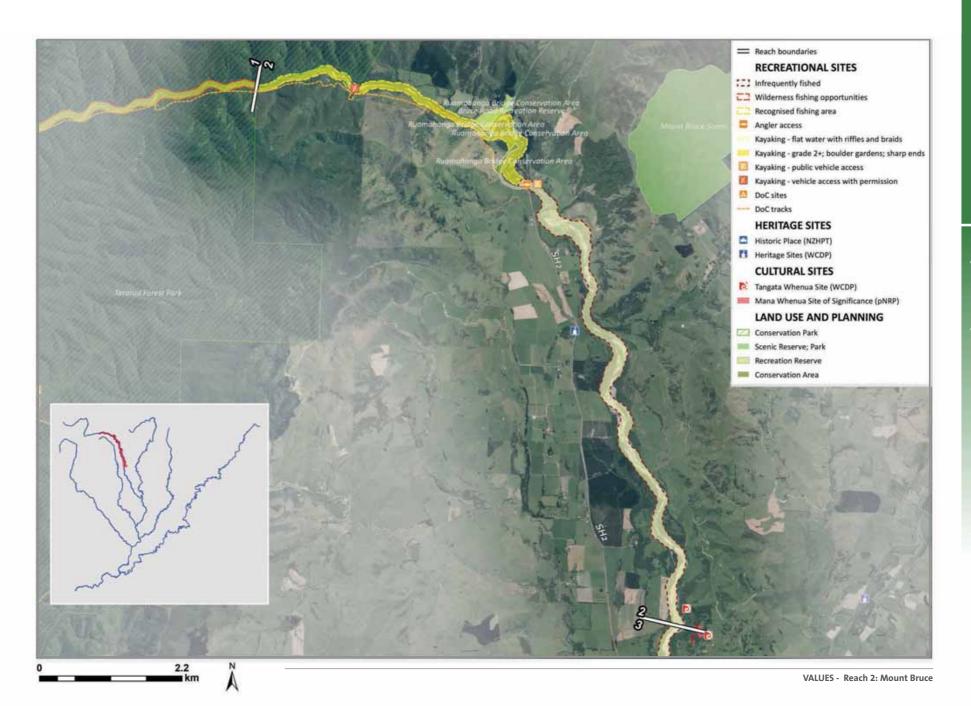
Several important ecological values have been identified along this reach including a Recommended Area for Protection (RAP) encompassing remnant indigenous vegetation at Dunvegan Forest and terrestrial habitats associated with fenced indigenous forest, unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefields, boulderfields, natural wetlands and ponds.

There are numerous sites of cultural importance including wāhi tapu, an historic village, pā, and waka landing sites.

Key Floodplain Management Points

· Protect the Dunvegan Forest RAP site from negative impacts of flooding and erosion.

LANDSCAPE VALUES		— RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
LANDSCAPE	SCENIC					
MODIFICATION	VALUE	VALUES	VALUES	VALUES	PLANNING	VALUES
Low	High	Walking tracks (DoC), angler access, kayak access,	Old Settler's Cottage (WCDP)	Tangata whenua site (WCDP), wāhi	Rural (Conservation), Rural (Primary	Dunvegan Forest Remnants (RAP), Fenced indigenous forest, Unfenced indigenous forest, Mixed
		fishing, kayaking		tapu, historic village site, historic pā		exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and
				site, historic waka landing site	River, State Highway	ponds

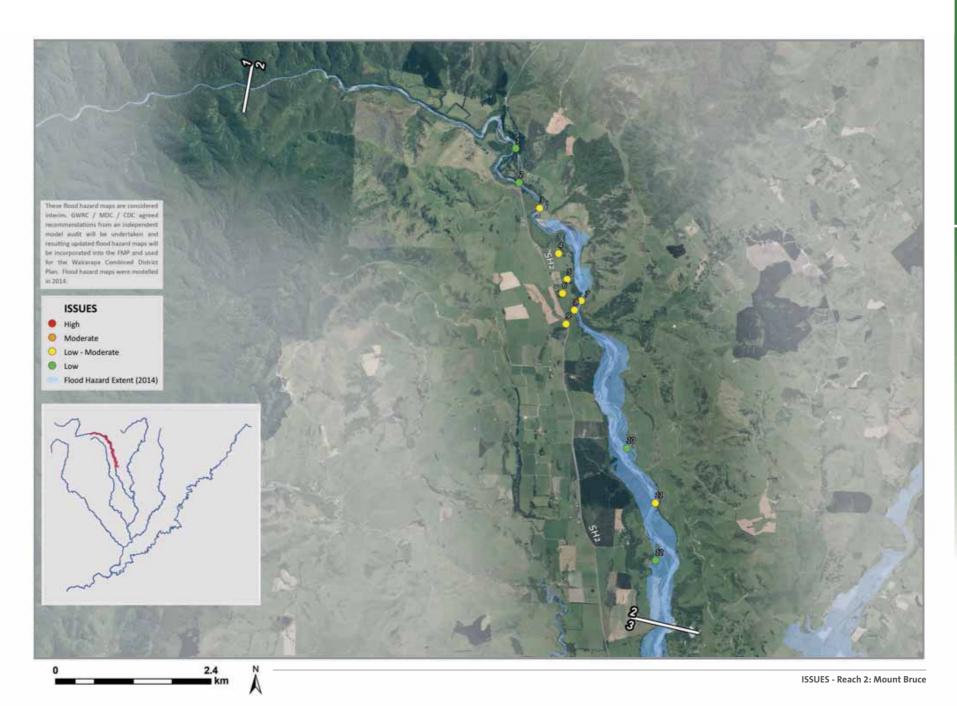


Mount Bruce - Reach 2

Flood and erosion issues

A total of 12 flood and erosion issues have been identified along this reach. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

NOT	State Highway 2 [1] State Highway 2 runs close to a gorge section of the Ruamähanga and sits within the erosion study area. The risk of erosion is considered low due to the natural rock formation which controls the erosion risk. State Highway 2 Bridge [2] The abutments of the State Highway 2 bridge sit within the erosion study area. The river at this location is well entrenched and the risk to the structure from erosion is considered to be low.	No defined design channel [10] No design channel has been developed as a management tool upstream of this location. This provides less certainty for adjacent landowners, however in may be of limited benefit due to surrounding geology acting as a natural control on the river. Dunvegan Forest RAP site [12] Dunvegan Forest, a RAP site, sits within the erosion study area and is affected by the 1% AEP flood extent.
LOW TO MODERATE	Scheme boundary [3] The upstream boundary of the Upper Ruamähanga schemes sits below the gorge area. It is recommended that this is reviewed in conjunction with landowners in the upstream area, and with reference to issues 1 and 2 Private houses in erosion study area [4, 5, 6, 8] A number of house sites sit within the erosion study area. The houses are not affected by the 1% AEP flood event. Stock access bridge [7] A privately owned stock access bridge sits within the erosion study area and is potentially at risk of damage linked to flood debris, bed level changes and large flood events.	State Highway 2 within erosion study area [9] State Highway 2 sits within the erosion study area at this location. It is considered to be at lower risk due to its distance from the active channel of the river, and the underlying geology. Private bridge [11] A private access bridge crosses the river. Its abutments are within the erosion study area. It may be susceptible to debris flows, erosion and bed level changes.
MODERATE		
нівн		



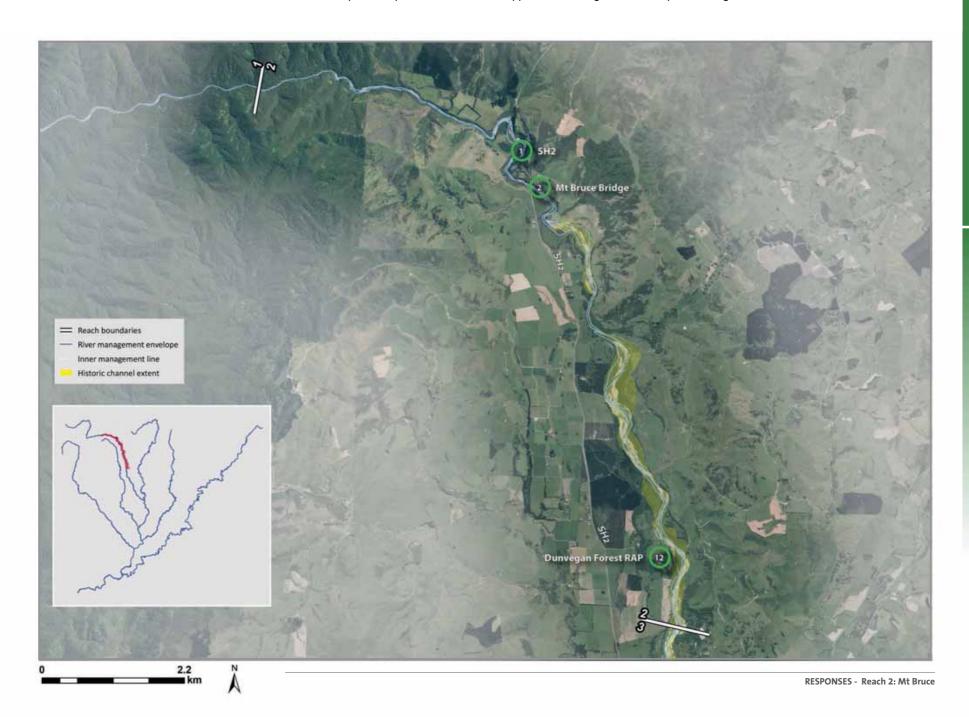
Mount Bruce – Reach 2

Response

Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES	LEVEL OF SERV	ICE (AEP)	RESPONSIBILITY	1	PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
SPECIFIC RESPONSES	12	Dunvegan Forest RAP site	River management	Dunvegan Forest is an area of remnant native forest. While there is no requirement to protect this area against natural erosion or flood effects, there is an opportunity to reduce the impacts of flooding and erosion through river management approaches sensitive to impacts on the forest. GWRC to provide advice to the managers of the RAP site on how to avoid erosion losses and damage to the site. Only soft edge protection is required. This area is ideal as a trial site for native tree edge protection methods.			Landowners	GWRC	Low
	12	SH2 and Mt Bruce Bridge	River management	GWRC Operations to provide information to NZTA if any erosion risk is identified to State Highway 2. NZTA to continue to monitor risks to State Highway 2 and Mount Bruce Bridge. A couple of locations have been identified as being within potential erosion extents, however the risk is considered low and there are no known historic issues that have required management.			NZTA	GWRC	High
		Mt Bruce Bridge	Environmental enhancement	The Mt Bruce Bridge access area is a popular access location. Opportunities will be developed as part of the Environmental Strategy to formalise this access point to provide clear safe access to the river and associated facilities. Community ownership of these access points is an essential component of their success. GWRC will initiate and support the formation of a care group to work with clubs and individuals that value this location.			GWRC	Community	Low
80		Entire reach	River management	River management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers					
N METHO		Entire reach	Planning and policy	Protection against deforestation in upper catchment, land use controls, flood hazard maps, rural stopband policy, scheme funding decision making policy, abandonment/retirement of assets, strategic land purchase	(
ММО		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system					
8		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs					
		Entire reach	River management	Remove this reach from the current river scheme. Begin standard Isolated Works funding policy for landowner initiated works upstream of Hidden Lakes					



Hidden Lakes - Reach 3

Character

This reach undergoes a transition from a semi-enclosed channel in the upper valley into the broader open character of the Upper Ruamāhanga Plains. As the river continues south, the channel increases in width and begins to form a more distinctive semi-braided channel. In association with braids, bank modification also becomes increasingly more prevalent, with shelves covered by willow planting and tree lucerne common along this reach.

Key Characteristics

Emerging semi-braided form containing riffles and pools

Willow-lined margins

Open pastoral character culminating along modified river margins

Values

This reach continues through rural land used for primary production and predominantly established in pasture grassland. Beach re-contouring and willow planting becomes more common along this reach together with several areas of indigenous vegetation. Overall the level of landscape modification is medium with medium-high scenic value.

Some kayaking continues along this reach benefitting from flat water with riffles and braids that continue downstream from Mount Bruce Bridge. Whilst fishing remains infrequent in this area, fish passage to the upper reaches remains important. Double Bridges provides a popular swimming site from which kayaking and fishing also continue downstream.

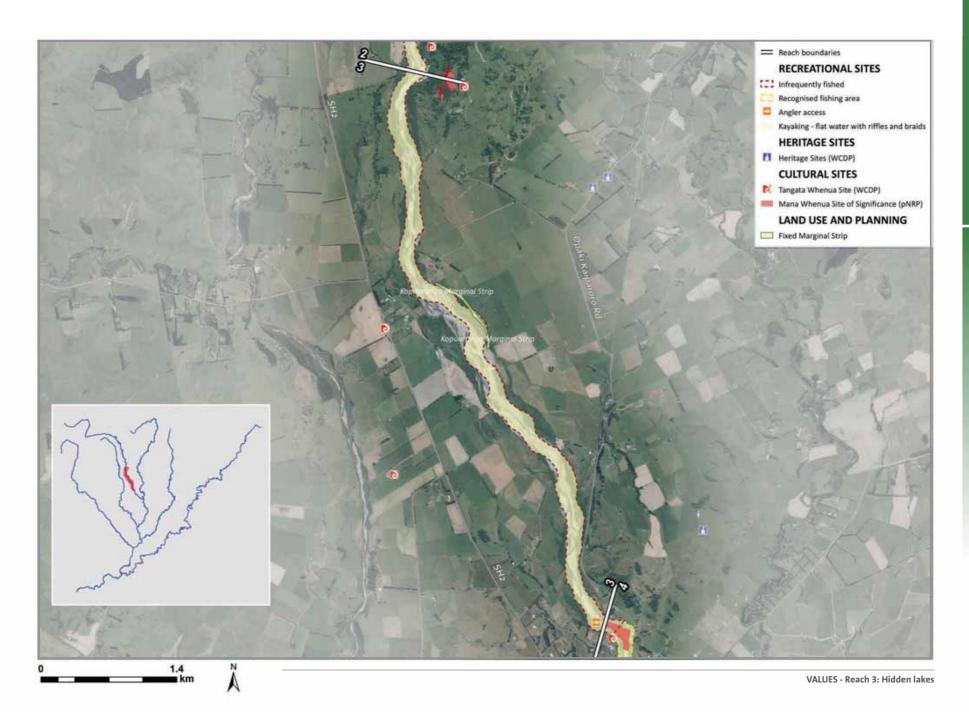
Terrestrial habitats with identified ecological value along this reach include areas of unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefield and boulderfield, and natural wetlands and ponds.

There are also numerous sites of cultural importance along this reach, including a strong association with an historic pā site adjoining Hidden Lakes alongside other house sites, a taniwha lair and established associations with mahinga kai.

Key Floodplain Management Points

- River enhancement expenditure has previously been between 0% and 3% of total annual expenditure and this FMP increases this allowance. A Community Support Officer will also support enhancement works.
- This FMP will shift the focus of river maintenance towards more intensive implementation of vegetated buffers.
 The design buffers will be allowed to erode when and where appropriate. This method will replace previous work practices of immediately responding to erosion issues with machinery in the channel.
- · Recognise the significance of cultural values associated with this reach.
- Sustainably manage the gravel quantities within this reach in order to protect the Double Bridges from scour or the
 effects of reduced flood capacity.
- Work with the asset owners of the Double Bridges to ensure their protection against flooding and erosion impacts and maintain their ongoing operation.

LANDSCAF	PE VALUES	RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
LANDSCAPE	SCENIC	VALUES	VALUES	VALUES	PLANNING	VALUES
MODIFICATION	VALUE	VALUES	VALUES	VALUES	FLANNING	VALUES
Medium	Medium - High	Kayaking, infrequent fishing	-	Tangata whenua sites (WCDP) – historic pā site, historic house site, tanjwha lair, mahinga kai	Rural (Primary Production), Rural (Special), Road, River, Railway, Flood Protection and Mitigation	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds
				commence ion, maninga kai	. 1000 . 10tcction and wintigation	

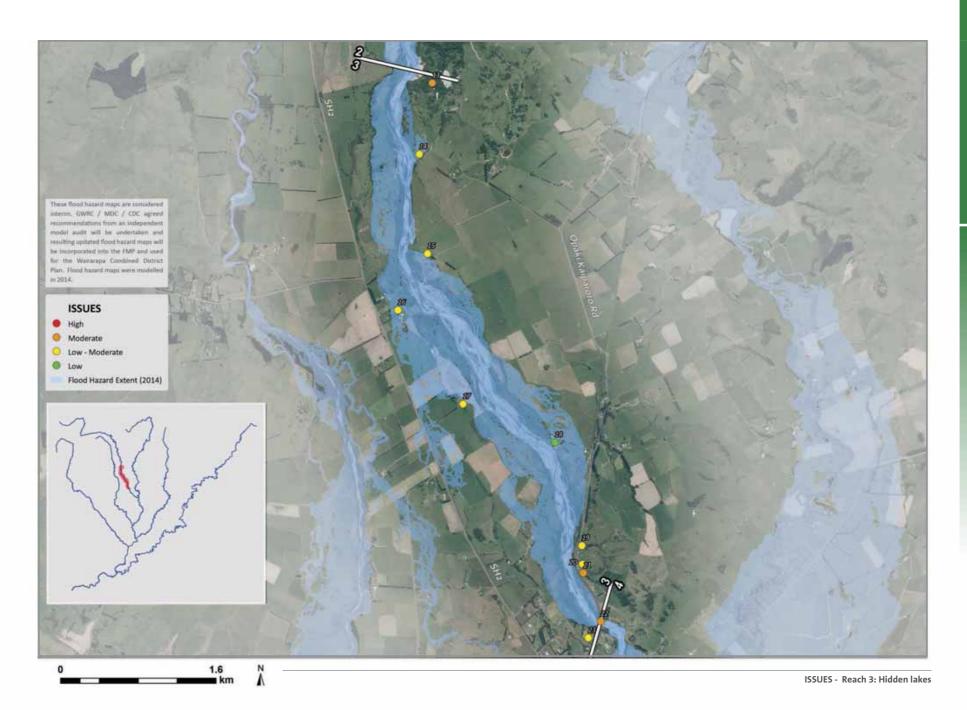


Hidden Lakes - Reach 3

Flood and erosion issues

A total of 11 flood and erosion issues have been identified along this reach. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RISK LEVEL	DESCRIPTION	
МОЛ	Gravel extraction [18] This location is a good gravel extraction point with good current access. Significant degradation has occurred which may limit opportunities for gravel extraction in the future. Used and licenced by GWRC Flood Protection.	
LOW TO MODERATE	Farm ancillary buildings [14] A small group of buildings believed to be farm ancillary structures are located in the erosion study area and are modelled as affected by the 1% AEP flood event. House within erosion study area and outside the 1% AEP flood extent. House within flood hazard areas [16, 17] A couple of houses sit within but near the edge of the erosion study area and are affected by the 1% AEP modelled flood extent.	Houses in erosion study area [19] Two houses sit within the erosion study area. These are, however, protected by the railway line and State Highway 2. The erosion risk at this location is believed to be low. Opaki Kaiparoro Rd in erosion study area [20] Opaki Kaiparoro Rd sits within the erosion study area. However, it is considered of low risk due to adjacent geology. Houses in erosion area [23] There is a small group of houses near the southern abutments of Double Bridges which sit within the erosion study area. These are set far back from the channel edge, and are considered to be of low risk due to underlying geology.
MODERATE	Hidden Lakes [13] The Hidden Lakes area is a site of regional significance. It sits within the erosion study area, and the bank edge adjacent to this site is subject to active erosion. There is no requirement to protect this site from natural erosive forces. Railway line in erosion study area [21] The main north-south railway line sits within the erosion study area. The area is considered to be low risk due to surrounding geology and the infrequent use of the line.	Double Bridges [22] Both the rail bridge and Opaki Kaiparoro Rd Bridge that make up Double Bridges sit within the erosion study area. Current bed level management allows sufficient freeboard for flooding through the structures up to the bridge soffits. There are, however, concerns about scour around the bridge piers.
HOH		



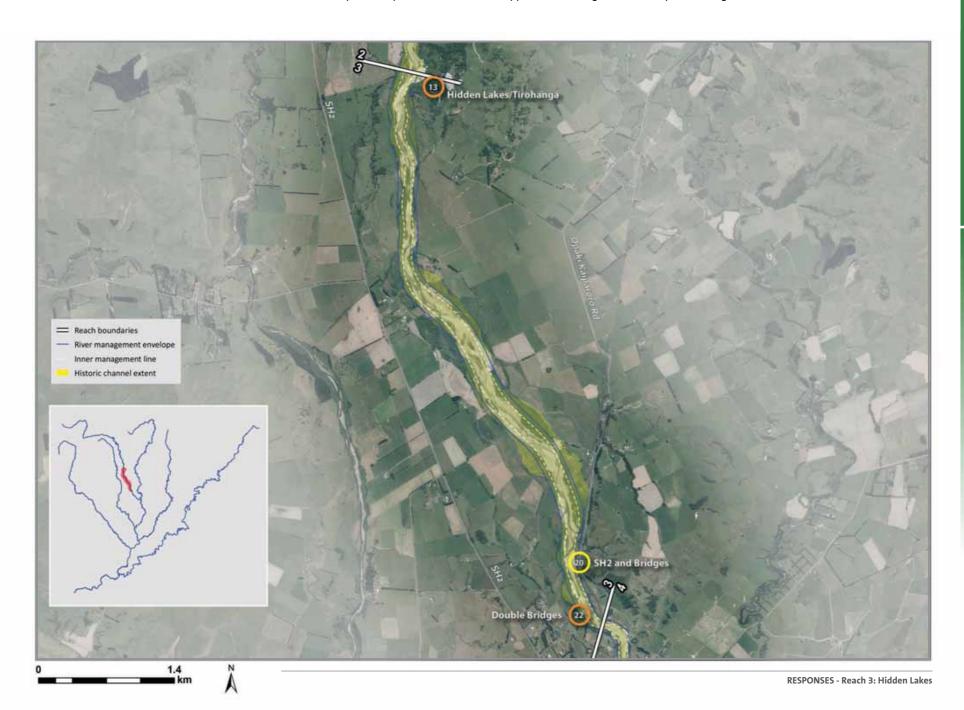
Hidden Lakes – Reach 3

Response

Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID	ISSUE ID SITE TYPE OF RESPONSE		MEASURES	LEVEL OF SERVICE (AEP)		RESPONSIBILITY		PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
		Hidden		The site is protected in the proposed Natural Resources Plan. There is no requirement or expectation					
PONSE	13	Lakes,	Planning and policy	to protect this site against natural erosion processes. GWRC will avoid upstream or downstream works			Mana whenua	GWRC	Low
		Tirohanga		worsening erosion at this site.					
ESF		Opaki		Asset owner to continue to monitor risks to Opaki Kaiparoro Rd. In several locations the road has been					
2	(20)	Kaiparoro	River management	identified as being within potential erosion extents, however the risk is considered low and there are no			Asset owner	GWRC	Low
Ë		Rd		known historic issues that have required management.					
SPE	(22)	Double	River management	GWRC Operations to provide information to asset owners if any erosion risk is identified to Double			GWRC	Asset owners	Medium
		Bridges	Kivei illallageillellt	Bridges.			GWAC	Asset Owners	Wediam
				River management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting					
		Entire	River management	of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines,					
Ö		reach	Niver management	isolated works support, Code of Practice, mixed vegetation planting, alternative land uses within riparian					
Ě				planted buffers	_				
Σ		Entire	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy,					
ON		reach	Planning and policy	abandonment/retirement of assets, strategic land purchase	_				
Ę		Entire	F						
0		reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system					
O		Entire	Faviron and a base and	Facility and all Chapters Community	_				
		reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs					



Double Bridges to Te Ore Ore – Reach 4

Character

This reach continues a semi-braided character which becomes progressively more channelised through the Wairarapa Plains along the western toe of Te Ore Ore. The confluence with the Kopuaranga River occurs midway along this reach, below which the river widens and continues a semi-braided form across gravel with pools and riffles. Belts of willow enclose most of the river corridor and include cabled willows in some areas. Much of the surrounding landscape remains in productive rural use including several pivot irrigators, with playing fields and mixed indigenous and exotic vegetation also adjoining the river near Rathkeale College.

Key Characteristics Broad semi-braided form Continuous belts of willow planting enclosing margins Cabled willow trees established in some areas Rounded paddocks associated with pivot irrigators Proximity to playing fields at Rathkeale College

Values

This reach flows through rural land to the north of Masterton predominantly established in pasture grassland and increasing rural lifestyle settlement. Through this area, the margins of the river become increasingly modified with stopbanks and willow and pole planting, particularly adjacent to Rathkeale College. Overall the level of landscape modification is medium with a corresponding medium level of scenic value.

The area is commonly used for fishing and kayaking as it contains flat water which is easily accessible for beginners. Such recreation activities are typically accessed from bridge crossings at Double Bridges and Te Ore Ore Road, with an additional access point identified along Black Rock Road. Swimming is also popular at these access points, as well as a swimming hole identified at Rangitumau Bluff.

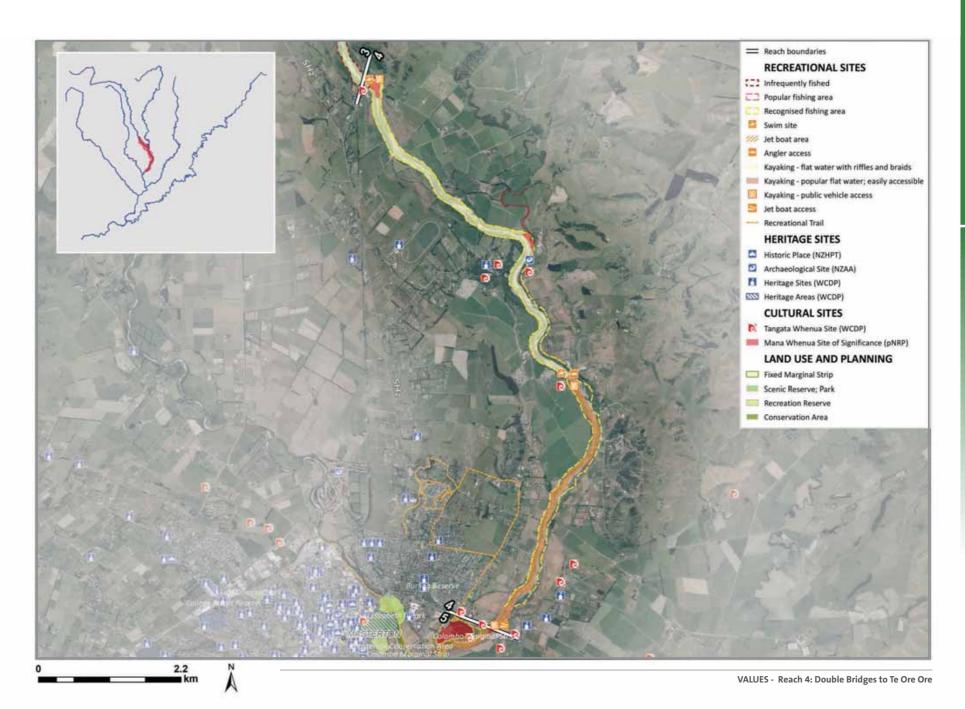
Terrestrial habitats with identified ecological values along this reach include fenced indigenous forest, mixed exoticindigenous forest, indigenous treeland, stonefields, boulderfields, natural wetlands and ponds. The area also accommodates a breeding population of nationally endangered black-billed gulls along the stonefield and boulderfield areas and represents one of the few locations where populations of this species have grown in number in recent years in New Zaaland

Along the western banks of the river, the main house of Rathkeale College is an important heritage site identified in the WCDP. There are also several cultural sites in this area including marae, historic pā sites, urupā, wāhi tapu and mahinga kai associations.

Key Floodplain Management Points

- River enhancement expenditure has previously been between 0% and 3% of total annual expenditure and this FMP increases this allowance. A Community Support Officer will also support enhancement works.
- This FMP will shift the focus of river maintenance towards more intensive implementation of vegetated buffers.
 The design buffers will be allowed to erode when and where appropriate. This method will replace previous work practices of immediately responding to erosion issues with machinery in the channel.
- Protect the swimming hole at Rangitumau Bluff and enhance recreational opportunities.
- Reduce risk of failure to the stopbanking network which protects Rathkeale College and grounds.

LANDSCAPE	SCENIC SCENIC	- RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
MODIFICATION VALUE		VALUES	VALUES	VALUES	PLANNING	VALUES
Medium	Medium	Angler access, kayak access, fishing, kayaking, swimming	Rathkeale College (WCDP), pā site and urupā (NZAA)	Tangata whenua sites (WCDP), Mana whenua Sites of Significance (pNRP) - Marae, historic pā sites, historic sites, urupā, wāhi tapu trees, historic baptism sites, mahinga kai, eel weir, pā tuna (kohekutu); mahinga kai; canoe landing place, tauranga waka; water spirit and guardian, taniwha (tuere), swimming place, wāhi kauhoe	Rural (Conservation), Rural (Primary Production), Rural (Special), Road, River, State Highway.	Fenced indigenous forest, mixed exotic- indigenous forest, Indigenous treeland, Stonefields and boulderfields, natural wetlands and ponds, breeding population of national endangered black billed gulls.

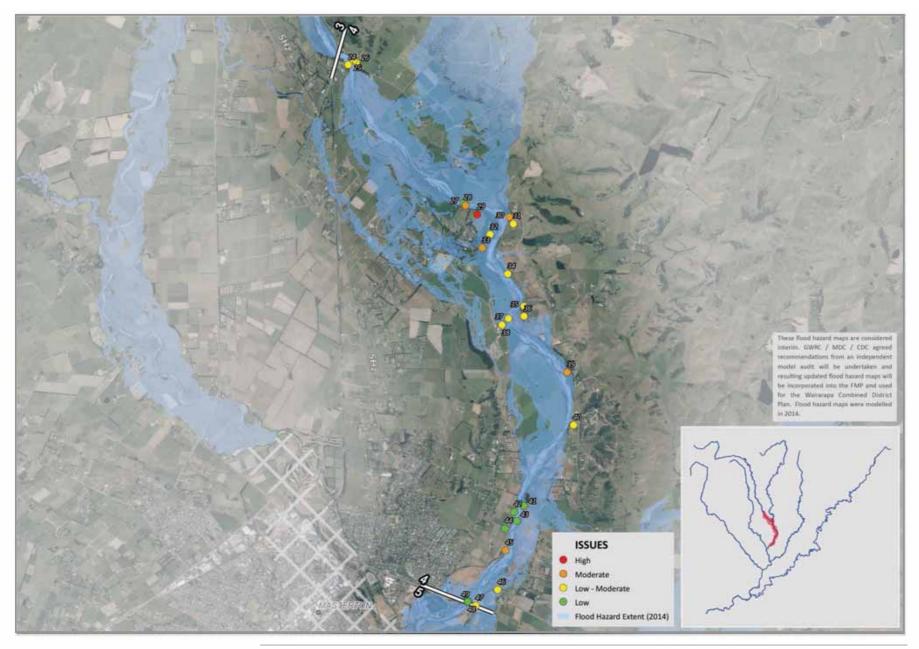


Double Bridges to Te Ore Ore - Reach 4

Flood and erosion issues

A total of 26 flood and erosion issues have been identified along this reach given its close proximity to Masterton. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RISK LEVEL	DESCRIPTION	
гом	Stopbank within erosion study area [27] A stopbank sits within the erosion study area and inside the existing management buffer extents. Water intake [41] A private subsurface intake that would be adversely affected by any changes in bed level. Water intake [42] A water intake sits within the erosion study area for use as part of a frost protection system. Channel alignment [43] The channel alignment is being artificially maintained by hard edge protection. The river naturally tends to a wider channel through this reach.	House [44] A private house sits within the erosion study area. However, it is considered of low risk due to underlying geology and distance away from river. No currently managed issues exist. Te Ore Ore Bridge Sub-Transmission Lines [48] Sub-transmission lines cross the river north of the Te Ore Ore Bridge. The pylons are located within the erosion study area but are set back from the river bed and outside the active channel. No currently managed issues exist. Te Ore Ore Bridge [49] Te Ore Ore Bridge is relatively new and therefore less susceptible to scour issues. Weirs are located downstream which have historically been used to control bed levels for earlier bridges. These have been modified, and further changes to them could have impacts on this bridge. The bridge abutments sit within the erosion study area.
LOW TO MODERATE	Opaki water race intake [24] The Opaki water race intake sits within the erosion study area and is affected by bed level changes within the active channel. The intake bed levels are relatively stable due to the proximity to the Double Bridges. Occasional maintenance undertaken by MDC is required to ensure continued operation. Rangitumau Road [26] The road sits within the erosion study area, however it is well protected by a rock bluff and therefore considered to be of low risk. No currently managed issues exist. Swimming hole [25] There is a popular but occasionally hazardous swimming hole at the base of the bluff near Rangitumau Road. House [31] A single dwelling sits within the erosion study area, but outside and above the 1% AEP flood event extent. No currently managed issues exist. Rathkeale College outbuildings [32] A number of small facilities for Rathkeale College are contained within the erosion study area and the 1% AEP flood extent. River bed armouring [34] The bed in locations downstream of Rathkeale College has a tendency to become 'armoured' and needs ongoing maintenance. This is believed to be caused by erosion of finer sediments from the adjacent cliffs.	House [36, 35] Houses are located within the erosion study area and the 1% AEP flood extent. No currently managed issues exist. Private water intake [37] A private water take is situated with the erosion study area, however there are no known issues with its ongoing operation. No currently managed issues exist. Outbuildings [38] A farm storage building, or possibly utility structure, is located within the erosion study area, but outside the 1% AEP flood extent. No currently managed issues exist. Houses [40] Two houses on Black Rock Road sit within the erosion study area. While these properties sit outside the modelled 1% AEP flood extent, they would be affected by any overflow occurring through the water race. Industrial yards [47] Sheds, machinery and possibility of contaminants sitting within the erosion study area and the 1% AEP flood extent. No currently managed issues exist. Te Ore Ore stopbank [46] This is a low standard stopbank that protects several properties. The modelled 1% AEP event overtops this stopbank and affects a number of properties behind it and Te Ore Ore/Castlepoint Road.
MODERATE	Erosion control works [28] Ongoing erosion controls are required to protect the Rathkeale stopbank which is currently at risk of being undermined. Henley Lake water intake [45] The water intake for Henley Lake occasionally has issues associated with channel alignment and changes in bed level.	Urupă Site [30] A historic urupă site sits on the edge of a cliff above the Ruamāhanga River and within the erosion study area. Rathkeale College sewage pond [33] Currently unused sewage settlement ponds for Rathkeale College sit within both the erosion study area and the 1% AEP flood extent. Black Rock Road [39] Black Rock Road is located within the erosion study area. It has required erosion protection within the last 10 years.
нын	Rathkeale stopbank [29] The Rathkeale stopbank sits well within the buffer and erosion study area and is currently protected to a low erosion security standard by ongoing erosion management works.	



ISSUES - Reach 4: Double Bridges to Te Ore Ore

Double Bridges to Te Ore Ore - Reach 4

Response

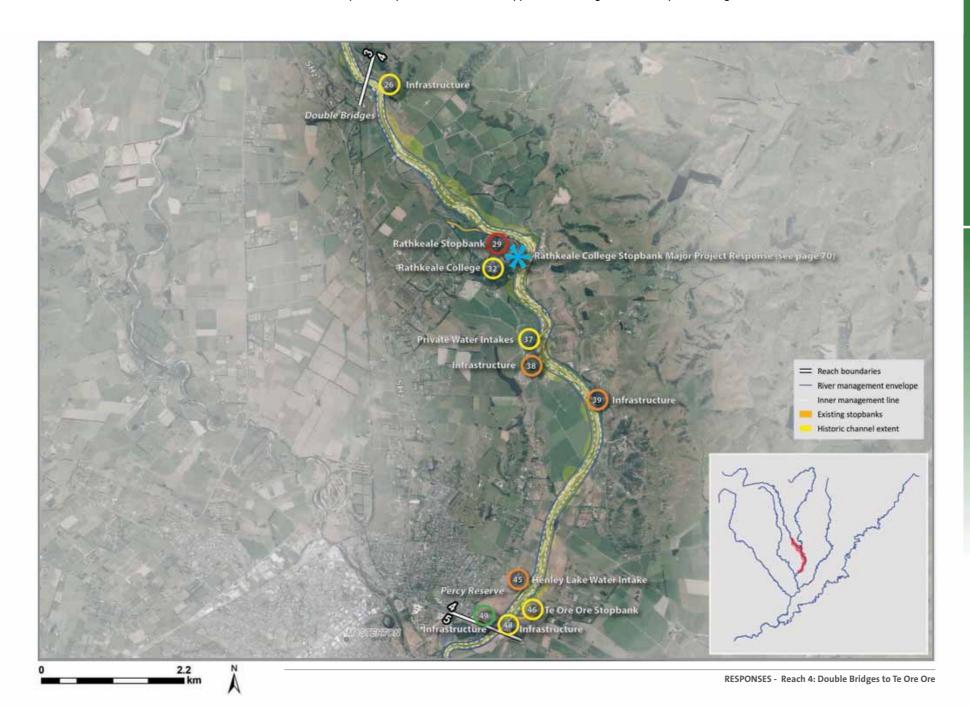
Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in Appendix 5.

Reach Specific Responses

	ISSUE ID	SITE	SITE TYPE OF RESPONSE MEASURES		LEVEL OF SERVI	CE (AEP)	RESPONSIBILITY		PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
	29	Rathkeale stopbank	Emergency management	The stopbank at Rathkeale College breach scenarios will be defined to identify likely overflow routes and consequences of failure affecting the college and accesses to the college. While it is unlikely that a breach or failure of a relocated and upgraded stopbank will occur, it is possible that any overdesign event will affect access into the college area during such an event leaving the college, its pupils and staff more vulnerable.	5%	1%	GWRC	Rathkeale College, Landowners	High
SPECIFIC RESPONSES	32	Rathkeale College	Emergency management	WREMO to develop an emergency management plan with Rathkeale College for large flood events. In a 1% AEP event without further improvement to the protection infrastructure, the college will be cut off from access to external services for a short period of time due to an overland flow path that runs south of the college. Due to local topography it is likely that heavy rainfall events in the vicinity of the college could have a similar effect of cutting road access.		1%	Community	WREMO	High
	45	Henley Lake water intake	River management	GWRC to work with Masterton District Council to maintain security of intake for Henley Lakes. The river management activities will be planned to not compromise intake functionality.			GWRC	MDC	Medium
	46	Te Ore Ore stopbank	River management	Define the level of service requirement to current standard and maintain to this defined standard.			GWRC	Landowners	Medium
	26 38 39 48 49	Infrastructure	Emergency management	Inform asset owners of risks to infrastructure assets in this reach and encourage them to prepare contingency plans to address flood and erosion risks. GWRC and WREMO to provide advice and support if requested.		1%	Asset owners	WREMO	Medium
	37	Private water intake		River management envelopes will contribute to security of private water takes. Private water takes will have low risk of damage up to a 20% AEP event. Damage to structures is more likely up to a 5% AEP event.		20%	Landowners	GWRC	Low
		Percy Reserve	Planning and policy	Policy development to address freedom camping in the reserve			MDC	Community	Medium
		Double Bridges	Environmental enhancement	Establish a care group and work with local groups to formalise this area as a recreation spot. Improve the awareness of safety around water in the vicinity of this area. Raise awareness of cultural significance of the river in the vicinity of Double Bridges.			Community	GWRC	Medium
ETHODS		Entire reach	River management	River management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers					
ION ME		Entire reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/ retirement of assets, strategic land purchase	-				
Ę		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	-				
8		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	-				
		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	-				

Stopbank Summary

					CONDITION		BENEFITING WHOM?				
			LENGTH OF	LENGTH INSIDE	RATING (2016)		(PRIVATE INDIVIDUAL,				
		CURRENT	STOPBANK	BUFFER ZONE	(GOOD1/2/3/4/5		PRIVATE MULTIPLE, PUBLIC,	LEVEL OF PROTECTION			FMP
ISSUE ID	NAME	PURPOSE	(M)	(M)	POOR)	CRITICALITY	OTHER)	(AEP)	OTHER ISSUES	FMP DIRECTION	PRIORITY
29	Rathkeale A	Protects school and surrounding area from flooding up to around a 5% AEP	450	0	2	High	School/Private Multiple	5%		Continue existing asset management	Low
29	Rathkeale B	Protects school and surrounding area from flooding up to around a 5% AEP	900	900	4	High	School/Private Multiple	5%	Directly adjacent to river, trees in stopbank	Major Project Response	High
46	Te Ore Ore	Provides some protection to Te Ore Ore Road and local land up to around a 10% AEP	450	0	3	Low	Multiple private/Public road	10%	Low quality, rutted and uneven crest	Continue existing asset management	Low





Major Project Response Summary: Rathkeale College Stopbank

The issue

Rathkeale College is a boys' secondary school located approximately 5km north of Masterton, on an inside bend of the Ruamāhanga River. This reach of the Ruamāhanga River is extremely narrow, which has caused significant erosion of the banks on both sides of the river.

There is infrastructure within the erosion hazard zone and associated vegetative buffer on both banks. A pivot irrigator has been installed on the farmland on the north bank, and a stopbank is present along the boundary of the Rathkeale school grounds.

The stopbank is of poor quality, with mature trees growing too close to the bank on the river side. The buffer between the stopbank and the river is very narrow and has been under consistent erosion pressure. Stopgap erosion protection measures including debris fences and rock groynes have been used to protect the stopbank.

The erosion pressure through this reach is anticipated to remain, and therefore a long-term solution that removes the existing infrastructure from the buffer is necessary.

The current vegetative buffer through this reach is significantly narrower than that present upstream or downstream of the reach. This is not considered ideal as it requires significant expense and work to maintain or reinstate the banks after erosion occurs. Planting the full width of the existing buffer, and potentially widening the buffer through this reach, would be beneficial.

Relationship with common methods

The options for this reach (outlined below) are consistent with the use of the common methods 'river edge envelopes' and 'riparian planting of buffers'.

Description

General

GWRC staff and Te Kāuru Upper Ruamāhanga FMP Subcommittee members have undertaken discussions with the adjacent landowners to develop an option for this reach.

Options for this reach include:

- · Fully planting the existing (narrow) vegetative buffer
- · Fully planting a widened vegetative buffer
- Retreating the Rathkeale stopbank further back from the river edge
- Increasing the width of the river channel
- Realigning the river channel
- Removal of trees within the current inner management line

Implications

All of the options outlined involve the loss of some productive land for the adjacent landowners. River widening, or realignment will have impacts on the river ecology through the reach during construction.

Priority

Medium. There has been recent bank erosion on both sides of the river through this reach, including damage to the Rathkeale stopbank (see photo) although this has since been reinstated.

Level of Service

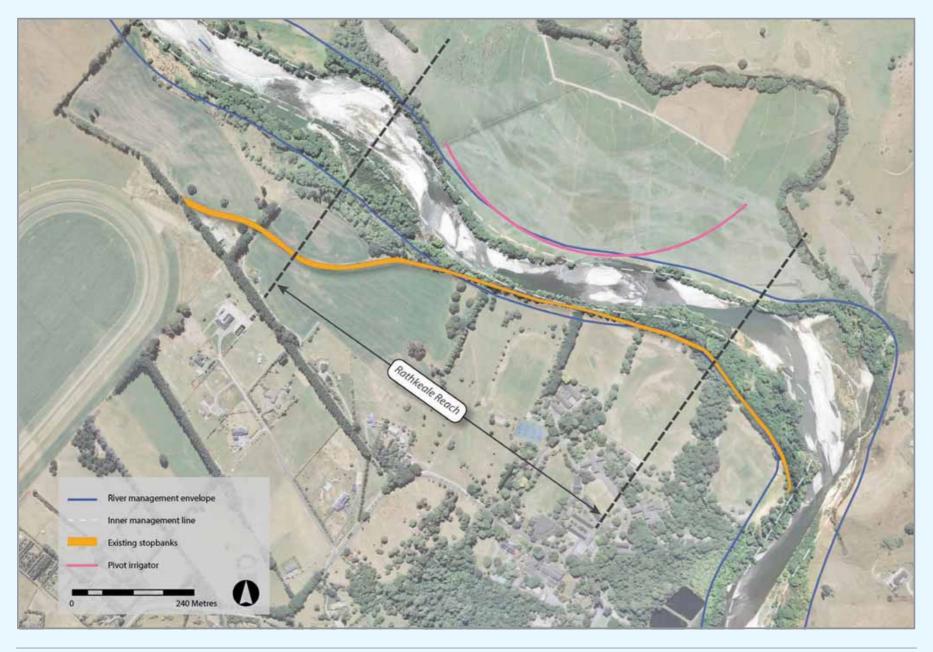
CHERENT

A 1% AEP (with climate change) level of service, to be confirmed with Rathkeale College and local landowners.

THREATS TO



REFERENCE		LEVEL OF	CURRENT	PROPOSED LEVEL OF					
NUMBER	MANAGEMENT MEASURE	SERVICE	LEVEL OF SERVICE	SERVICE	PRIMARY REASON FOR RESPONSE	RESPONSIBILITY	PRIORITY	COST	FUNDING
28 and 29	ТВС	Low	Erosion by the river, overtopping of stopbank	1% AEP, including climate change	To increase flooding protection to Rathkeale College and reduce erosion risk to stopbank and Rathkeale College	GWRC / Rathkeale?	Medium	\$TBC	Capital funding TBC



Rathkeale College Stopbank

Te Ore Ore to Waingawa – Reach 5

Character

This reach extends from Te Ore Ore Bridge to the south of Masterton through the Masterton Plains. Urbanising influences characterise parts of the western banks of this reach including increased public access adjoining Henley Lake, the presence of Masterton Cleanfill, and the earthworks and ponds associated with the Homebush Waste Water Treatment Plant. Below the confluence with the Waipoua River, the river channel tends to be managed as a single thread enclosed by willow and poplar belts along its margins, with limited public access.

Key Characteristics

Channelised bed through a gravel corridor

Increasing urbanising influences along its western margins

Poplar and willow bank planting

Value

Modified banks including stopbanks are common along this reach, with willow and poplar tree belts also frequently established throughout this area. This has resulted in a high level of landscape modification overall with corresponding low-medium scenic values.

The close proximity of Masterton has resulted in a variety of recreation values including a well-used recreation area established at Henley Lake Park. This includes recognised fishing areas for rainbow trout and perch. The popularity of fishing increases to the north of this reach in closer proximity to the edge of Masterton. Kayaking also occurs throughout this area in association with flatter water which is easily accessible for beginners.

There are swimming sites throughout this reach particularly at the northern end of the reach in close proximity to Masterton. A preference for swim sites upstream of the Homebush Waste Water Treatment Plant was also identified in relation to cultural and recreational values.

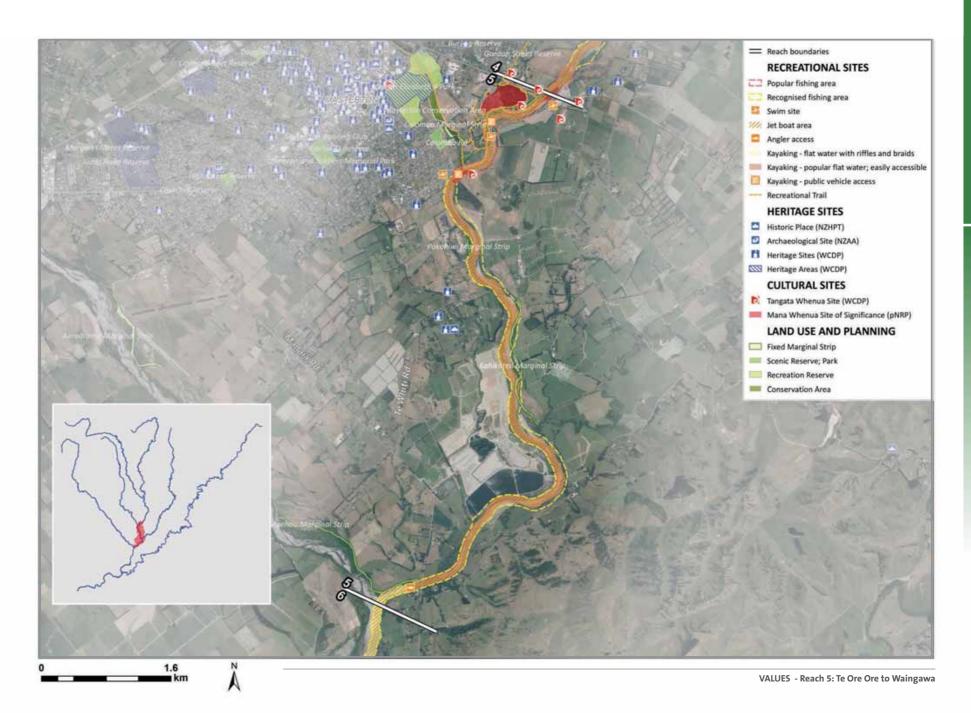
Terrestrial habitats of ecological value identified along this reach include areas of unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefield, boulderfield, natural wetlands and ponds.

There are numerous cultural sites identified throughout this reach including marae, historic pā and house sites, urupā, baptism sites, mixing of mauri, a taniwha lair and associations with mahinga kai.

Key Floodplain Management Points

- River maintenance activities will involve more works to maintain stopbank conditions, and river enhancement
 opportunities will be explored and supported. There is an opportunity for the community to decide to raise the level
 of service in the reach and install more erosion protection structures in currently unprotected areas. This option has
 the higher associated costs of annual maintenance.
- Greater effort will be used to implement buffers where possible, but this FMP acknowledges that maintaining
 existing rock protection works and continuing to use new rock will be required to protect important community
 infrastructure and assets.
- Recognise the importance of the confluence of the Waipoua and Ruamāhanga Rivers.
- Work with Masterton District Council to protect Homebush Waste Water Treatment Plant assets from flooding and erosion impacts.
- Work with Masterton District Council to protect Henley Lake Park and recreation area from negative effects of flooding and erosion.
- Work with Masterton District Council to protect and ensure continued operation of Wardells Road Bridge.
- Work with Masterton District Council to protect the Masterton landfill and protect the environment from any damage that may be a risk as a result of flooding and erosion.

LANDSCAPE	SCENIC VALUE	RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
MODIFICATION		VALUES	VALUES	VALUES	PLANNING	VALUES
High	Low / Medium	Angler access, kayak access, jet boat access, fishing, kayaking, jet boating, swimming		Tangata whenua sites (WCDP), Mana whenua Sites of Significance (pNRP) - Historic på sites, historic house sites, historic baptisms sites, marae sites, rurpā, taniwha lair, mahinga kai, mixing of mauri, water spirit and guardian, swimming place, wähi kauhoe, puna rongoā; source of weaving material, puna raranga; outrigger canoe, waka ama raranga; outrigger canoe, waka ama	Rural (Primary Production), Rural (Special), Road, River, Residential, Flood Protection and Mitigation, Sewage Treatment and Disposal, Waste Management, Cemetery.	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds

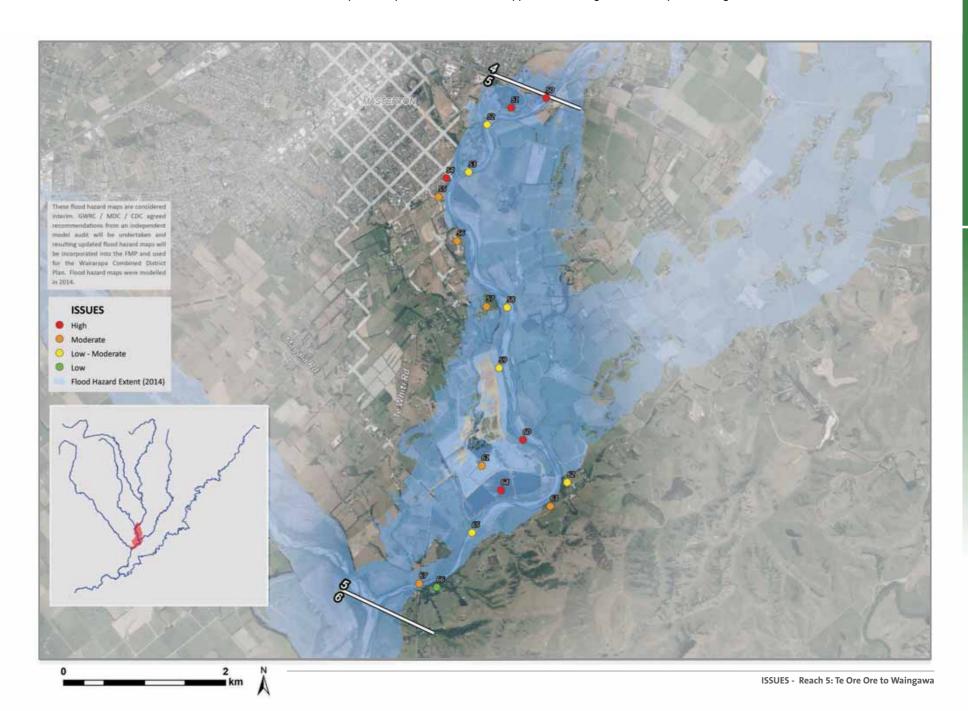


Te Ore Ore to Waingawa – Reach 5

Flood and erosion issues

A total of 18 flood and erosion issues have been identified along this reach. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RISK LEVEL	DESCRIPTION	
TOW	Houses [66] Three houses sit within the erosion study area; however this area has no history of erosion and the high bank with cemented deposits acts to reduce risk to this location. No currently managed issues exist.	
LOW TO MODERATE	Distribution lines [52] Distribution lines cross the river from Henley Lake Park, where pylons on both banks sit within the erosion study area. However, these are set back from the bank edges and are therefore considered to be at lower risk. No currently managed issues exist. Narrow channel at confluence [53] The river becomes very narrow immediately upstream of the confluence with the Waipoua. Flooding frequently occurs across the true left bank affecting a number of paddocks. This has a beneficial effect in reducing erosion pressures at River Road. Stopbank [59] The section of the stopbank downstream of the landfill has an unknown level of service. This stopbank is part of the protection for the Homebush Wastewater Treatment Plant.	House [62] A single dwelling on Lees Pakaraka Road sits within the erosion study area but is outside the modelled 1% AEP flood extent. It is currently protected by rock erosion protection. Channel alignment [65] The channel alignment continues to push outside of its design alignment. Ongoing rock groyne protection has been required to maintain the designed alignment. Channel alignment [58] Historically the channel has been wider at this location. The design channel alignment through this reach is very narrow. This possibly has upstream and downstream effects.
MODERATE	Riverside Cemetery [55] The cemetery sits within the erosion study area. It has historically suffered erosion and light rock protection is in place to manage some of these effects. Closed landfill site [56] This closed landfill site has suffered from ongoing erosion. It is currently protected by a combination of rock groynes and willow buffers. Possible erosion of contaminated material is a concern. Stopbank [57] A varying standard stopbank with a level of protection between 5% AEP and 10% AEP. This stopbank is of very poor quality and is infested with trees. A number of downstream properties benefit from the protection it provides, including the Homebush Waste Water Treatment Plant.	Homebush Waste Water Treatment Plant (HWWTP) [61] The Homebush WWTP site is within the erosion study area and the modelled flood extent for the 1% AEP flood event. While the HWWTP has some stopbanks with a 1% AEP level of protection, these are not continuous upstream, and flooding is modelled to outflank these structures. Lees Pakaraka Road [63] Lees Pakaraka Road sits within the erosion study area and on the edge of the 1% AEP flood extent. It is currently protected by rock erosion protection. Wardells Bridge [67] The bridge abutments sit within the erosion study area. The bed in vicinity of the bridge has been observed over a long period to be a stable site with low risk of erosion and scour. No currently managed issues exist.
нын	Te Ore Ore Bridge weirs [50] The Te Ore Ore weirs were installed to protect the bridges crossing the river upstream, they have suffered damage in past floods, and for a time were deemed hazardous to river users. Work has been carried out on the weirs to make them less hazardous and less visually obtrusive, however sections of the weirs remain in place, acting like groynes. Henley Lake [51] The banks adjacent to Henley Lake Park are continually under erosion pressure. There is current work in progress to establish vegetative buffers and retreat the existing bank edge to reduce the erosive impacts. A significant area of the park is within the design channel. The narrow river width creates additional erosion pressure.	River Road properties [54] 14 River Road properties sit within the erosion study area. A dangerous erosion hazard was observed here in the 1998 floods and some parts of these properties eroded into the river. This erosion is currently managed by a series of heavy rock groynes, this requires ongoing maintenance and management. HWWTP irrigation beds [60] The irrigation beds for the Homebush Waste Water Treatment Plant are within the erosion study areas and the erosion management buffer areas for the river. They are vulnerable to a greater than 50% AEP flood event. HWWTP discharge point [64] The Homebush Wastewater Treatment Plant discharge point sits within the erosion study area.



Te Ore Ore to Waingawa – Reach 5

Response

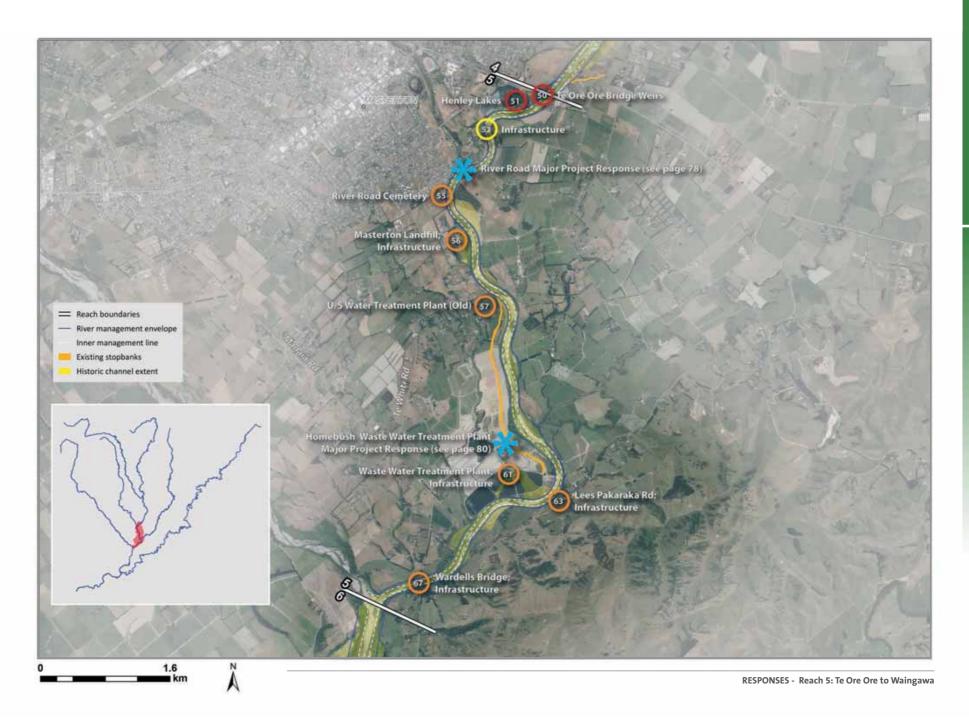
Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

ISSUE ID SITE		SITE	TYPE OF RESPONSE	MEASURES	LEVEL OF SERVI	CE (AEP)	RESPONSIBILITY		PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
	51	Henley Lake	River management	Narrow design lines to be reconsidered during design lines update process. Until then the narrow channel will be maintained as usual.	20%	5%	GWRC	MDC	Medium
ECIFIC RESPONSES	50	Te Ore Ore Bridge weirs	River management	Remove remains of rail iron and concrete block weirs.			GWRC	MDC	Medium
	55 56	River Road Cemetery and Masterton Landfill	River management	Prior to implementation of the River Road Major Project Response (page 78), continue to maintain the rock groynes established to provide erosion protection.			GWRC	MDC	High
	61	Waste Water Treatment Plant	Planning and policy	Refer to Homebush Waste Water Treatment Plant Major Project Response (page 80)			MDC	GWRC	Medium
	63	Lees Pakaraka Rd	River management	Continue to maintain protection to Lees Pakaraka Road in conjunction with MDC.	5%	5%	MDC	GWRC	Medium
S	67	Wardells Bridge	River management	Continue to monitor bed levels and erosion risk to abutments. Supported by the river envelopes tool.		1%	MDC	GWRC	Medium
	52 56 61 63 67	Infrastructure	Emergency management	Inform asset owners of risks to infrastructure assets in this reach and encourage them to prepare contingency plans to address flood and erosion risks. GWRC and WREMO to provide advice and support if requested.		>1%	Asset owners	WREMO	Medium
ЛЕТНОВЅ		Entire reach	River Management	River management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers					
MON		Entire reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/retirement of assets, strategic land purchase	-				
∑		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	_				
8		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs					

Stopbank Summary

ISSUE ID	NAME	CURRENT PURPOSE		LENGTH INSIDE BUFFER ZONE (M)	CONDITION RATING (2016) (GOOD1/2/3/4/5 POOR)	CRITICALITY	BENEFITING WHOM? (PRIVATE INDIVIDUAL, PRIVATE MULTIPLE, PUBLIC, OTHER)	LEVEL OF PROTECTION	OTHER ISSUES	FMP DIRECTION	FMP PRIORITY
57	U/S Water Treatment Plant (Old)	Provides a low level of protection to properties in immediate vicinity	820	150	4	Low	Multiple private/public road	10%	Trees in stopbank, crest level discontinuity with WWTP (new) stopbank	Stopbank is low criticality and does not significantly affect flood risk to WWTP	Low
61	WWTP (New)	Provides protection to the Homebush WWTP	1,900	0	2	High	Masterton District Council Wastewater Treatment Plant	1%	This is not a GWRC asset and should be removed from asset register	MDC asset - Remove from GWRC asset register	Low





Major Project Response: River Road

The issue

A number of residential properties on River Road are located within an erosion hazard area, four of which are in close proximity to the current river bank. Active erosion has been observed in recent years, and during the 1998 flood event some parts of these properties were eroded into the river. While rock groynes have been constructed at the toe of the bank over a long period of time, they were not specifically designed to withstand large flood events and are not considered to provide a high level of security. Immediately downstream of the residential properties on River Road is the Masterton cemetery and the landfill, which are protected by a large number (19) of rock groynes as well as a reasonably well-established willow buffer.

Opportunities

The opportunity to widen and deepen the existing overland overflow path on the left berm of the Ruamāhanga floodplain was investigated to take a greater amount of flow and become operational in smaller (50% AEP) flood events. This area is a natural overflow path based on the existing topography observations from past floods. Historically the main channel flowed through the area, as seen on the cadastral plans. This option provided little reduction in velocities and erosion potential. An alternative to this is to widen by approximately 30m and realign the current main river channel through this reach to make room for construction of rock groynes and a planted buffer on the right bank immediately downstream of the Waipoua confluence. As well as making room for these new groynes and a buffer to protect the residential properties on River Road, the widening of this reach would reduce the pressure on the existing rock groynes that are protecting the cemetery and landfill.

Relationship with common methods

Making room for the river is consistent with the river management responses described in the common methods, along with improved planted buffers and rock groynes. The main channel is currently up to 10m inside the inner management line on the left bank.

Description

General

The current erosion risks at River Road, as well as the cemetery and landfill area immediately downstream, will be reduced by widening/realigning the main channel away from the current right bank by approximately 30m, combined with rock groynes and planted buffers. To provide a channel widening solution that fits with the existing structures in this reach requires a total length of widening of approximately 600m. Easements may be required to allow construction of the groynes on the River Road properties.

The 30m widening of this reach over a distance of 600m requires excavation of approximately 40,000m³ of material. It is expected that approximately half of this would be used for realignment at the upper end of the reach with the remaining being removed from the site through gravel extraction permits.

With the channel widening complete, a series of rock groynes can be constructed for approximately 150m from the confluence of the Waipoua/Ruamāhanga Rivers. Approximately six groynes would be constructed over a length of around 150m. Willow buffers would be planted in between the rock groynes to improve the overall level of protection.

Costs

Channel widening/gravel extraction work on the left bank of the Ruamāhanga River directly downstream of the Waipoua confluence for 600 m. Up to \$60,000 for bed/beach recontouring of 20,000 m³ in addition to 20,000 m³ of gravel extraction assumed to be through the permit system and extracted at no cost.

Rock Groynes - up to \$575,000 based on each groyne being approximately 250 tonnes, P&G and Contingency of 30% (savings could be achieved through reuse of existing rock, if appropriate). This will include channel widening/gravel extraction work on the left bank of the Ruamāhanga River, bed/beach recontouring, and strip vegetation.

Implications

The new rock groynes would be larger in scale than the existing groynes and would need to be sufficiently keyed into the river bank to maximise their structural integrity. This would require accessing and utilising private land associated with the adjacent River Road properties. To ensure protection and future maintenance access to these structures, easements through the affected properties will be required. Other legal considerations may also be required for the crown owned land that would be affected by the enlargement on the left bank. This may involve confirmation of accretion claim status and formalising a river works easement, and discontinued use of this land by the eastern river bank landowners for primary production. Initial consultation with affected property owners has been undertaken in late 2017.

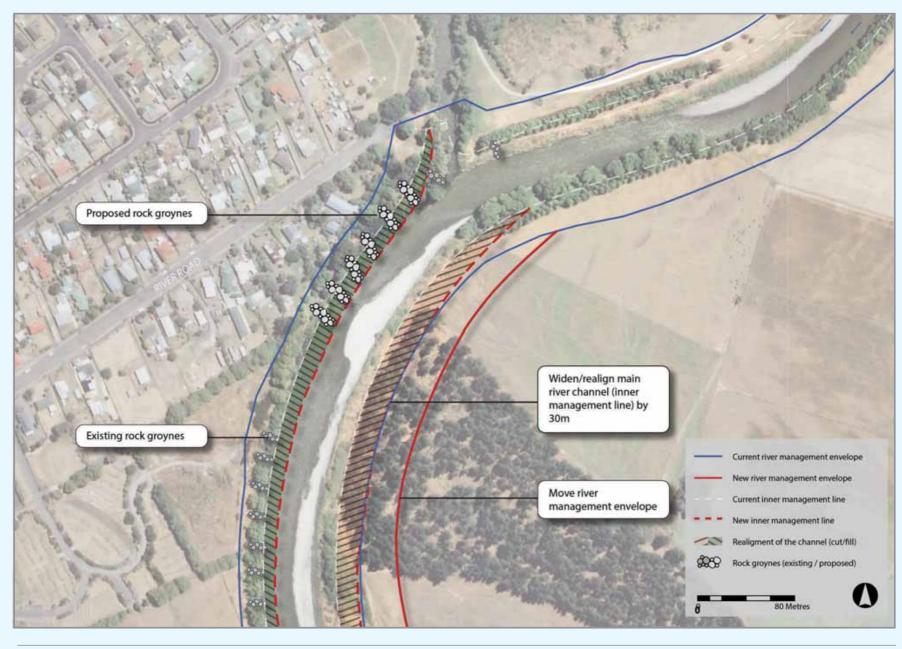
Priority

This response is classified as high importance and high priority.

Level of Service

A 1% AEP level of service is proposed.

REFERENCE NUMBER	MANAGEMENT MEASURE	CURRENT LEVEL OF SERVICE	THREATS TO CURRENT LEVEL OF SERVICE	PROPOSED LEVEL OF SERVICE	PRIMARY REASON FOR RESPONSE	RESPONSIBILITY	PRIORITY	COST	FUNDING
54	Increase bank protection to river edge at River Road and widen river channel	<5% AEP	Erosion by the river	1% AEP	To increase protection to River Road, Masterton	GWRC	High	\$575,000	Capital funding TBC
53	Easements and other legal costs as required.	N/A	Erosion by the river	N/A	To allow construction/maintenance of groynes and widening of river.	GWRC/MDC	High	\$50,000	Capital funding TBC



River Road



Major Project Response: Homebush Waste Water Treatment Plant

The issue

The most recent hydraulic modelling of the Upper Ruamāhanga and Waipoua Rivers (August 2014) indicates that in a 1% AEP flood event (with climate change to 2090) the stopbank adjacent to the Homebush Wastewater Treatment Plant (HWWTP) overtops and inundates the headworks facility (Issue ID 61). However, the base topographic data that was used for this model (2013 LiDAR and stopbank crest survey) was gathered prior to the construction of the new stopbank being completed. The hydraulic model is currently being updated with the as-built survey of the new stopbank and incorporating the thorough review that has been undertaken of the Waipoua design hydrology. Once this modelling has been completed the flood hazard evident to the headworks can be reviewed and the need for any additional works to improve the resilience of the facility considered. Based on the information currently available it is considered prudent to allow a provisional sum for possible flood mitigation works at the headworks facility.

It is also worth noting that the newly constructed pond embankments are approximately 0.5m higher than the stopbanks so it is unlikely that the ponds would be overtopped during a large (over 1% AEP) flood event.

The current hydraulic modelling also shows that the older (lower) section of stopbank downstream of the landfill (Issue ID 56) overtops in the 1% AEP flood event but the overflow tracks to the west of the the HWWTP in the Makoura Stream. Other issues in this reach relating to erosion hazard to the HWWTP irrigation beds (Issue ID 60) and the discharge point (Issue ID 64) can be managed with the common methods.

The newly upgraded stopbank is constructed on MDC land for the specific purpose of protecting MDC asset but is currently recognised as a GWRC asset. Discussion is ongoing around future maintenance and funding responsibilities for this asset.

Opportunities

The updated modelling results will provide a more accurate assessment of the risks to the HWWTP headworks but there will still be the possibility of the stopbank overtopping in an event larger than the 1% AEP flood or failing during an event lower than a 1% AEP flood due to piping or external erosion. Consideration of these residual risks could also be taken into account when considering options for increasing the resilience of the HWWTP headworks. There is the possibility of integrating the Three Rivers Trail and access to the Ruamāhanga River in this area but there would need to be careful consideration of health and safety and security issues around the HWWTP ponds and headworks.

Relationship with common methods

The other issues highlighted in this reach can be managed with the common methods, specifically the landfill stopbank "Rural Stopbanks Policy" (Issue ID 59), "Riparian Planting of Buffers" (Issue ID 59) and the "Code of Practice" (Issue ID 60 & 64).

Description

General

A provisional sum for increasing the resilience of the headworks facility, which could include an elevated plinth for the generator and raising electrical devices above flood levels.

Costs -\$50,000 (Provisional sum – subject to updated hydraulic modelling)

Implications

Inundation of the HWWTP headworks could result in damage to electrical equipment and the screens being overwhelmed, which would cause untreated wastewater to be discharged to the river.

Priority

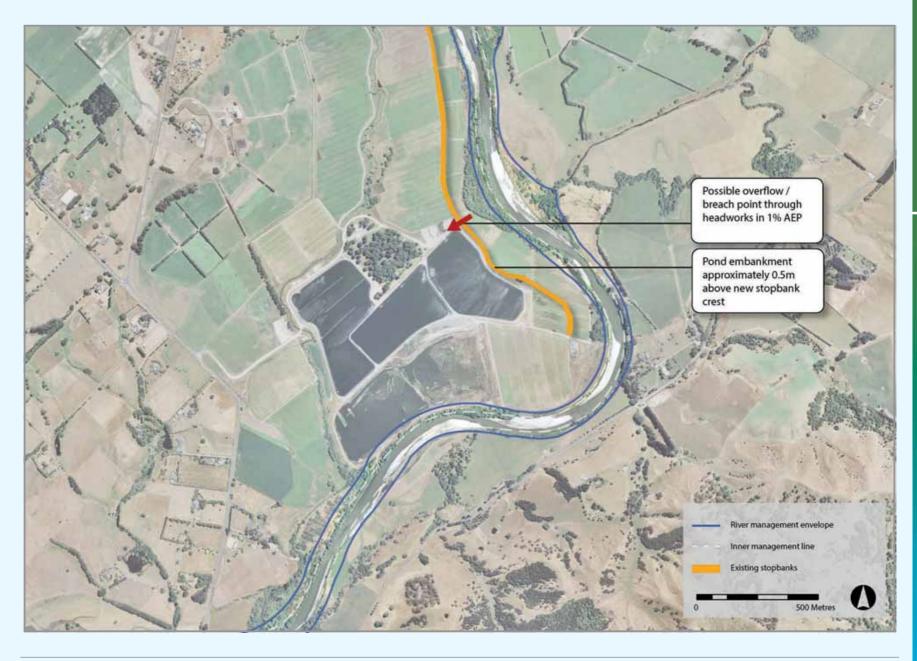
To be reviewed following assessment of modelling.

Level of Service

A 1% AEP level of service is required in HWWTP resource consent.



REFERENCE NUMBER	MANAGEMENT MEASURE	CURRENT LEVEL OF SERVICE	THREATS TO CURRENT LEVEL OF SERVICE	PROPOSED LEVEL OF SERVICE	PRIMARY REASON FOR RESPONSE	RESPONSIBILITY	PRIORITY	COST	FUNDING
61	Resilience works within headworks facility (plinth for generation, raising electrical works)	TBC	Stopbank overtopping	1% AEP	To increase resilience of HWWTP headworks in case of stopbank overtopping.	MDC	TBC	\$50,000	Capital funding TBC
59, 60 & 64	Common methods								



Homebush Waste Water Treatment Plant

Waingawa to Gladstone - Reach 6

Character

Downstream of the confluence of the Waingawa River, the Ruamāhanga River corridor increases in width and continues in a broad semi-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 stopbanks established along the eastern river margin.

Kev characteristics

Increasingly semi-braided form where waters of the Waingawa and Ruamāhanga Rivers combine

Stopbanks enclosing remnant native and willow planting

Values

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

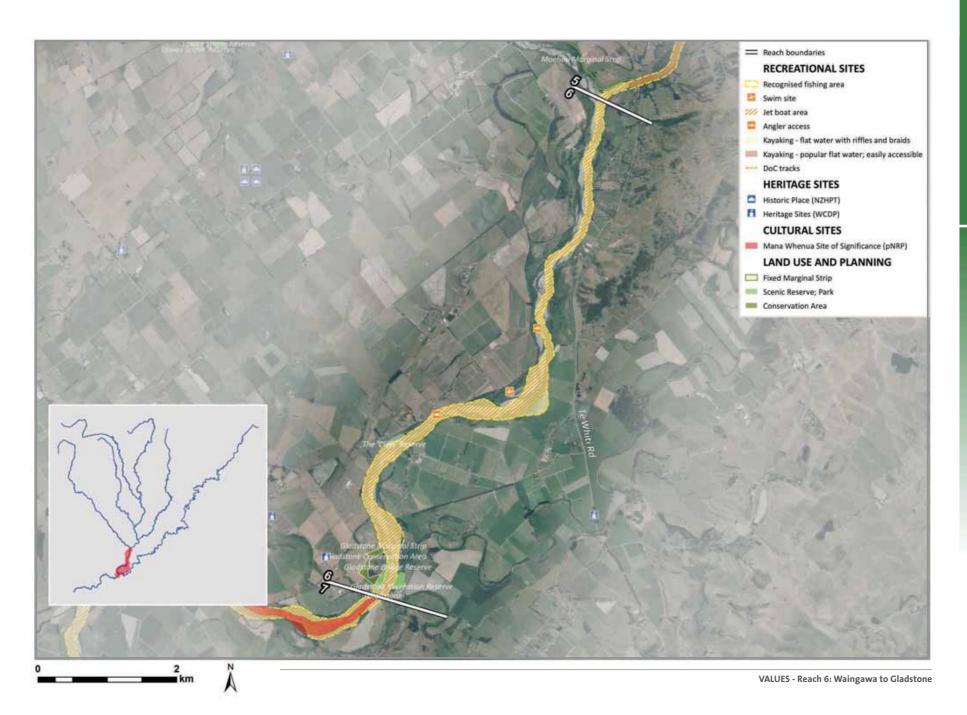
Kayaking and fishing are popular along this reach, taking advantage of the pools, riffles and runs which occur. Jet boating access occurs in this reach, which is a popular area valued for having a semi-braided form which frequently changes course and offers new opportunities to 'read' a different course 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 occur along this reach including wāhi tapu associated with the mixing of waters from different rivers, a historic house site and a historic spring. Gladstone Inn is also a heritage site identified in the WCDP to the east of Gladstone Bridge.

- This FMP will shift the focus of river maintenance towards more intensive implementation of vegetated buffers.
 The design buffers will be allowed to erode when and where appropriate. This method will replace previous work practices of immediately responding to erosion issues with machinery in the channel.
- This FMP will address the issues associated with scheme stopbanks and increase river enhancement works.
- Protect 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 and the Waingawa confluence.
- 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.

LANDSCAPE	E VALUES	- RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
LANDSCAPE	SCENIC	VALUES	VALUES	VALUES	PLANNING	VALUES
MODIFICATION	VALUE	VALUES	VALUES	VALUES	PLANNING	VALUES
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	Ruamāhanga River Terrace (RAP), Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds

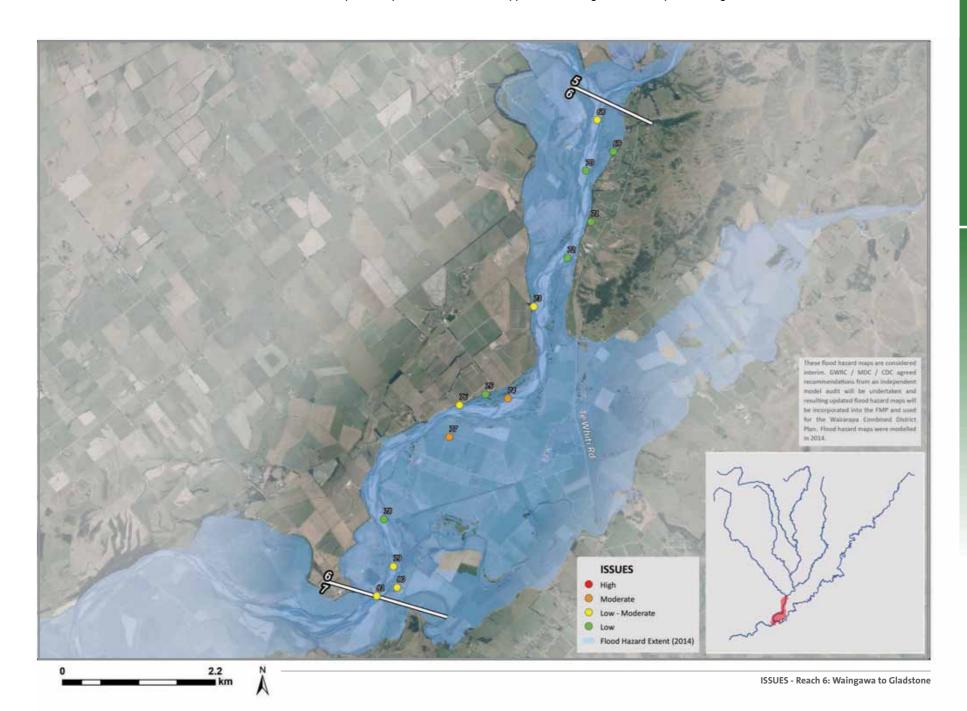


Waingawa to Gladstone - Reach 6

Flood and erosion issues

A total of 14 flood and erosion issues are identified along this reach. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RISK LEVEL	DESCRIPTION	
мот	Ruamāhanga River Terrace RAP site [69] The RAP site sits on the edge of the 1% AEP flood extent and within the erosion study area. Channel alignment [70] The channel through this area is naturally wider than the design channel alignment. Houses [71] Several houses are located within the erosion study area; however, they sit on a relatively firm terrace which is resistant to erosion effects. Channel alignment [72] The channel in this area tends towards being wider than the design channel. This creates challenging management issues, and puts pressures on the buffer on both banks of the river.	Channel alignment [78] The buffer widths upstream of the confluence with the Taueru are too narrow and have created ongoing management concerns. Fish habitat [75] 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 are currently well protected within a buffer.
LOW TO MODERATE	Waingawa and Ruamāhanga confluence [68] Unstable flows caused by the meeting and mixing of the Waingawa and Ruamāhanga Rivers makes the confluence area a challenging location to manage. Gravel deposition also needs management. Frost protection water intake [73] The water intake is threatened by ongoing erosion effects. The landowner has provided some of their own erosion protection to protect the structure. Dakins Road [76] Erosion affecting the end section of Dakins Road, near Cottier Estate has been addressed in the 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.	Fish passage [79] The confluence area of the Ruamāhanga and Taueru Rivers is important for fish passage which is prone to being disrupted by natural or artificial sediment/gravel movements. Gladstone complex [80] 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 and has a known history of flooding. There is no known history of erosion in this area. Gladstone Bridge [81] 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.
MODERATE	River alignment [74] The channel needs ongoing and frequent management. Failure to do this means the river spills extra water onto Te Whiti flats and increases the risk of the Te Whiti stopbank overtopping.	Te Whiti stopbank [77] 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. It was reported that this stopbank was overtopped in a 20% AEP event in 2009/2010.
HIGH		



Waingawa to Gladstone - Reach 6

Response

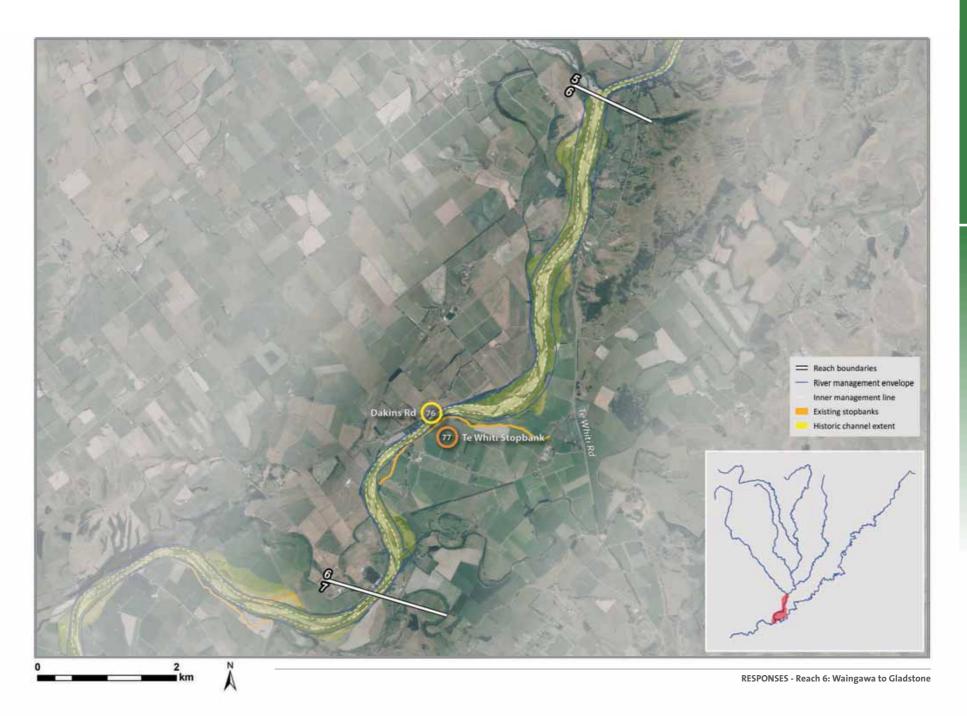
Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID SITE		TYPE OF RESPONSE	MEASURES	LEVEL OF SERV	ICE (AEP)	RESPONSIBILIT	Υ	PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
RESPONSES	77	Te Whiti stopbank	River management	Realign Te Whiti stopbank to move it outside of the river management envelopes.	10%		GWRC		Medium
SPECIFICE	76	Dakins Road	Emergency management	Local residents to prepare emergency evacuation plan in event of Dakins Road erosion occurring. Alternate access route to be identified (i.e. a farm track). A policy may be developed to address freedom camping on the site.		>1%	CDC	WREMO	Medium
НОВ		Entire reach	River management	River management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers					
10N MEI		Entire reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/retirement of assets, strategic land purchase	_				
COMIN		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	_				
		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	_				
					_				

Stopbank Summary

ISSUE ID	NAME	CURRENT PURPOSE		LENGTH INSIDE BUFFER ZONE (M)	RATING (2016) (GOOD1/2/3/4/5 POOR)	CRITICALITY	BENEFITING WHOM? (PRIVATE INDIVIDUAL, PRIVATE MULTIPLE, PUBLIC, OTHER)	LEVEL OF PROTECTION (AEP)	OTHER ISSUES	FMP DIRECTION	FMP PRIORITY
70	Te Whiti	Provides a level of flood protection to residential property and agricultural land and public road	3,000	220	3	Medium	Private multiple/public road	20% to 5% (varies)		Continue existing asset management policy. When realigning, try to achieve more consistent level of service	



Gladstone to Kokotau Bridge – Reach 7

Character

To the south of Gladstone Bridge, this reach forms a threaded single channel within a semi-enclosed farmed valley, which extends between Tiffen Hill and the Eastern Wairarapa Hills. The Gladstone cliffs form a prominent backdrop along the eastern banks of this reach before the river swings west towards the base of Tiffen Hill. Willow planting has been used along much of the river margin, with pockets of regenerating indigenous vegetation also established along the base of Tiffen Hill.

Key characteristics

Semi-enclosed valley form to the east of Tiffen Hill

Proximity between river and Gladstone Cliffs

Mix of willow planting, gorse or broom shrubland and regenerating indigenous forest

Values

This reach flows through rural land used for primary production and predominantly established in pasture grassland. Some willow planting has been established along the margins of the river in association with stopbanks north of Tiffen Hill. More natural patterns of regenerating indigenous forest are also established near the toe of Tiffen Hill. This results in a medium level of landscape modification overall and a medium / high level of scenic value.

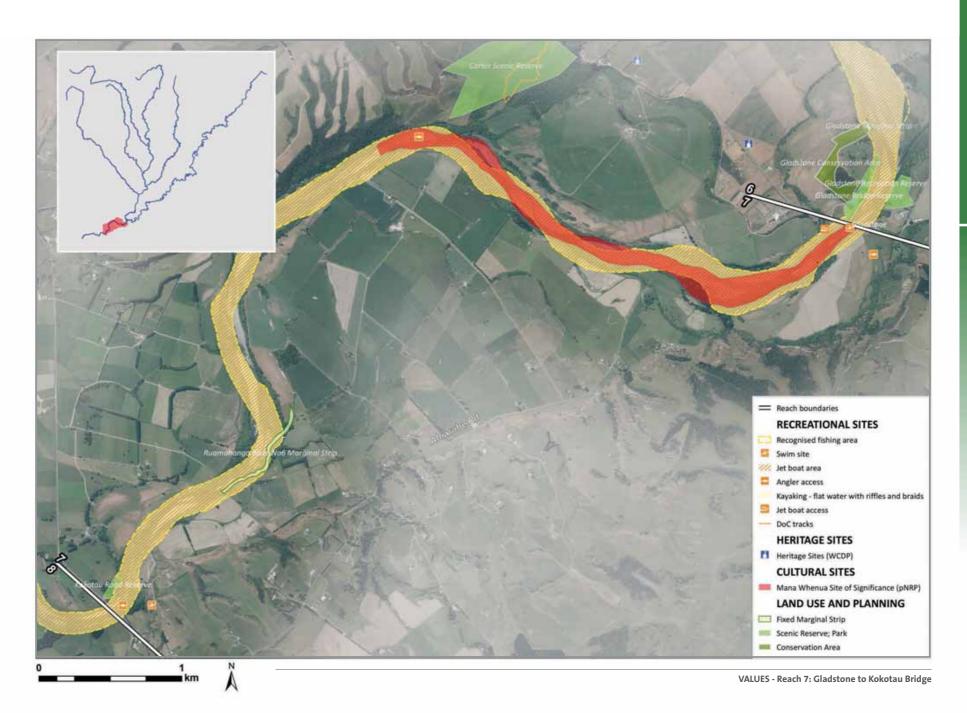
Kayaking is popular in this area on account of the flat water pools, runs and riffles which occur. This environment is also popular for fishing, including rainbow trout and perch. Jet boating continues along this reach from access points located at both Gladstone and Kokotau Bridges. Swimming access is also available from picnic areas adjoining these road bridges, with recreation access recently formalised at Carters Reserve.

Terrestrial habitats with ecological value identified in this area include areas of fenced and unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefield, boulderfield, natural wetlands and ponds.

Several cultural sites occur along this reach including a marae, a historic pā site, urupā sites, Parakuiti, a taniwha lair and associations with mahinga kai.

- This FMP will shift the focus of river maintenance towards more intensive implementation of vegetated buffers.
 The design buffers will be allowed to erode when and where appropriate. This method will replace previous work practices of immediately responding to erosion issues with machinery in the channel.
- This FMP will address the issues associated with scheme stopbanks and increase river enhancement works.
- · Improve the awareness and facilitate the use of Carter Reserve access.

LANDSCA LANDSCAPE MODIFICATION	SCENIC VALUE	RECREATION VALUES	HERITAGE VALUES	CULTURAL VALUES	LAND USE AND PLANNING	ECOLOGICAL VALUES
Medium	Medium / High	Angler access, fishing, kayaking, swimming, Gladstone Track (DoC)	-	Mana whenua Sites of Significance (pNRP) - Marae, historic på site, urupå sites, mahinga kai, significant ancestral place, wähi tīpuna; water spirit and guardian, taniwha; water utilised for healing, wai ora	Rural (Primary Production), Rural (Special), Road, River, Flood Protection and Mitigation	Fenced indigenous forest, Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds

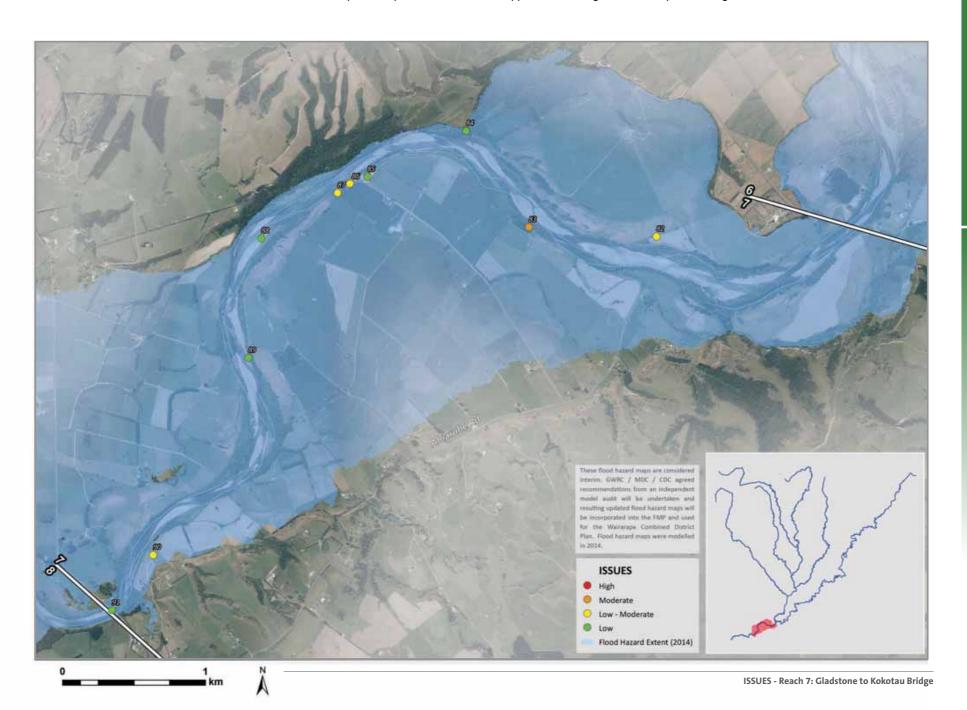


Gladstone to Kokotau Bridge – Reach 7

Flood and erosion issues

A total of 10 flood and erosion issues have been identified along this reach. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RISK LEVEL	DESCRIPTION	
пом	Carter Reserve river access [84] An easement and river access have been recently created here. Possibility that lack of use due to poor awareness may lead to maintenance issues of a community facility. Ahiaruhe gravel extraction site [85] Recognised gravel extraction site that is proposed to be used in the future. Kokotau Bridge [91] The Kokotau Bridge abutments sit within modelled flood extent and the erosion study area. No currently managed issues exist.	Channel alignment [89] Channel naturally widens in this area, this takes the channel outside of the design channel alignment. Channel alignment [88] Buffer width on right bank of river is very narrow, and on left bank is very wide. Current channel alignment does not match these alignments.
LOW TO MODERATE	Ruamāhanga stopbank [82] This stopbank protects farmland. It is of a very poor standard and overgrown with trees making it highly susceptible to failure. Farm buildings [86] Farm utility buildings are located within erosion study area and 1% AEP flood extent. No currently managed issues exist.	Channel alignment [87] The channel alignment in this area narrows. This creates both upstream and downstream erosion effects that are hard to manage effectively. Outbuildings [90] Outbuildings are located within erosion study area and 1% AEP flood extent. No currently managed issues exist.
MODERATE	Ahiaruhe stopbank [83] This stopbank protects farmland against small more frequent flood events. It sits within the erosion study area and close to the river. It is full of trees and therefore at high risk of failure.	
HIGH		



Gladstone to Kokotau Bridge – Reach 7

Response

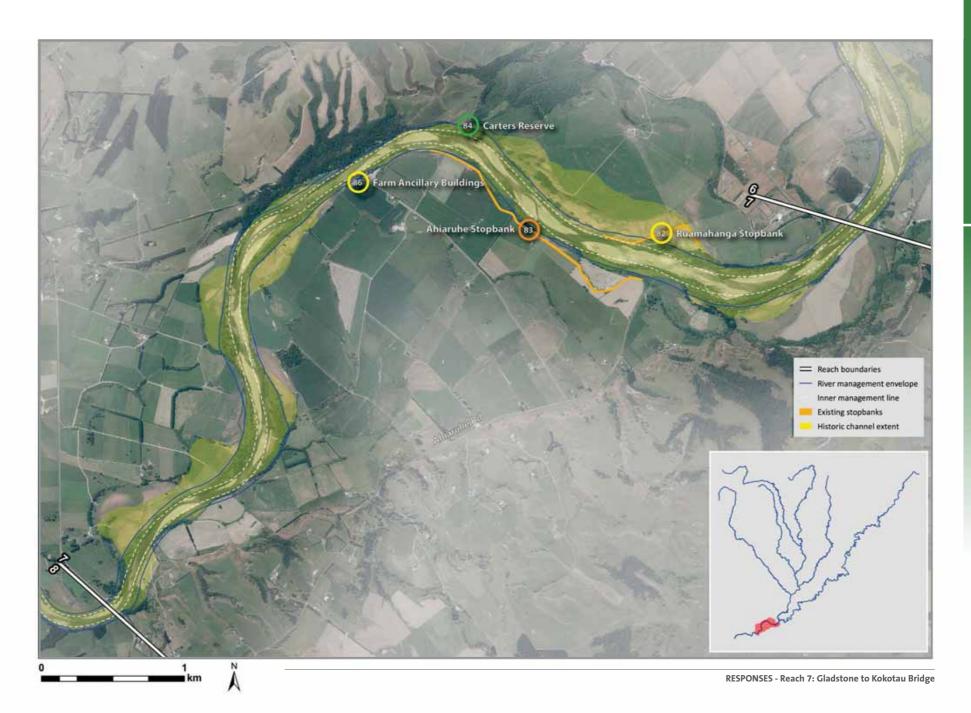
Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES	LEVEL OF SERVI	CE (AEP)	RESPONSIBILITY		PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
	82	Ruamāhanga stopbank	River management	Retire sections of the stopbank that sit within the buffer areas of the river management envelopes. Rebuild the retired section of stopbank outside of buffer management envelope.			GWRC	Landowners	Low
NSES	83	Ahiaruhe stopbank	River management	Retire sections of the stopbank that sit within the buffer areas of the river management envelopes. Rebuild the retired section of stopbank outside of buffer management envelope. Define service level and criticality.	10%		GWRC	Landowners	Low
SPECIFIC RESPONSE	84	Carters Reserve	River management	Continue to support the Carters Reserve Care Group. Provide assistance with maintaining access track, planting activities and encourage the use of the area. Use Carters Reserve as a hub from which to expand mixed vegetative planting.			Community	GWRC	Medium
	86	Farm ancillary buildings	Emergency management	Provide information to property owners regarding potential erosion and flood risks to these structures. Provide advice and support on request.			GWRC	Landowners	Medium
		Ahiaruhe Settlement road homes	Emergency management	Provide information regarding flood risk to home owners. WREMO to contact home owners and discuss lifelines and flood risk issues and assist with development of home evacuation plans.		>1%	WREMO	Community	Medium
ETHODS		Entire reach	River management	River management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers					
MON		Entire reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/retirement of assets, strategic land purchase	-				
M		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	_				
<u> </u>		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	-				

Stopbank Summary

ISSUE ID	NAME	CURRENT PURPOSE	LENGTH OF STOPBANK (M)	LENGTH INSIDE BUFFER ZONE (M)	CONDITION RATING (2016) (GOOD1/2/3/4/5 POOR)	CRITICALITY	BENEFITING WHOM? (PRIVATE INDIVIDUAL, PRIVATE MULTIPLE, PUBLIC, OTHER)	LEVEL OF PROTECTION (AEP)	OTHER ISSUES	FMP DIRECTION	FMP PRIORITY
83	Ahiaruhe	Provides limited, local protection from relatively small events	2,000	250	Range 2 - 4	Low	Several agricultural landowners	<10%	Trees in stopbank	Initial FMP implementation; continue existing asset management. Long-term implementation; explore legacy asset partial abandonment/isolated works.	Low
82	Ruamāhanga	Provides limited, local protection from relatively small events	800	330	4	Low	Individual landowner	20% to 1% (varies)		Initial FMP implementation; continue existing asset management. Long-term implementation; explore legacy asset partial abandonment/isolated works.	Low



Kokotau Bridge to Waiohine - Reach 8

Character

Below Kokotau Road Bridge the Ruamāhanga River re-enters the wider Masterton Plains to the south and flows around the northern toe of Pukengaki. A single thread channel along a contained gravel corridor continues through this reach. The majority of this river reach is enclosed by continuous bands of willows established along the river margin, with isolated totara extending into adjoining farmland from the river margins in some areas.

Key characteristics

Single channel along contained gravel corridor within wider Masterton Plains

Predominately willow-lined margins

Isolated totara in some areas

Values

This reach continues through rural land used for primary production and predominantly established in pasture grassland. Willow and some areas of pine form continuous bands along the river corridor in association with limited stopbanks and rock groynes. Pockets of remnant totara also extend into adjoining farmland. Overall the river is identified as having a medium level of landscape modification and a medium level of scenic value.

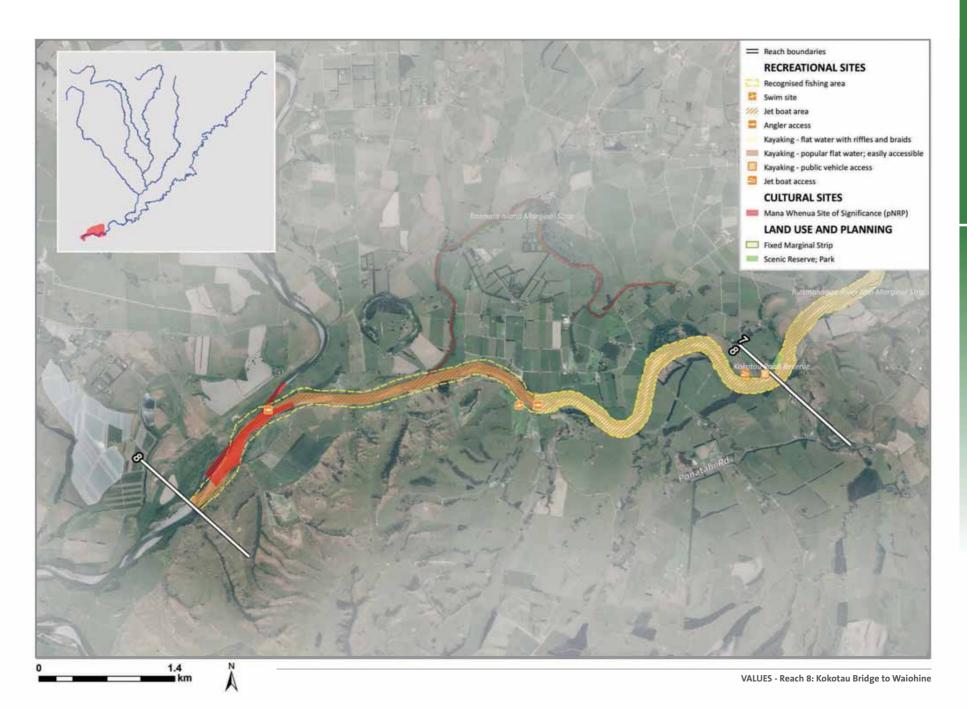
Fishing and kayaking occur in this area taking advantage of the flat water with pools, riffles and runs which occur. Angling for rainbow trout and perch is popular. Jet boating continues south along this reach from the boating access point located at Kokotau Bridge. Swimming sites are also accessed from picnic areas at Kokotau Road and Forman Jury Road.

Terrestrial habitats with ecological value which continue along this reach include areas of unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefield, boulderfield, natural wetlands and ponds.

Several cultural sites occur, including the mixing of mauri at the confluence of the Waiohine River.

- This FMP will shift the focus of river maintenance towards more intensive implementation of vegetated buffers.
 The design buffers will be allowed to erode when and where appropriate. This method will replace previous work practices of immediately responding to erosion issues with machinery in the channel.
- · This FMP will address the issues associated with scheme stopbanks and increase river enhancement works.
- Work with the asset owner of Kokotau Road Bridge to protect and maintain its operation.
- Ensure that decisions regarding flood risk management take into consideration the outcomes of the Waiohine River Plan.

LANDSCAPE MODIFICATION	SCENIC VALUE	RECREATION VALUES	HERITAGE VALUES	CULTURAL VALUES	LAND USE AND PLANNING	ECOLOGICAL VALUES
Medium	Medium	Angler access, kayak access, jet boat access, fishing, jet boating, kayaking and swimming	-	Mana whenua Sites of Significance (pNRP) - significant ancestral place, wahi tipuna; water utilised for healing, wai ora; source of medicinal plants, puna rongoa; source of weaving material, puna raranga; mahinga kai; eel harvesting place, mahinga tuna	Rural (Primary Production), Rural (Special), Road, River, Flood Protection and Mittigation	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds

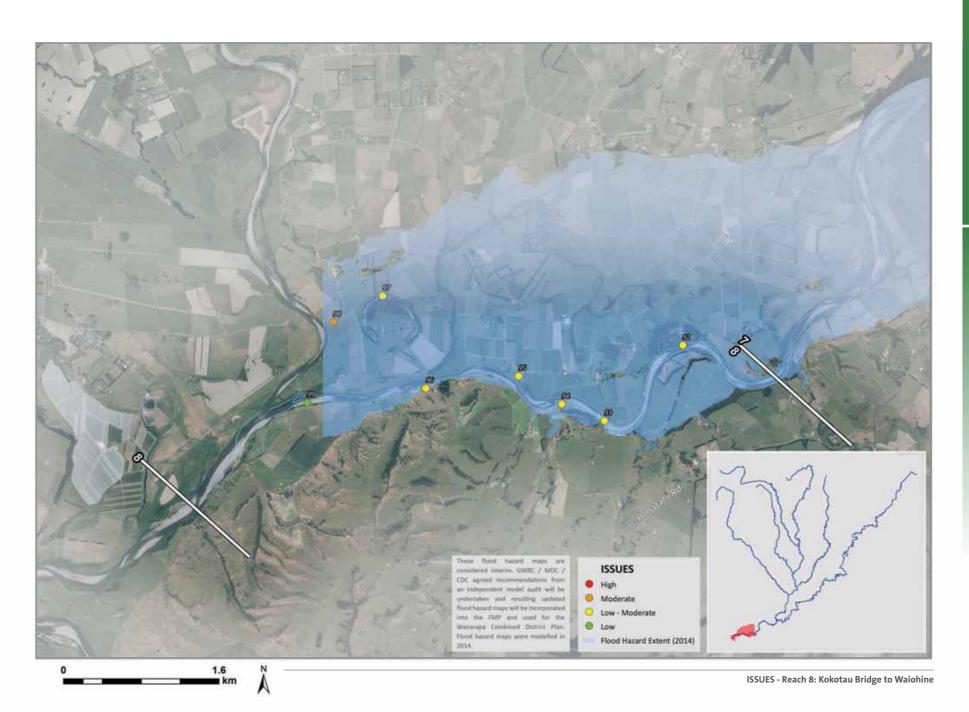


Kokotau Bridge to Waiohine – Reach 8

Flood and erosion issues

Eight flood and erosion issues have been identified along this reach. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

ISK EVEL	DESCRIPTION	
пом	Ruamāhanga River and Waiohine River Confluence [99] Only a small amount of work is required in the area adjacent to the confluence. There are few problems to manage, however scheme members are concerned about their level of contribution versus the benefit received as a result.	
LOW TO MODERATE	Stopbank [92] A small stopbank with a low protection level, the stopbank sits within the erosion study area and is within the current erosion management buffer. Channel alignment [93] The buffers are very narrow through this area. Channel alignment [94] The design channel alignment in this location is difficult to maintain and it has been recommended that the design lines may need to be changed.	Farm buildings [95] A number of farm structures sit within the erosion study area, they are currently on the edge of the buffer, but it is a very thin strip of trees at this location. House [96] Several buildings and a house sit within the erosion study area, and very close to the edge of the buffer for the river. The buffer is very thin at this location. Taumata Lagoon [97] Taumata Lagoon is a known fish habitat site and sits within the modelled 1% AEP extent.
MODERATE	Herrick stopbank [98] The Herrick stopbank is modelled as outflanked by the 1% AEP flood event from the Ruamähanga models. The stopbank is part of the Waiohine Flood Protection scheme.	
HIGH		



Kokotau Bridge to Waiohine – Reach 8

Response

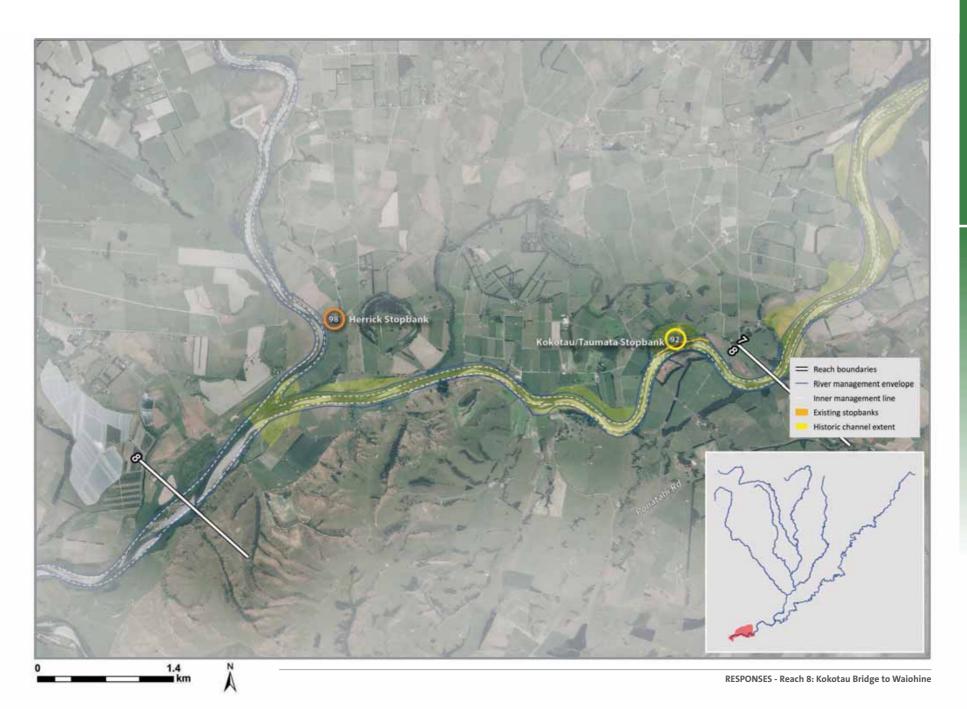
Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

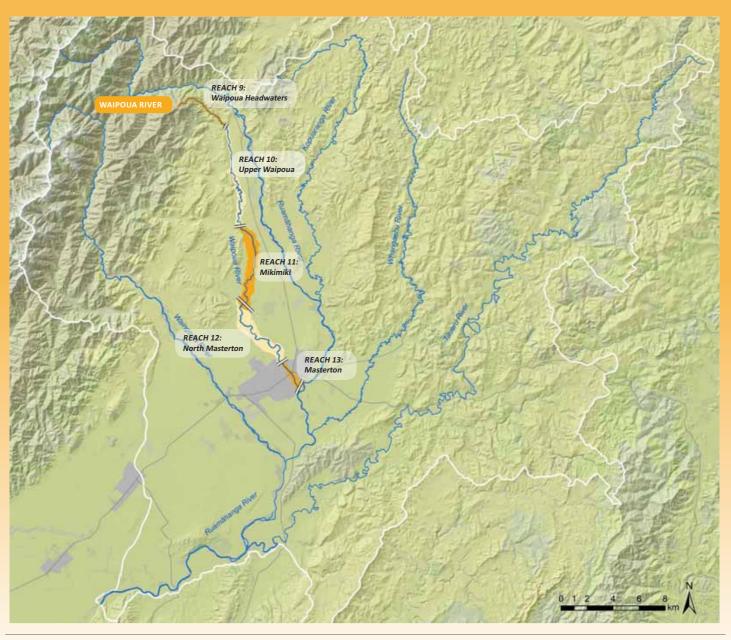
Reach Specific Responses

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES	LEVEL OF SERV	ICE (AEP)	RESPONSIBILIT	Y	PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
SPECIFIC RESPONSE	92	Kokotau/ Taumata stopbank	River management	Retire the stopbank and remove it from asset register	10%		GWRC	Landowners	Medium
	98	Herrick stopbank	River management	See Waiohine River Plan					
соммои метнорs		Entire reach	n River management	River management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers					
		Entire reach Planning and policy		Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/retirement of assets, strategic land purchase					
		Entire reach Emergency management		Emergency management planning, community resilience, flood forecasting and warning system	_				
		Entire reach	n Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	_				

Stopbank Summary

ISSUE ID	NAME	CURRENT PURPOSE		LENGTH INSIDE BUFFER ZONE (M)	CONDITION RATING (2016) (GOOD1/2/3/4/5 POOR)	CRITICALITY	BENEFITING WHOM? (PRIVATE INDIVIDUAL, PRIVATE MULTIPLE, PUBLIC, OTHER)	LEVEL OF PROTECTION (AEP)	OTHER ISSUES	FMP DIRECTION	FMP PRIORITY
92	Kokotau/ Taumata	Historically constructed to divert water round new channel alignment. Meander cut-off c.1950s. More aptly described as a training bank.	560	560	4	Low	Private individual	20-10%	bank is no more than	Retire stopbank, no further scheme maintenance, remove from asset register.	Low





7. Waipoua River

The Waipoua River has a catchment area of 149km², with the main river channel from its headwaters to its confluence with the Ruamāhanga River reaching 30km in length. The headwaters originate from the Blue Range of the Tararuas, flowing down through steep-sided gorges fringed by native forest. A large part of the catchment is within the lower foothills of the range. The river has three major tributaries: the Kiriwhakapapa Stream, the Mikimiki Stream, and the Wakamoekau Creek. These streams join the river as it flows across the Wairarapa Plain, before passing through the Masterton urban area to its confluence with the Ruamāhanga River at Te Ore Ore.

The current Waipoua River Management Scheme covers an 18km length from Mikimiki Bridge to the Ruamāhanga confluence. The river channel is characterised as a steep gravel phase river with a relatively stable and narrow single thread channel. The Mikimiki reach and the urban Masterton reach have been straightened, steepened and shortened.

The naming of the Waipoua River is attributed to Haunui-a-Nanaia testing its depth with a stick prior to crossing, with 'wai' meaning water, and 'poua' meaning to plunge a stick in. The banks of the Waipoua housed one of the first Kainga visited by Europeans in the region, the precise location of which is not known.

The siting of Kaikokirikiri Pā close to both the Waipoua and Ruamāhanga Rivers provides an indication that there are cultural values associated with the area. In *Tawera to TeWhiti* (2005), Potangaroa and Rimene refer to Kaikokirikiri as the main pā of the Masterton area, and also note that the Waipoua used to flow at the foot of the pā. The proximity of the pā to the Waipoua River implies that the wider surrounding environment would have been regularly frequented and used for a range of cultural practices.

The Waipoua floodplain soils are formed from greywacke alluvial parent materials from the Tararua Ranges.

General Issues

The Waipoua is a river of multiple characters. In large flood events, it can be devastating. The river channel itself is fairly entrenched, but of relatively small capacity — only smaller floods can be contained without spilling water out on the floodplain in the rural areas. The erosion risk posed by the Waipoua River flows is smaller than for the other gravel rivers in the project area.

Of all rivers in the Wairarapa, flooding of the Waipoua has the potential to affect most people. The Waipoua River has been modelled as flooding north Masterton in a large event including climate change impacts. Work will be undertaken to assess and reduce the vulnerability to flooding. Updates to modelling for the Waipoua River will be reflected in the Wairarapa Combined District Plan maps.

General issues relating to the Waipoua River include:

- Degradation/aggradation
- Inconsistency in community acceptance of current erosion management practices
- The value of the rivers for recreation and habitat conflicts at times with river management works (the urban Masterton reach of the Waipoua River is heavily used for water-based and riverside recreation)

Waipoua Headwaters – Reach 9

Character

The Waipoua headwaters form from a small stream which flows from an enclosed steep native bush clad gully within the Tararua Forest Park and through the adjoining largely inaccessible grazed foothills. Patterns of vegetation typically reflect changes in grazing practice. Limited recreation occurs in the Tararua Ranges which adjoin this area outside the Forest Park.

Key Characteristics

Small stream in bush lined gully

solated foothills stream

Values

The Waipoua headwaters form a steep enclosed tributary stream, which flows through fenced and unfenced indigenous forest on the edge of the Tararua Forest Park, prior to extending into land used for rural primary production and predominantly established in pasture. There is a low level of landscape modification overall with medium to high scenic value.

Reach Specific Responses

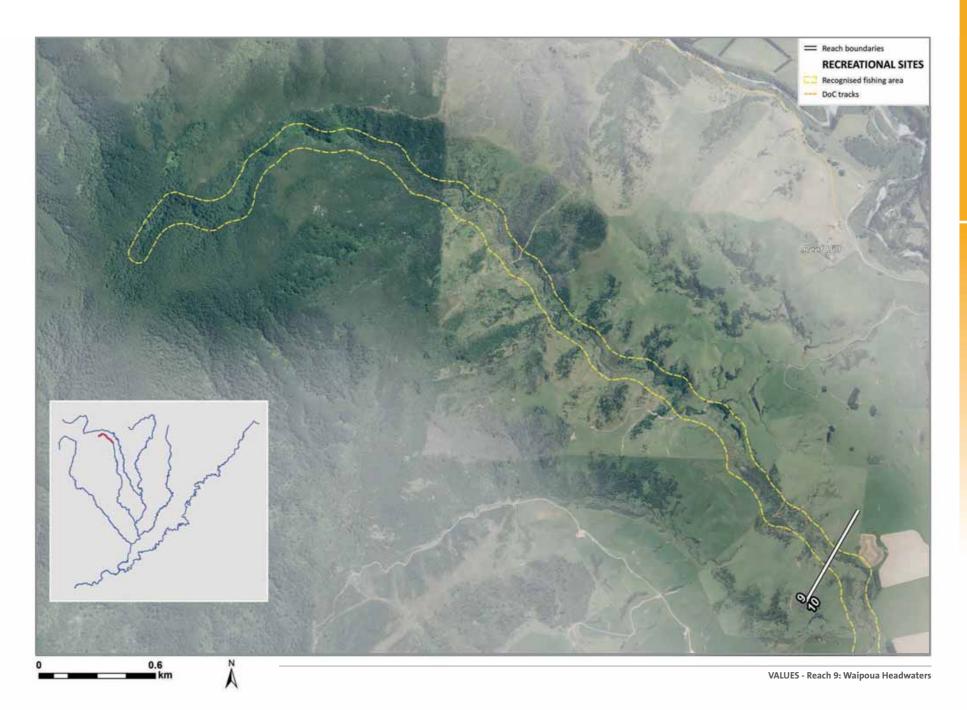
	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES
NO SO		Entire reach	River management	Isolated works support, Code of Practice
\circ		Entire reach	Planning and policy	Protection against deforestation in upper catchment
OMIN		Entire reach	Emergency management	Emergency management planning, flood forecasting and warning system
ŏΣ		Entire reach	Environmental enhancement	Community Support Officer

Key Floodplain Management Points

- Encourage continued recognition of the values and character of this reach.
- Support initiatives that aim to preserve or improve the natural values of this reach.

There is no intent to carry out any form of maintenance activity within this reach as part of this FMP. There are no specific flood and erosion issues identified for this reach.

LANDSCA	PE VALUES	RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
LANDSCAPE	SCENIC	VALUES	VALUES	VALUES	PLANNING	VALUES
MODIFICATION	VALUE	VALUES	VALUES	VALUES	FLANNING	VALUES
Low	Medium / High	Fishing	-	-	Rural (Primary Production), Road	Fenced indigenous forest, Unfenced indigenous forest



Upper Waipoua - Reach 10

Character

This reach forms a meandering stream which transitions from the foothills of the Tararua Ranges onto the western edge of the Upper Wairarapa Plains to the Mikimiki Bridge. As the Waipoua flows south, regenerating native vegetation gradually recedes as grazing becomes prevalent along the river margins. River terraces and cliffs are evident in some

In the lower parts of this reach, areas of planting tend to be separated from the river margins, generating linear shelter belts along paddock boundaries. Wetlands separated from the main river are also common throughout this area.

Key Characteristics

Transition from a small stream in vegetated foothills into a small river along grazed valley floo

Localised cliffs, river terraces and rock banks

Linear shelter planting separated from meandering river course

Values

This reach continues through rural land used for primary production and predominantly established pasture. The course of the river retains a meandering form with gravel beaches, pools and riffles, and flows through rolling farmland. It has a low level of landscape modification overall and medium to high scenic value.

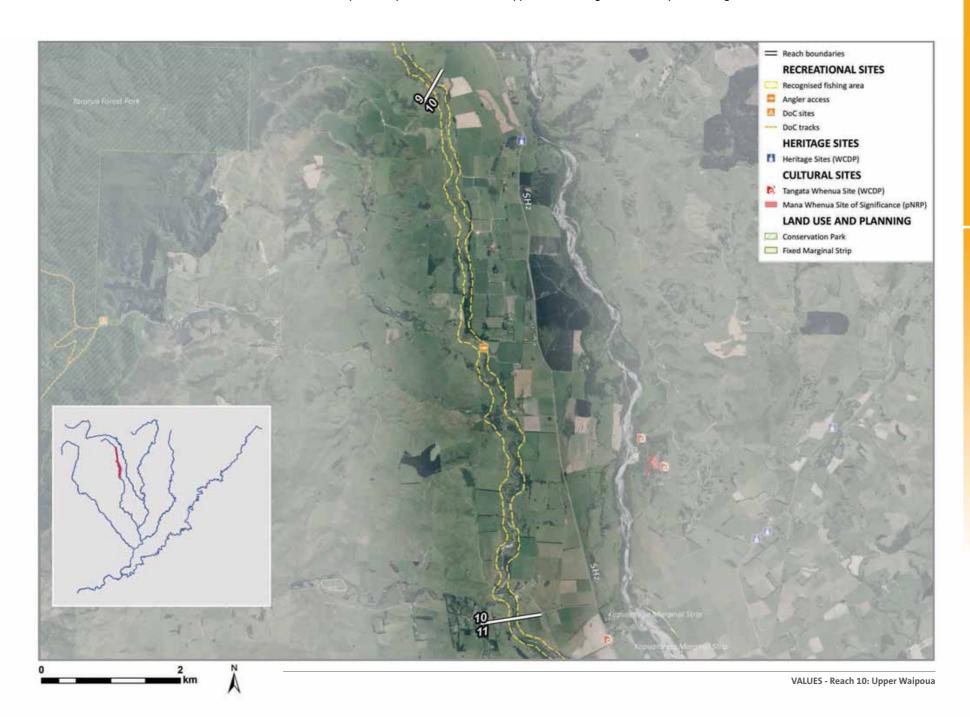
Good early season fishing is identified along this reach of river, with access obtained from Kiriwhakapapa and Mikimiki Bridges and by negotiation with private land owners.

Terrestrial habitats with ecological value identified along this reach include areas of unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefield, boulderfield, natural wetlands and ponds.

Key Floodplain Management Points

· Apply isolated works policy to this reach, since no river scheme is established in this reach.

LANDSCAPE	SCENIC SCENIC	RECREATION VALUES	HERITAGE VALUES	CULTURAL VALUES	LAND USE AND PLANNING	ECOLOGICAL VALUES
MODIFICATION		Andrews Calina			Down I (Daine and David and David	Hafe and bodies are for a Alberta with bodies are for a bodies and constitution
Low	Medium / High	Angler access, fishing	- -	-	Rural (Primary Production), Rural (Special), Road, River	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds

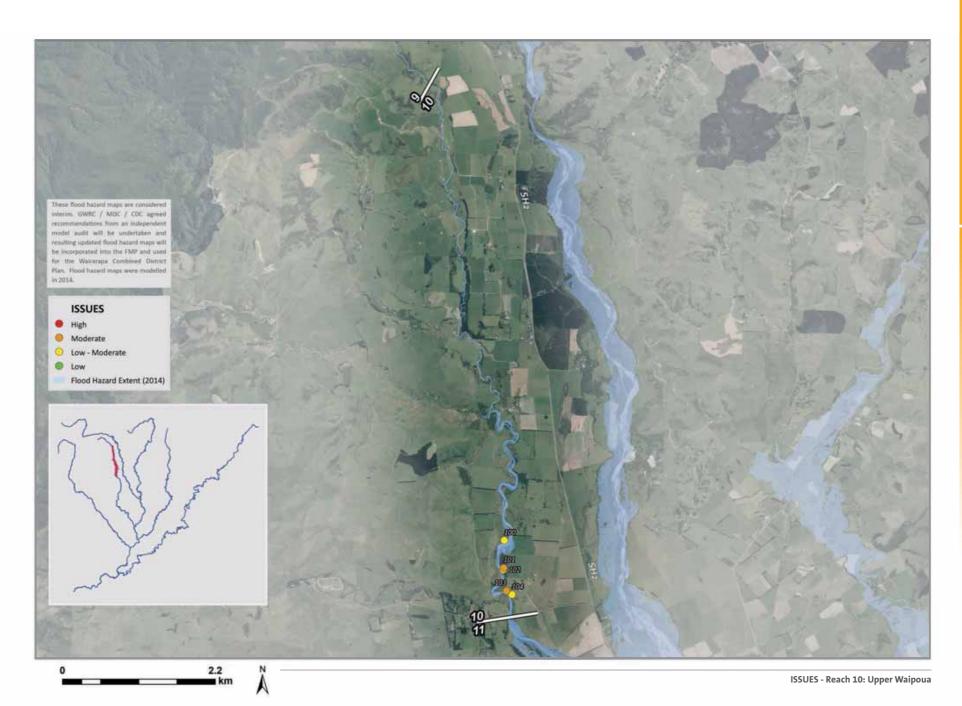


Upper Waipoua – Reach 10

Flood and erosion issues

Five flood and erosion issues have been identified along this reach. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RISK	DESCRIPTION
NO.	
10W TO MODERATE	Channel alignment [100] The channel alignment near the lower end of this reach is significantly outside the recommended design fairway. No management is currently carried out by GWRC in this area, and it is maintained privately. Design channel alignment [102] Design channel alignments textend beyond the upstream boundary of the scheme; however these are not used for any purpose. Massey Farm sheds and bridge [104] Several farm buildings and an access bridge sit within the erosion study area. No currently managed issues exist.
MODERATE	Scheme boundary extent [101] The scheme used to extend further upstream than Mikimiki Bridge. The scheme was shortened, and upstream management taken over by a private organisation. Massey Farms water irrigation intake [103] The intake for the irrigation systems for Massey Farms sits within the erosion study area. No known issues exist with this intake.
HEH	

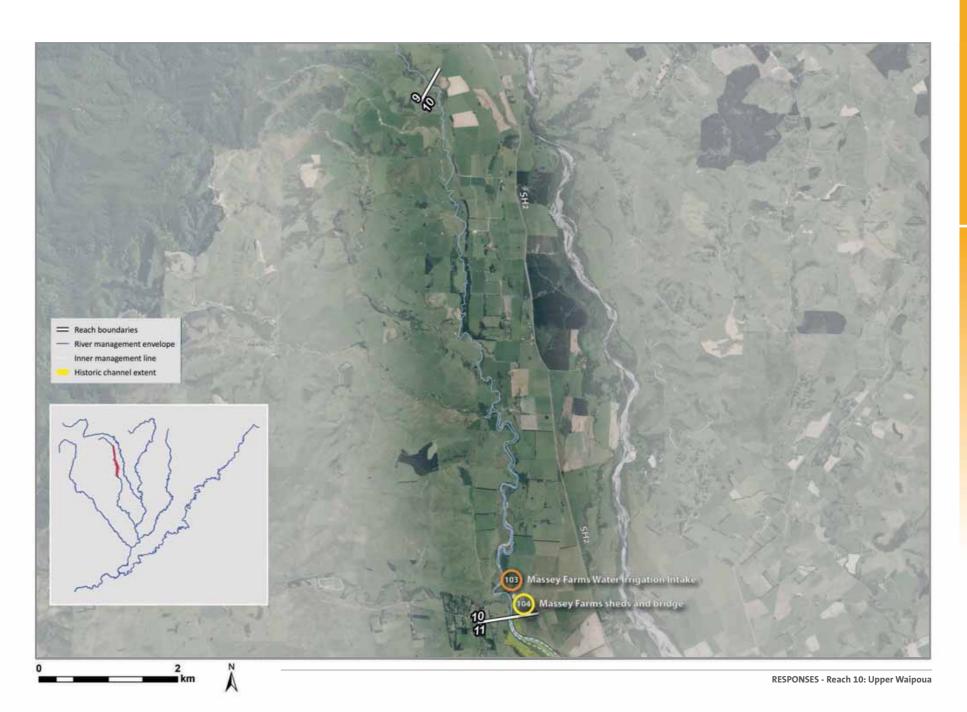


Upper Waipoua – Reach 10

Response

Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES	LEVEL OF SERV	ICE (AEP)	RESPONSIBILITY		PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
SPECIFIC RESPONSES	104	Massey Farms sheds and bridge	River management	Communicate the potential risk to landowner, continue monitoring the site			Landowner	GRWC	Low
	103	Massey Farms water irrigation intake	River management	Private water takes will have low risk of damage up to a 20% AEP event. Damage to structures is more likely up to a 5% AEP event. Communicate risk to the landowner.		20%	Landowner	GRWC	Low
MMON METHODS		Entire reach	River management	River management envelope, river bed level monitoring, riparian planting of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers	_				
		Entire reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/ retirement of assets, strategic land purchase					
		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	_				
		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	_				



Mikimiki – Reach 11

Character

To the south of Mikimiki Bridge the river straightens along the toe of the Tararua Foothills. Along this reach, much of the river follows a single channel across bedrock and gravel. The margins of the river are typically shaded by steep banks accommodating narrow bands of mixed willow, poplar and kowhai. Scattered remnant totara are also common throughout adjoining areas of farmland.

Key characteristics

Single straightened thread along toe of Tararua Ranges

Steep shaded river banks with continuous margins of mixed willow, poplar and kowhai

Scattered remnant totara dispersed through adjoining farmland

Values

This reach continues through rural land, which is predominantly pasture. Some beach re-contouring is carried out, and mixed exotic and native planting extends along the river margin, which has been fenced off from adjoining areas of farmland. This has resulted in a medium level of landscape modification overall whilst retaining medium to high scenic values.

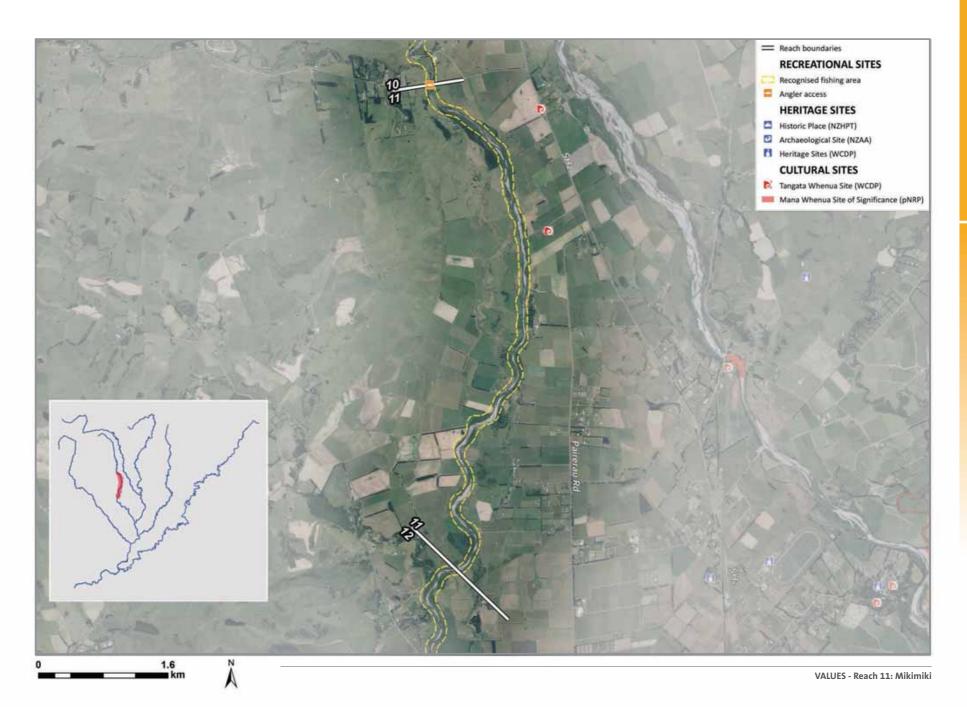
Good early season fishing continues along this reach of river, with access obtained from Mikimiki Bridge and in other areas by negotiation with private land owners.

Terrestrial habitats with identified ecological value along this reach include areas of fenced indigenous forest, unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefield, boulderfield, natural wetlands and ponds.

There are a limited number of specific cultural sites identified along this reach, which include an urupā.

- River maintenance activities will involve more works to maintain stopbank condition, river enhancement
 opportunities will be better explored and supported, and there will be a renewed focus on buffer implementation.
- · Establishment of a better flow recorder and flood warning site.
- Work with the asset owner of Mikimiki Bridge to ensure its continued protection and operation.

LANDSCAPE VALUES		RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
LANDSCAPE MODIFICATION	SCENIC VALUE	VALUES	VALUES	VALUES	PLANNING	VALUES
Medium	Medium / High	Angler access, recognised fishing area	-	Urupā	Rural (Primary Production), Rural (Special), Road, River	Fenced indigenous forest, Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds

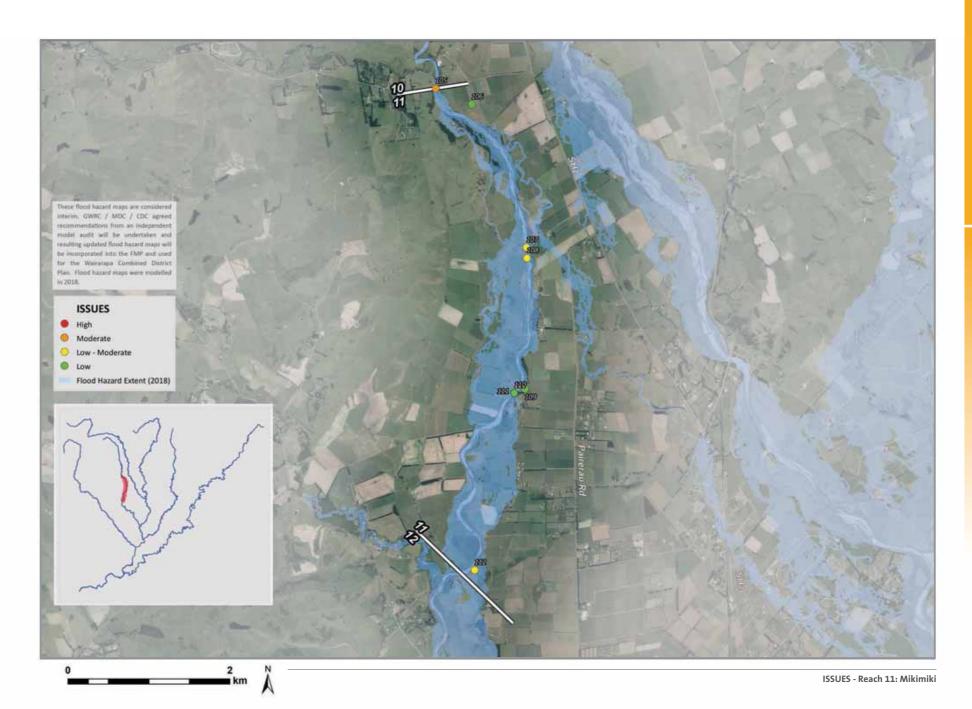


Mikimiki – Reach 11

Flood and erosion issues

A total of eight erosion and flood management issues are identified along this reach. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

	RISK EVEL	DESCRIPTION
	моп	Farm building [106] A farm building sits within the modelled 1% AEP flood extent. No currently managed issues exist. Farm building [109] A farm outbuilding is located within the 1% AEP flood extent and the erosion study area. No currently managed issues exist. Private telecom line [111] A private telecom line runs under the river bed. It is potentially susceptible to damage from erosion and machine work in this area.
	LOW TO MODERATE	Design channel alignment [107, 108] The design fairway narrows from a width of 85m to 45m. This is unusual and further investigations are required to determine if this is a suitable design channel width. Stock access / private bridge [110] A privately owned access bridge sits within the erosion study area and is potentially at risk of damage linked to bed level changes, bank erosion and large flood events. Private water intake [112] A private water intake for Watson Lake is located within the erosion study area. No currently managed issues exist.
-	MODERATE	Mikimiki Bridge [105] There is ongoing bed degradation occurring in the vicinity of the bridge. This affects the road, bridge, and water level recorder site. Work has been carried out periodically to tackle scour issues.
	HIGH	



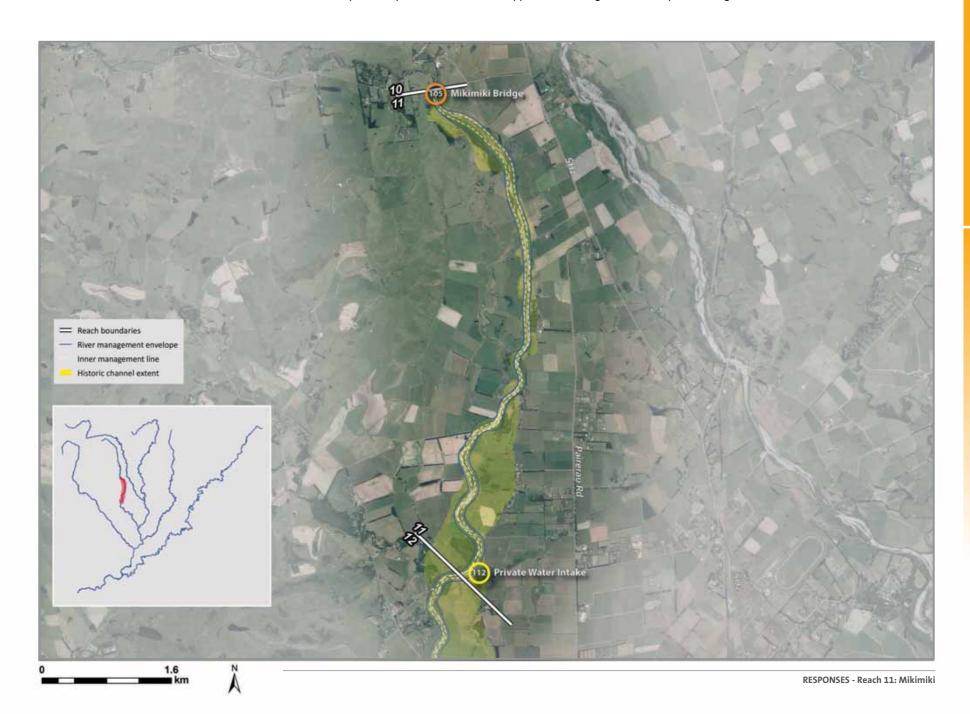
Mikimiki – Reach 11

Response

Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES	LEVEL OF SERV	ICE (AEP)	RESPONSIBILITY	1	PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
ESPONSES	105	Mikimiki Bridge	River management	Work with MDC regarding plans to replace or strengthen the bridge including stabilising the water level recorder site			MDC	GWRC	Medium
SPECIFIC RI	112	Private water intake	River management	River management envelopes will contribute to security of private water intakes. Private water takes will have low risk of damage up to a 20% AEP event. Damage to structures is more likely up to a 5% AEP event. Communicate risk to the landowner.		20%	Landowners	GWRC	Low
ТНОВЅ		Entire reach	River management	River management envelope, river bed level monitoring, riparian planting of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers	_				
ON ME		Entire reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/retirement of assets, strategic land purchase					
Σ		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	_				
8		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs					



North Masterton - Reach 12

Character

To the north of Masterton, the Waipoua River moves away from the toe of the Tararua Ranges and follows a meandering course across the Wairarapa Plains. The margins of the river reflect increasing rural lifestyle use with varied willow planting interspersed with poplar and shelterbelts. Bank modification also commences in the lower part of this reach.

(ey characteristics

Meandering single channel

Increasing rural lifestyle settlement along margins

Range of willow, shelter belt, amenity planting and hard edges along margins

Values

This reach flows through increasing rural residential settlement to the north of Masterton. Some beach re-contouring is carried out, and rock groynes have been established along the edges of the river. Willow and gorse is frequent through this area, with scattered totara also accommodated through adjoining areas of farmland. This has resulted in a medium level of landscape modification overall with medium scenic values.

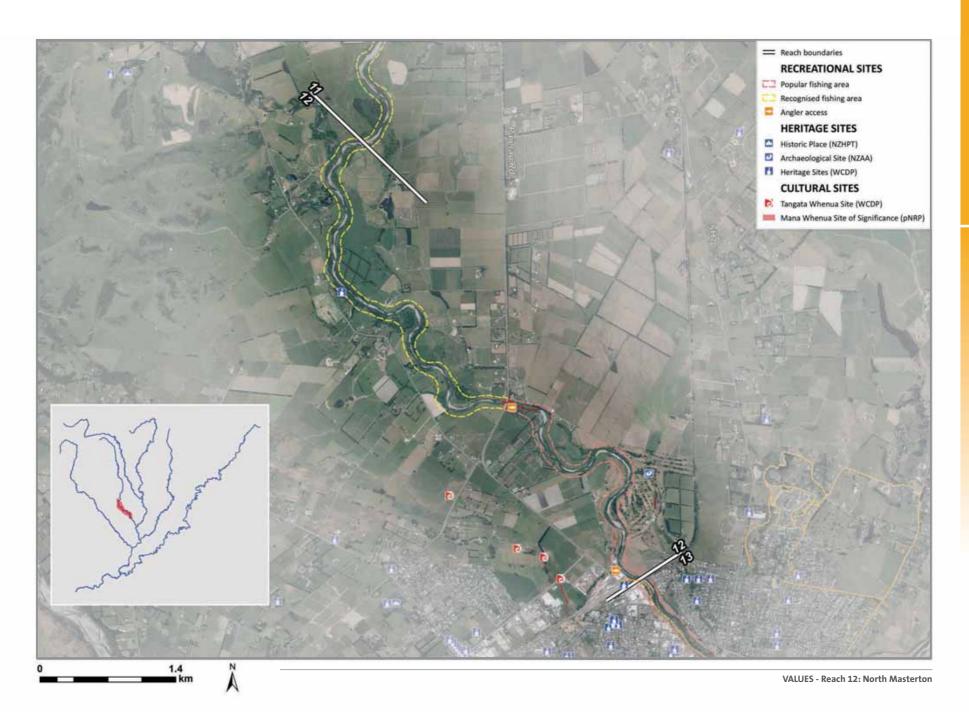
Good early season fishing continues along this reach of river, with access obtained from Paierau Road Bridge and by negotiation with private land owners. Mahunga Golf Course also occupies the true left bank along this reach.

Terrestrial habitats with identified ecological values along this reach include areas of unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefield and boulderfield and natural wetlands and ponds.

There are limited cultural sites identified along this reach encompassing historic pā sites. Levin's Woolstore and Matahiwi College are also identified heritage sites within the WCDP.

- River maintenance activities will involve more works to maintain stopbank condition, river enhancement
 opportunities will be better explored and supported, and there will be a renewed focus on buffer implementation.
- · Raise the awareness of flood risks and improve the safety of Paierau Road and Matahiwi Road during large floods.
- Work with the community in the vicinity of Paierau Road and the Serpentine Stream confluence to reduce their vulnerability to flooding.
- Work with the infrastructure owners of Paierau Road Bridge and the rail bridge to ensure their continued security
 and operation.

LANDSCAPE VALUES		RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
LANDSCAPE	SCENIC	VALUES	VALUES	VALUES	PLANNING	VALUES
MODIFICATION	VALUE			***************************************		***************************************
Medium	Medium	Angler access, popular and recognised fishing areas	Levin Woolstore, Matahiwi College (WCDP)	Historic pā sites, mahinga kai (pNRP)	Rural (Primary Production), Rural (Special), Road, River, Industrial, Railway, Flood Protection and Mitigation, Intersection Improvement	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds

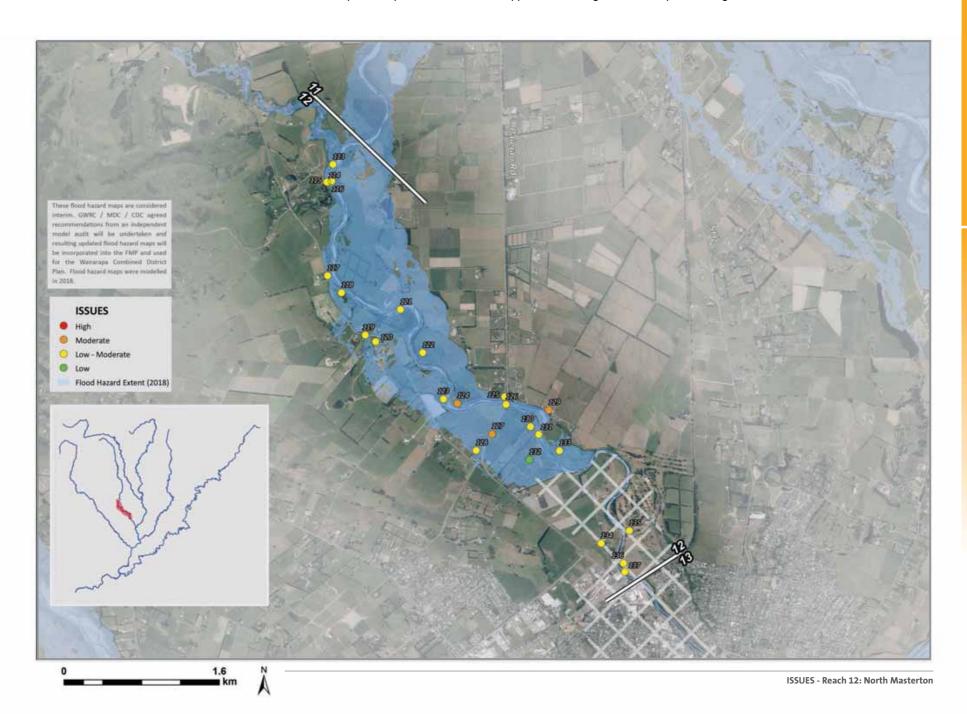


North Masterton – Reach 12

Flood and erosion issues

A total of 25 flood and erosion issues have been identified along this reach on account of its close proximity to Masterton. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RISK LEVEL	DESCRIPTION	
МОЛ	Private rock line [114] A rock line has been constructed to protect a water intake, and private property. This is maintained infrequently by GWRC flood protection. Akura nursery [132] Akura nursery floods from overland flows originating upstream of the Paierau Road Bridge.	
LOW TO MODERATE	Channel alignment [113] The buffer strip downstream of the boundary between Reach 11 (Mikimiki) and this reach has been identified as being too narrow. It is recommended that a wider buffer is established. Water intake [115] A private water intake for a lake is situated within the erosion study area. This intake has been protected by privately funded erosion protection works. Channel alignment [116] The buffer planting on the true right bank has been protected behind a private rock line. This has reduced vulnerability of this buffer area while the rock line is properly maintained. Matahiwi Road [117] A section of Matahiwi Road sits within the erosion study area and is modelled as affected by the 1% AEP flood up to a depth of 0.6m. No currently managed issues exist. Houses [118, 119, 120] Several houses are located within the erosion study area and are modelled as affected by the 1% AEP flood event. No currently managed issues exist. Stopbank proximity to river [121] The left bank stopbank sits on the edge of the active channel and within the erosion study area. There has been past consideration of relocation of the active channel away from this stopbank, and change of design fairways. Low quality stopbank [122] The stopbank is located very close to the river and is at higher risk of erosion. It contains substantial tree growth making it vulnerable to storm damage and other failure mechanisms. Serpentine confluence [123] Aggradation at the mouth of the Serpentine Stream confluence with the Waipoua is increasing risk of flooding and blockages. Houses [125] A house is located within the erosion study area. No currently managed issues exist.	Houses [128] Houses on Matahiwi/Akura Road are at risk of flooding in a modelled 1% AEP flood event. No currently managed issues exist. Paierau Road Bridge [126] The Paierau Road Bridge capacity is adding to upstream flooding extents due to its limited capacity to convey flood flows. Stopbank [130] The quality, standard, alignment and purpose of the combined flood protection works between the Serpentine Stream confluence and the vicinity of the Paierau Road Bridge are not well defined. Stopbank [131] The alignment of the stopbank on the right bank of the river downstream of the Paierau Road Bridge gradually approaches the channel, and at its downstream end is located within the erosion study area. Stopbank [133] The stopbank on the left bank of the river is within the erosion study area and has in the past required erosion protection works to protect it from erosion issues. Houses [134] Houses are located within the modelled 1% AEP flood extent. No currently managed issues exist. Mahunga Golf Course [135] The golf course is located within the modelled 1% AEP flood extent and the erosion study area. Areas of the golf course have eroded in the past. Channel narrowing [136] The river channel becomes increasingly confined as it approaches the railway bridge upstream of Masterton. The channel at the railway bridge is highly constricted, which limits the amount of flow that can pass under the bridge and into the Masterton reach. This causes modelled upstream flooding of Mahunga Golf Course and properties on the western bank of the river. Channel alignment [137] No design fairways have been created for the section of the Waipoua which flows through Masterton. This creates management challenges due to a lack of guidance for river engineers.
MODERATE	Serpentine stopbank [124] The Serpentine stopbank is of concern because while it partially protects a number of properties, the management objectives for the structure are unclear. It is also located very close to the river and within the erosion study area. Paierau Road [127] The stopbanks upstream of the Paierau Road Bridge overtop frequently, and the road subsequently floods. This is compounded by the northern approach to the Paierau Road Bridge which doesn't provide clear visibility of flood prone area to someone approaching at speed. Houses [129] Houses on the left bank are located within the erosion study area. No currently management issues exist.	
HIGH		



North Masterton – Reach 12

Response

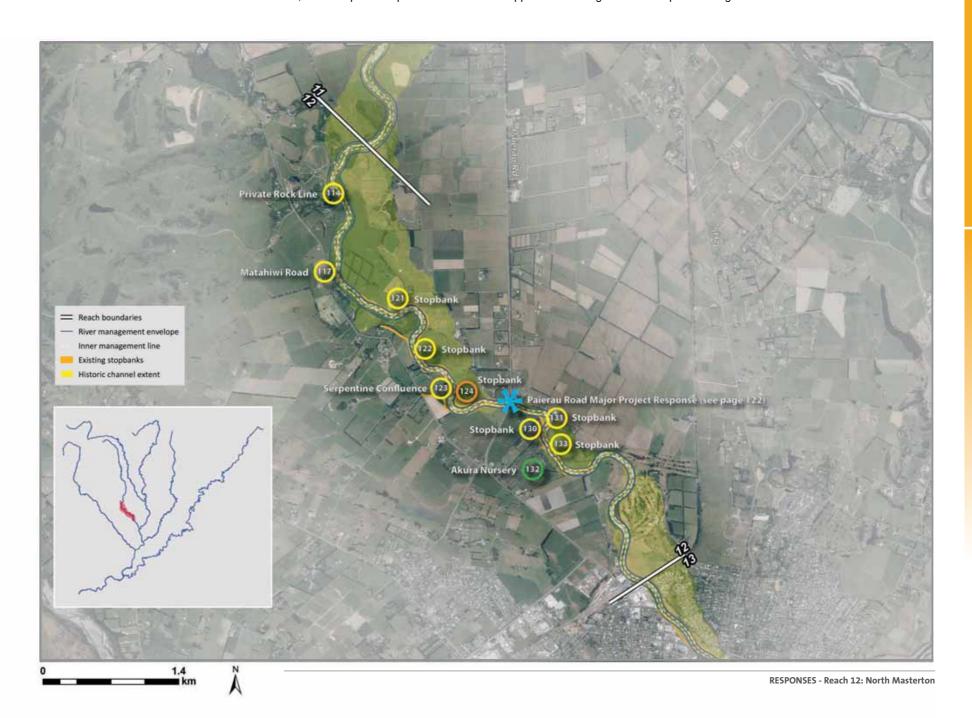
Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in Appendix 5.

Reach Specific Responses

	ISSUE ID	SITE	SITE TYPE OF RESPONSE MEASURES		LEVEL OF SERV	ICE (AEP)	RESPONSIBILITY	,	PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
	114	Private rock line		Formalise GWRC maintenance for the site and confirm ownership			GWRC	Landowner	Low
SES	132	Akura Nursery	Emergency management	Inform landowner of the potential risk			GWRC		Low
SPON	117	Matahiwi Road	River management	Inform Akura Nursery about the risks to the road		1%	MDC	GWRC	Low
SPECIFIC RE	122 124 133 131 130 121	Stopbanks	River management	Apply rural stopbank common method	Varies		GWRC	Landowner	Medium
	123	Serpentine confluence	River management	Apply bed level monitoring common method to identify the need for a control structure			GWRC		Medium
HODS		Entire reach	River management	River management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting of buffers, pest management in riparian planted buffer, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers					
N MEI		Entire reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/retirement of assets, strategic land purchase					
MMO		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	_				
8		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	_				

Stopbank Summary

ISSUE ID	NAME	CURRENT PURPOSE	LENGTH OF STOPBANK (M)	LENGTH INSIDE BUFFER ZONE (M)	CONDITION RATING (2016) (GOOD1/2/3/4/5 POOR)	CRITICALITY	BENEFITING WHOM? (PRIVATE INDIVIDUAL, PRIVATE MULTIPLE, PUBLIC, OTHER)	LEVEL OF PROTECTION	OTHER ISSUES	FMP DIRECTION	FMP PRIORITY
121	Matahiwi to Serpentine	Flood protection to multiple properties and public road up to around 5-10% AEP	1,150	580	Ranges from 2 - 4	Med	Private multiple/Public Road	20-10%	Trees in stopbanks	Re-align stopbank where it sits within buffer. May be a retreat scenario in reaction to flood events.	Medium
130 124	Serpentine to Paierau	Flood protection to multiple properties and public road up to around 5-10% AEP	1,000	630	Ranges 2 - 3	Med	Private multiple/Public Road	c20-10%	Vegetation/trees in stopbank	Re-align stopbank where it sits within buffer. May be a retreat scenario in reaction to flood events.	Medium
122	Left Bank to Paierau	Preventing course change? Protecting around 55ha of productive land from flooding up to a 5% AEP	2,400	980	2	Low	Individual landowners	20-10%		Designation of land along preferred alignment (priority). Continue existing asset management until unviable (TBC at later date).	Medium
131	Akura	Preventing course change? Protecting around 40ha of productive land from flooding up to a 5% AEP	1,050	645	3	Low	Individual landowners	20-10%	Vegetation/trees in stopbank	Designation of land along preferred alignment (priority). Continue existing asset management until unviable (criteria TBC).	Medium
133	Left Bank Akura	Preventing course change? Protecting around 10ha of productive land from flooding up to a 5% AEP	900	800	2	Low	Individual landowner	20-10%		Initial FMP implementation; continue existing asset management. Long-term implementation; explore legacy asset partial abandonment/isolated works.	Medium





Major Project Response: Paierau Road

The issue

The southern approach to Paierau Road Bridge is inundated to a depth of approximately 0.5m in a 20% AEP flood and up to 1.0m in a 1% AEP flood. Traffic approaching from the north has a maximum sight distance of approximately 100m, which is considered insufficient within a 100km/hr speed limit zone. Masterton District Council currently operates a road closure procedure but this has limited lead time as there is currently no rainfall-based flood forecasting used for emergency notifications. It is proposed to provide permanent warning signs at this site as well as improved road closure warnings to ensure the road is closed before it is significantly inundated.

Opportunities

The response provides improved warning for drivers and will ensure the road is closed in a timely fashion to avoid the risk of a vehicle hitting the deep flowing water at high speed.

Relationship with common methods

The southern approach is inundated due to the low-level rural stopbanks overtopping upstream of Paierau Road (Issue ID 127). These stopbanks are considered to provide an adequate level of protection in line with the Rural Stopbanks Policy provided for in the common methods. It is noted that within this reach there are sections of stopbank within the buffers which could be retreated, particularly in response to a flood related failure. This is also referred to in the Stopbank Assessment Rating Priority Table – Stopbank ID 124 Serpentine to Paierau.

The capacity of the bridge is also noted as a factor that contributes to the frequency of the road flooding (Issue ID 126). It is not considered cost effective or consistent with the visions and aims of this FMP to enlarge the channel and bridge and to increase the height of stopbanks in this reach to contain flood waters.

Description

General

Permanent warning signs "Road May Flood" to be added the northern and southern approaches and an improved warning system for road closures developed based on rainfall triggers.

Costs - \$20,000 (\$10,000 new signs, \$5,000 improved warning system + \$5,000 contingency)

Implications

Traffic will be diverted when road is inundated resulting in longer travel times.

Priority

Medium

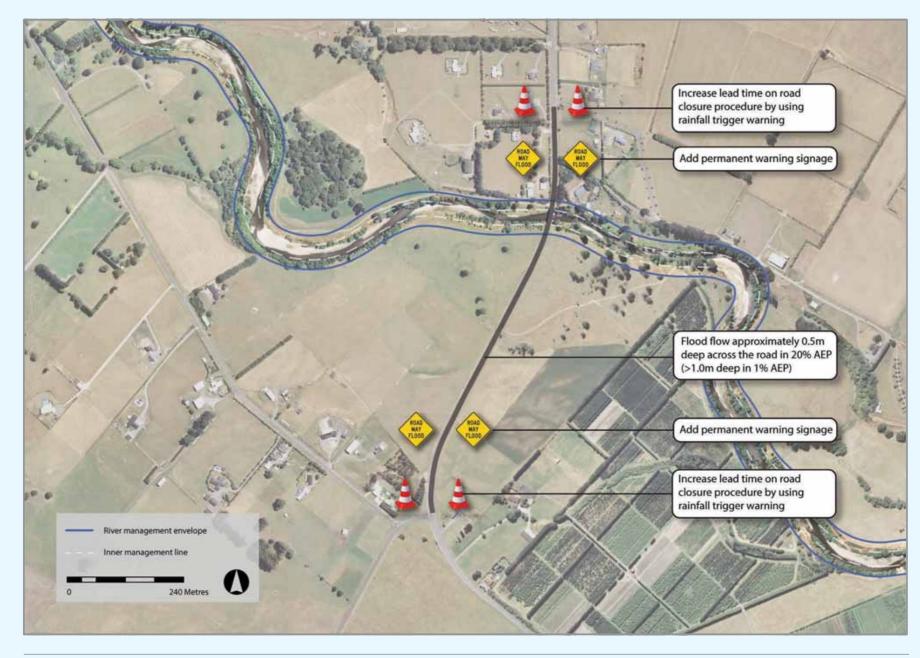
Level of Service

Currently a warning is provided to MDC Roading Engineer based on 20% AEP flood being exceeded at the Mikimiki flow recorder on the upper Waipoua River. This provides 90 minutes for contractors to mobilise and establish manned road closures at Loopline and Matahiwi Road. A rainfall based warning could potentially increase this warning time to 2.5 hours providing greater certainty of completing road closure before the road becomes innundated.



Paierau Road Bridge

KEF	FERENCE		CURRENT LEVEL	THREATS TO CURRENT	PROPOSED LEVEL OF					
NU	MBER	MANAGEMENT MEASURE	OF SERVICE	LEVEL OF SERVICE	SERVICE	PRIMARY REASON FOR RESPONSE	RESPONSIBILITY	PRIORITY	COST	FUNDING
127		Permanent warning signs and improved flood forecasting	90 minute warning from Mikimiki	Risk of not responding in time		To increase the safety of road users by providing permanent warning signs and increasing lead time for road closure to 2.5 hours	MDC/GWRC	Medium	\$20,000	Capital funding TBC



Paierau Road

Urban Masterton - Reach 13

The following sections describe the character and values, current flood and erosion issues, responses to known flood and erosion issues (including existing river maintenance activities), and the key floodplain management aims and outcomes sought in relation to the Masterton urban reach - Reach 13. A staged approach to the flood risks in the urban reach is noted on page 132. Stage 1 of the approach "Investigations and Option Consideration" is set out on page 133. Subsequent stages will be determined upon completion of Stage 1 and are not detailed.

This information should be considered in conjunction with adjoining rural reaches within the Waipoua River including North Masterton – Reach 12, given the inter-related nature of the flooding issues through this area, as well as Reach 5 of the Ruamāhanga River.

Character

The Masterton urban reach extends from where the railway line crosses the Waipoua River within north Masterton, to the confluence of the Waipoua River and the Ruamāhanga River to the south-east of Masterton.

The river bisects the majority of the township of Masterton, primarily on the southern bank, from Lansdowne on the northern bank. The river through this area has undergone substantial modification in the past through historic straightening and flood control works. It does, however, retain green space along its corridor formed by a number of parks and a scattering of vegetation.

Kev Characteristics

- Accessible green corridor including pedestrian pathways through urban area
- Mixed willow and amenity planting providing shading and enclosure

Values

Due to its proximity to Masterton, this reach contains many values and associations with the adjoining community. Masterton itself is the largest urban settlement in the Wairarapa and home to more than 20,000 people.

Much of the river corridor has been modified, with stopbanks incorporating stone pitching common throughout this area, in association with bed control weirs and erosion protection structures around the rail and road bridges. Vegetation along this reach includes a mix of native and exotic vegetation typical of urban parks and forms a green band through the town which adjoins larger open space areas including Queen Elizabeth Park. Wetland areas have also been reinstated on the northern bank within Henley Lake Park.

Its proximity to Masterton also brings with it many recreational uses common to urban centres. It forms a linear park, and jogging, walking and dog walking, fishing, cycling and swimming are all carried out to varying degrees within the reach. Queen Elizabeth Park and Henley Lake Park are adjacent to this reach and are the location for a range of water-based and land-based recreation activities. The reach also provides a corridor for fish passage to the northern reaches of the Waipoua River, with angling access providing popular fishing opportunities in several areas.

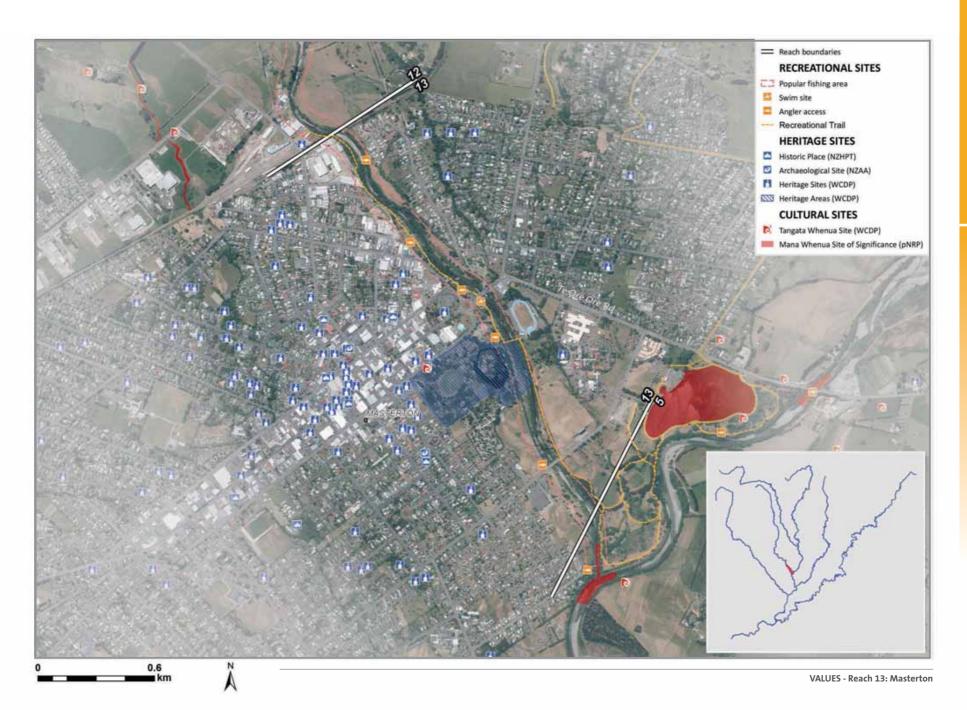
Whilst much of this reach has been modified, terrestrial habitat with identified ecological values which do occur in this area include mixed exotic-indigenous forest, indigenous treeland, stonefields and boulderfields and natural wetlands and ponds.

Prior to Masterton being founded it was a site of Maori settlement and many locations of cultural value exist on the floodplains and within the river. Important sites have been identified at the confluence and a number of pā, settlements and adjacent sites associated with community activities exist throughout and adjacent to this reach. The main pā was Kaikokirikiri Pā, which is located in the vicinity of Mahunga Golf Course, and its proximity to the Waipoua River indicates the significance of this area.

A number of heritage sites are also associated with European settlement in Masterton and include the building façade at 4 Queen Street and Queen Elizabeth Park which forms part of a wider heritage precinct to the south of Dixon Street.

- · Work with the community in the area of the urban reach to assess and reduce their vulnerability to flooding.
- · Protect the Masterton community to 1% AEP flood including climate change level of service.
- Manage the residual flood risks to Masterton (the risk of a larger flood or failure of protection measures).
- · Raise the awareness of flood risks.
- The infrastructure relied on by the Masterton community should be safe and efficiently protected from flooding impacts.
- Work with the infrastructure owners of State Highway 2 and Colombo Road Bridges and the rail bridge to ensure their continued security and operation.
- The maintenance and improvement of recreation facilities along the Waipoua River adjacent to Masterton and encompassing Henley Lake Park.
- Maintenance or improvement in the water quality within this reach, with particular regard for contact recreation.
- Maintenance or improvement to environmental value and habitat diversity.
- · Work toward enhancing the identity of Masterton and its connection to the waterways in its vicinity.
- Explore opportunities to maintain or improve kayaking opportunities on the Waipoua River as the result of any structural upgrade works.
- Improvements in the opportunities for the Masterton community to engage with the river, including recreation trails for walking, cycling and nature play.
- · Improved safety for recreation within this reach.

LANDSCAPE	VALUES	RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL	
LANDSCAPE	SCENIC	VALUES	VALUES	VALUES	PLANNING	VALUES	
MODIFICATION	VALUE	VALUES	VALUES	VALUES	PLANNING	VALUES	
Medium / High	Medium	Angler access, popular fishing area, swimming, walking and cycling	Building Facade - 4 Queen Street, Queen Elizabeth Park (WCDP)	Historic house site	Rural (Special), Road, River, Residential, Industrial, Railway, Commercial, Flood Protection and Mitigation, Recreation, Cemetery, Electricity Distribution, State Highway	Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds	



Urban Masterton - Reach 13

Flood and Erosion Issues

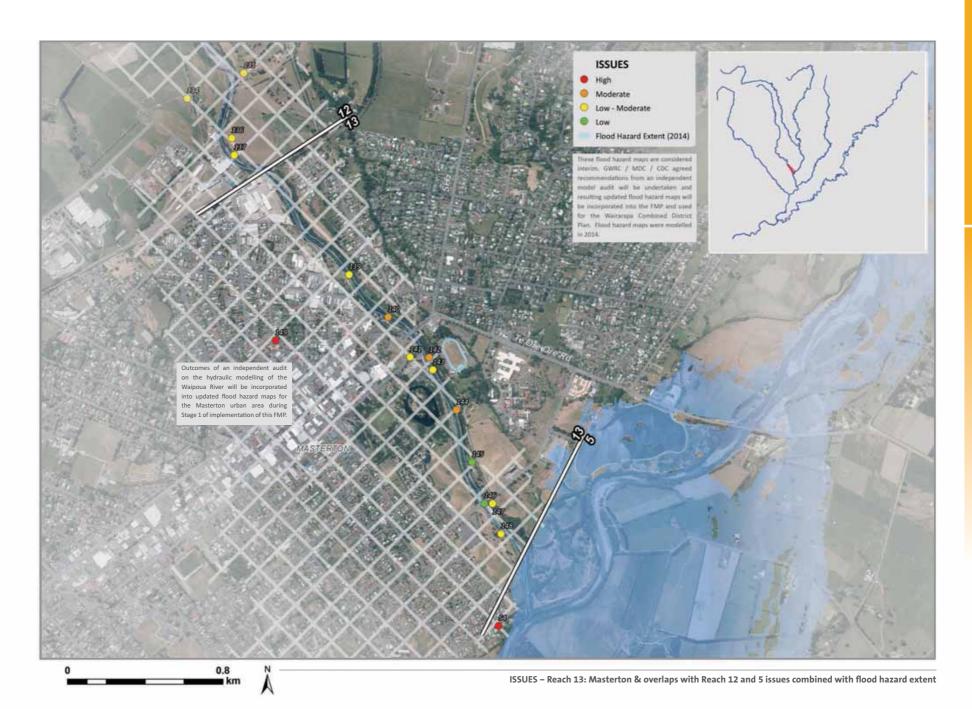
There are a number of key issues relating to flooding and erosion hazards within the urban reach of the Waipoua River through Masterton. Flood studies including climate change impacts have identified the potential for flood risk to some of the Masterton urban area. There is a variability between the studies about the scale and extent of this risk, and therefore further work is being completed by GWRC, MDC and CDC to provide greater certainty. Further to this, the condition and integrity of the existing stopbanks within the urban reach are not well understood and may not be able to be relied upon to perform during flood events due to breach and seepage risks. A breach failure could occur in an event less frequent than a 1% AEP and result in more significant flooding depths with less warning time.

The level of flood hazard in the Masterton urban area is expected to increase in the future, as the effects of climate change lead to larger and more frequent flooding events. Flood hazard maps will be updated to incorporate the outcomes of the independent model audit through Stage 1, as detailed on page 133.

A total of 16 specific flood and erosion issues have been identified within Masterton's urban reach and the adjoining areas of the Waipoua and Ruamāhanga Rivers. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

The flood and erosion issues (and management responses) for Reach 13 are closely linked to the issues (and responses) identified for the wider Waipoua and Ruamāhanga catchment of this FMP in Part 2. Some of the issues identified for North Masterton (Reach 12 of the Waipoua – [134,135,136 & 137]) and Te Ore Ore to Waingawa (Reach 5 of the Ruamāhanga – [54]) are included in this section as they are particularly relevant to the Masterton urban reach. For completeness and to ensure integration, these are incorporated into the issues below (and the Major Project Response) for the urban reach.

RISK LEVEL	DESCRIPTION	
MOT	Lansdowne sewer siphon [146] The Lansdowne sewer siphon crosses the river adjacent to the Colombo Road Bridge. This structure is at risk of damage in high flow events, and it sits within the erosion study area.	Irrigation water intake [145] The irrigation water intake for the rugby grounds on the northern bank of the Waipoua River is located within the erosion study area. Any changes in bed level would also potentially impact on the functionality of this intake.
LOW TO MODERATE	Houses [134] Houses are located within the modelled 1% AEP flood extent. No currently managed issues exist. Mahunga Golf Course [135] The golf course is located within the modelled 1% AEP flood extent and the erosion study area. Areas of the golf course have eroded in the past. Design channel alignment [137, 148, 143] The design channel alignments for the Waipoua River stop before reaching Colombo Road Bridge. This leaves an approximately 800m length of river which flows through Masterton without a defined river corridor and management fairway, used as the current management technique for the rivers. This creates management challenges due to a lack of guidance for river engineers. Sewer lines [141] On both banks of the Waipoua, main sewer lines run underground between the stopbanks and the river channel. Their location puts them within the erosion study extents of the Waipoua River and would need to be considered during any significant update to the stopbanks.	Emergency sewer discharge point [147] There is an emergency sewer discharge point located downstream of the Colombo Road Bridge. This structure sits within the erosion study area Stopbank issues [139] The current Masterton stopbanks are located in relatively close proximity to the main channel of the Waipoua River. This location puts them within the erosion study area which was derived from both modelled and historic erosion extents. The stopbanks have a number of known low spots that may have occurred through localised settlement, however there are a number of other points where the stopbanks have been deliberately lowered to improve access for mowing or maintenance of parks and reserves. The geotechnical condition of the stopbanks has bee assessed as poor, with further investigation required to better determine to structural integrity of the stopbanks. There is also an old landfill site in this location (Villa Street Landfill) which needs to be considered for erosion risk and noted during any investigation or upgrades to stopbanks. Channel narrowing [136] The river channel becomes more confined as it approaches the railway bridge upstream of Masterton. The channel at the Railway Bridge is highly constricted, which limits the amount of flow that can pass under the bridge and into the Masterton reach. This causes modelled upstream flooding of Mahunga Golf Course [issue 135] and properties on the western bank of the river.
MODERATE	Bed control weirs [140, 142, 144] There are a number of bed level control weirs along the length of the Waipoua within the Masterton reach. These weirs retain the bed level through this straightened section of the river and counter the degradation process which would otherwise occur. The weirs themselves are at risk of damage during high flow events, and failure of them would lead to a decrease in river bed level and undermining of the banks which also has potential to threaten the stopbanks. Current maintenance responsibility for the weirs is not well defined. Historically additional weirs had been created during summer months to create swimming holes, however this practice has dwindled, although their existence is remembered fondly by many Masterton residents.	
нен	River Road properties [54] 14 River Road properties sit within the erosion study area. This erosion affect was observed in the 1998 floods where parts of some of these property sections started to erode into the river. This erosion is currently managed by a series of heavy rock groynes; however, this requires ongoing maintenance and management.	Flooding in Masterton [149] – Future 1% AEP flood hazard, including an allowance for climate change and modelling uncertainties Flood studies including climate change impacts have identified the potential for flood risk to some of the Masterton urban area. There is a variability between the studies about the scale and extent of this risk, and therefore further work is being completed by GWRC, MDC and CDC t provide greater certainty about these risks. Further to this, the condition and integrity of the existing stopbanks within the urban reach are not well understood and may not be able to be relied upon to perform during flood events due to breach and seepage risks. A breach failure could occur in an event less frequent than a 1% AEP and result in more significant flooding depths with less warning time.



Urban Masterton - Reach 13

Response

Common methods and specific responses that apply to the Masterton urban reach (Reach 13), including related parts of Reach 12 (North Masterton), are set out below. The relevant common methods used to address specific issues are listed in *Appendix 5*.

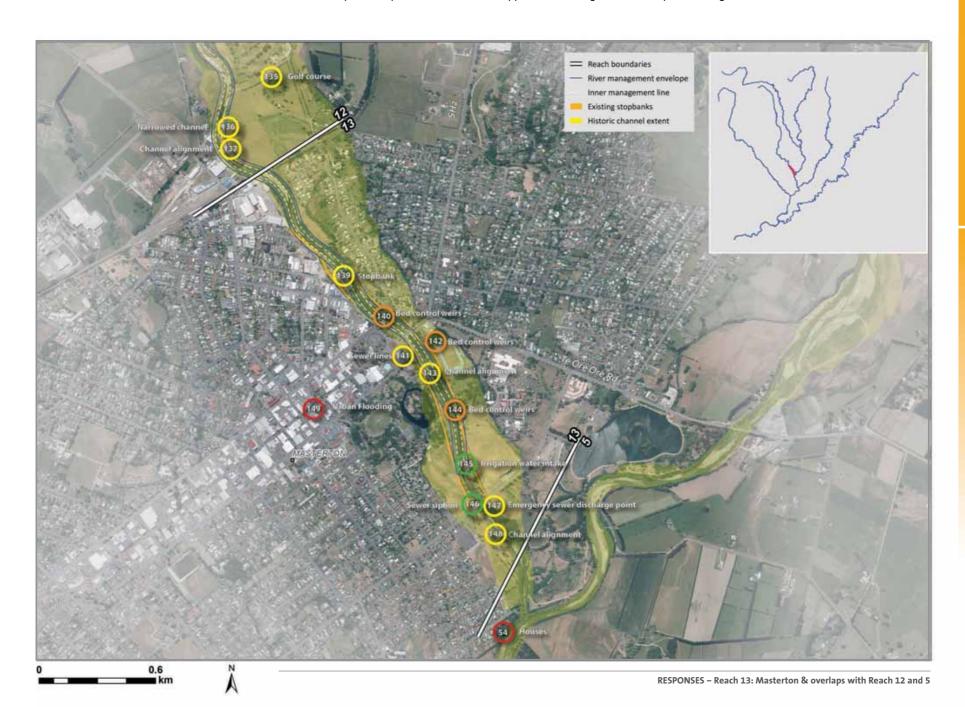
The response that has been developed to address the identified flood and erosion issues affecting Masterton is best described as a comprehensive Major Project Response. The response is to be phased over five stages in order to address

the identified flood and erosion issues in an efficient, effective and affordable way, and to respond to future climate change issues.

Note: The identified erosion issues associated with properties along River Road [54] are addressed by the 'River Road' Major Project Response (detailed on page 78) and have been considered in developing responses through Masterton's urban reach.

Reach Specific Responses

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES	LEVEL OF SERVICE	E (AEP)	RESPONSIE	ILITY	PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
	146	Lansdowne sewer siphon	River management	Provide continued advice and support to MDC with regard to operation of the sewer siphon infrastructure. Continue to provide erosion protection to the siphon.			MDC	GWRC	Low
	145	Irrigation water intake	River management	River management envelopes will contribute to security of private water takes. Private water takes will have low risk of damage up to a 20% AEP event. Damage to structures is more likely up to a 5% AEP event. Communicate risk to landowner.		20%	Landowner	GWRC	Low
	134	Houses	Planning and policy	Inform landowners of potential risk.			Landowner	GWRC	Low to moderate
	141	Sewer lines	River Management	Work with MDC to improve security of the Masterton sewer lines and consider implications during any significant update to the stopbanks.			MDC	GWRC	Low to moderate
SES	147	Emergency sewer discharge point	River Management	Provide continued advice and support to MDC with regard to operation of the emergency sewer discharge point and infrastructure. Continue to provide erosion protection to the emergency sewer discharge point.			MDC	GWRC	Low to moderate
SPECIFIC RESPONSES	137 148	Design channel alignment	River Management	Design lines to be extended to the confluence of the Ruamāhanga River. Apply bed level monitoring and river management envelope common methods to manage channel alignment.			GWRC		Low to moderate
PECIFI	135	Mahunga Golf Course	Planning and policy	Inform landowner of potential risk.			Landowner	GWRC	Low
0,	136	Channel narrowing	River Management	Apply bed level monitoring and river management envelope common methods to monitor channel width. This issue is also addressed in the Major Project Response on pages 131-133.			GWRC		Low to moderate
	139	Stopbank issues	Structural	Provide continued advice and support to MDC with regard to the need for additional stopbanks and upgrades to existing stopbanks This issue is addressed in the Major Project Response on pages 131-133.	1% AEP	1% AEP + CC improvements	GWRC		Low to moderate
	140 142	Bed control weirs	River Management	Apply bed level monitoring and river management envelope common methods to identify any maintenance required.			GWRC		Moderate
	149	Flooding in Masterton	Structural	Work with MDC and a Waipoua Urban River Management Group to assess and address the flood risk to Masterton.			MDC	GWRC	Low to moderate
	54	River Road properties	River Management	Provide information to property owners regarding potential erosion and flood risk. Provide advice and support. This issue is also addressed in the Major Project Responses for Reach 5 of the Ruamāhanga.			MDC	GWRC	Moderate
НОВЅ		Entire reach	River management	Code of Practice, river management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting of buffers, mixed riparian planting with buffers, pest management in riparian planted buffers, pool-riffle-run envelope, historic channel lines, isolated works support, alternative land uses within riparian planted buffers					
M		Entire reach	Planning and policy	Land use controls, designations, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/retirement of assets, river management access, strategic land purchase					
COMMON		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system					
		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs					



Stopbank Summary

ISSUE ID	NAME	CURRENT PURPOSE	LENGTH OF STOPBANK (M)	LENGTH INSIDE BUFFER ZONE (M)	CONDITION RATING (2016) (GOOD1/2/3/4/5 POOR)	CRITICALITY	BENEFITING WHOM? (PRIVATE INDIVIDUAL, PRIVATE MULTIPLE, PUBLIC, OTHER)	LEVEL OF PROTECTION (AEP)	OTHER ISSUES	FMP DIRECTION	FMP PRIORITY
139	Oxford St	Protects residential properties up to $^{\sim}2\%$ AEP and Mawley Park from a 10% AEP flood	425	220	Ranges 2 - 4	High	Masterton – Residential/ Recreational	10-2%	Nil	Rebuild and extend within the next 5-10 years up to 1% AEP height. Raise height in the future to allow to effects of climate change	High
139	Railway Crescent to Villa Street	Protects urban Masterton from flooding up to ~1% AEP	220	130	4	High	Masterton urban area – Industrial/Commercial/ Residential	2-1%	Overgrown with vegetation, uneven and of questionable quality	Rebuild and extend within the next 5-10 years up to 1% AEP height. Raise height in the future to allow to effects of climate change	High
139	Queen Elizabeth Park	Protects community recreational facilities from flooding up to < 1% AEP	930	250	Ranges 2 - 3	High	Masterton – Residential/ Recreational	2-1%	Vegetation/ trees in stopbank	Rebuild and extend within the next 5-10 years up to 1% AEP height. Raise height in the future to allow to effects of climate change	High
139	Colin Pugh Sports Bowl	Protects urban Masterton from flooding up to < 1% AEP	930	0	Ranges 2 - 4	Med	Community recreational assets	1%	Vegetation/ trees in stopbank	Rebuild and increase height in the future to allow for the effects of climate change	Low



Major Project Response: Urban Waipoua

The issue

This response will provide protection to Masterton from a 1% AEP flood event and has the potential to be adapted in the future to include the effects of climate change. The staged approach that is outlined will allow the understanding of the current and future risks to be refined, as well as enable communication and engagement with the community to raise awareness of the flood hazard and to better prepare those who could be affected by flooding hazards.

Future land-use changes have the potential to reduce the risk in flood prone areas and could be designed to futureproof the river corridor and surrounding area. Making changes within the catchment, for example planting, the introduction of wetlands and increasing the floodplain, may also help improve flooding issues.

Integration of the Urban Reach with the Wider FMP

The urban reach of the Waipoua River (Reach 13) cannot be considered in isolation from the upper reaches of the Waipoua River (particularly Reach 12, North Masterton) or the confluence with the Ruamāhanga River.

Investigations have shown that inundation of the floodplain upstream of the urban area reduces the flood flows through Masterton and reduces risk of spills over the stopbanks. Conversely, flooding from Reach 12 (North Masterton) flows overland to the urban area and increases the flood risk.

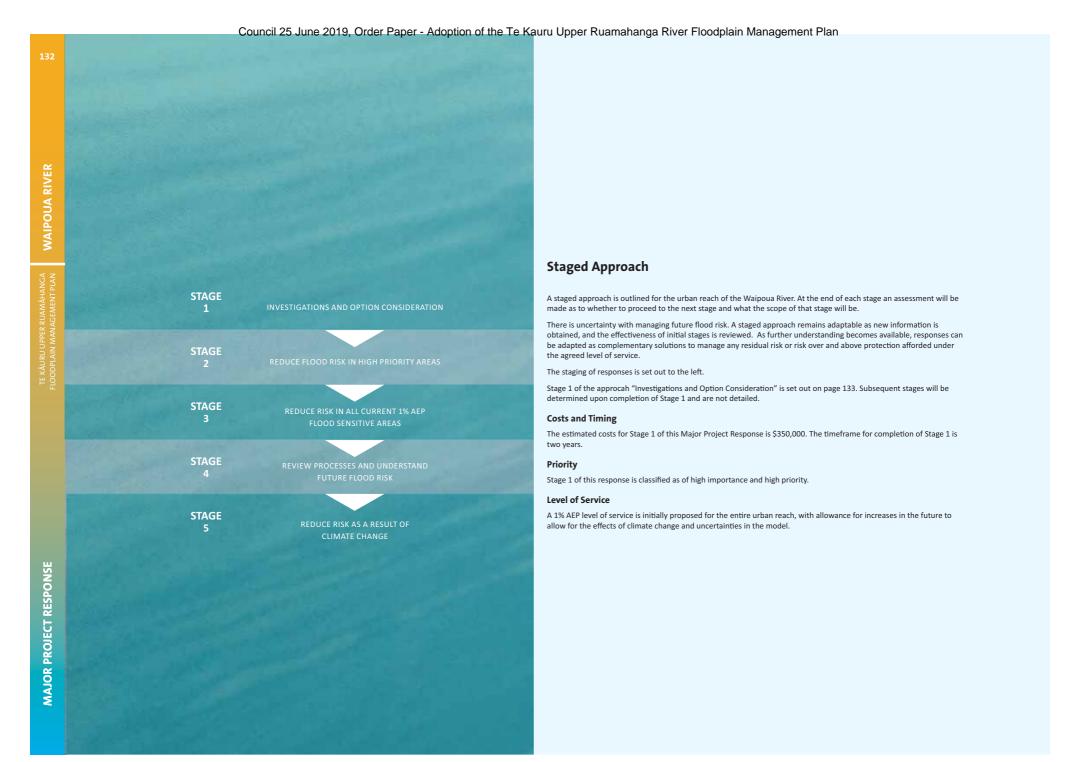
Downstream, at the confluence of the two rivers, the Ruamāhanga River level may impact the downstream end of the Waipoua River and contribute to flooding.

The development of suitable floodplain management options therefore includes understanding the impact of anticipated changes across the wider Te Kāuru catchment including changes which will occur as a result of common methods and major project responses as set out in Parts 1 and 2 of this FMP.

The following responses in other reaches have specific potential to influence how responses are implemented within Masterton's urban reach:

- Any work done upstream of the urban reach, in Reaches 9 to 12 of the Waipoua River, to attenuate the flood flows. This includes installation of managed wetlands, small on-farm storage, and the slowing down of the overland flow through bunds or increased vegetation.
- 2 Any work done in the upper catchment for erosion management measures, such as bank protection, that may change the characteristics of the river and the flooding.
- Any development undertaken upstream, not only within the predicted flood extent area, but any large development within the catchment that would increase surface water runoff and change the catchment characteristics significantly. This includes controlling industrial and residential development or ensuring development does not allow excess stormwater to reach the Waipoua River at a greater rate than current.
- Implementation of a flood warning system for Paierau Road (Reach 12). Understanding how the flood warning process will be implemented at Paierau Road relates to any flood warning that could be used for the urban reach. The road floods in lower return period events and therefore may not be directly related to flooding from spills from the urban reach, however the information is likely to be useful and particularly relevant to the properties at risk of flooding from the overland flow from the upstream reaches.
- 5 The impacts of realigning the Ruamāhanga River and installing rock groynes immediately downstream of the confluence with the Waipoua River (Reach 5 of the Ruamāhanga River) as a Major Project Response to mitigate the erosion risk at River Road (refer page 78). This location is also at risk of flooding and changes to this reach of the Ruamāhanga River may alter the risk and flooding mechanisms at this location.

These considerations have the potential to impact the timing of the initiation of any structural options, interventions, and affect the scale of works required in the Masterton urban reach. These responses should all therefore be monitored as part of the long-term solution in this FMP.



MAJOR PROJECT

Stage 1: Investigations and Option Consideration

The purpose of Stage 1 is to investigate the condition of existing assets (such as stopbanks) and further understand the risk of flooding in the urban reach. Following this, various designs for Stages 2 and 3 will be considered, in conjunction with the local community, to ensure a sustainable and affordable outcome. This stage is expected to take up to two

To achieve this, the following actions will be undertaken:

· Complete geotechnical investigations

A better understanding of the condition and structural integrity of existing stopbanks is required before detailed designs can be completed. This can be gained through geotechnical investigations. These investigations will also be used to assess the soil and geology of the surrounding river environment to determine if it can be utilised to construct new stopbanks or for up-grades to the existing ones.

. Update flood hazard maps to incorporate the best information available

Outcomes of the independent audit on the hydraulic modelling of the Waipoua River will be incorporated into updated flood hazard maps for the Masterton urban area. Other information will also be gathered, such as building floor levels of properties in the flood zone and better flow records to build on existing data. Any additional information from the community and any other sources will also be incorporated during this stage to ensure the best information is being used and the best outcome for the community is sought. It is envisaged that this information will be obtained collaboratively with the community through a Waipoua Urban River Management Group

· Develop the design of preferred options in conjunction with the community

Once a more detailed understanding of the existing stopbanks, flood hazard, and the surrounding environment is gained, specific options for managing the risk can be developed. Options regarding the specific locations of stopbanks, the levels of service any new stopbanks will provide, timings, costs, and design will all need to be considered through this development. This work shall consider opportunities to improve recreation, environmental and cultural values in tandem with the Environmental Strategy. It is envisaged that the options and opportunities will be assessed through a collaborate process with a Waipoua Urban River Management Group, the community, MDC and GWRC.

· Community preparedness

Work with the community to ensure they are resilient to both the current and future flood risk. This will involve raising awareness of the current and future flood risk through education, as well as promoting community preparedness and the development of emergency response plans.

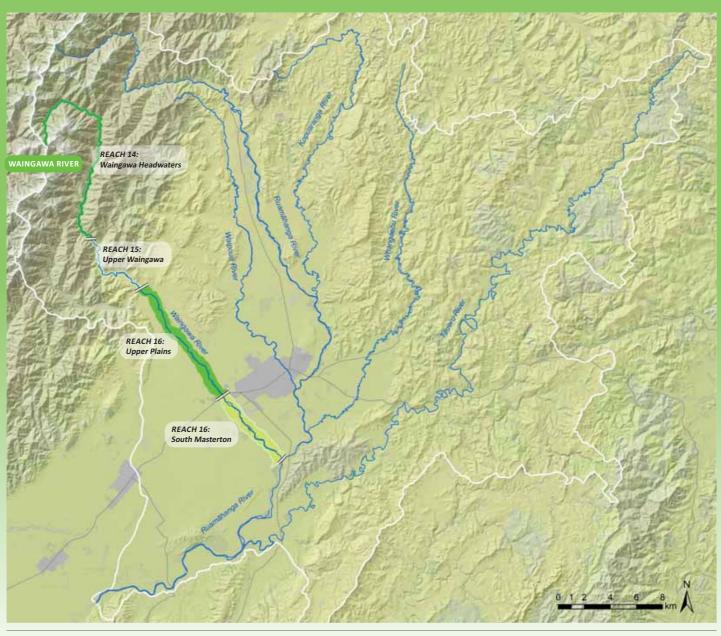
· Land use change, land purchase and other regulatory processes

Land use within the upper catchment will be considered during this stage. In particular, this covers the encouragement of wetlands in the upper reaches of the Waipoua River for environmental benefits and to help

While land purchase is not currently expected, it may need to be reviewed through Stage 1 to ensure that the agreed level of service is provided to those in the flood zone.

Planning restrictions will also need to be considered to ensure that the development within the river corridor and predicted flood sensitive areas are regulated, particularly in regard to building floor levels.





8. Waingawa River

The Waingawa River flows from the Tararua Ranges into the Ruamāhanga River to the south of Masterton. The upper reaches of the river commence in the Tararua Forest Park and flow out onto the Wairarapa Plains from the confluence with the Atiwhakatu Stream near Kaituna.

The Waingawa River was known historically to change its course often. As the river moved and shifted across the plains, some sections of river channel were left isolated. Over time these isolated river channels developed into wetland areas. The name Waingawa stems from the name given by Haunui-a-Nanaia, 'Waiawangawanga' which means troubled or uncertain waters. Like many traditional names, the Waiawangawanga has been shortened to Waingawa for easy pronunciation.

Within the Upper Wairarapa Plains, the river widens to form a broad semi-braided form which follows a fairly direct alignment towards the Ruamāhanga River over a distance of approximately 17km. Here the bed of the river is typically contained by willow margins, with further pockets of remnant forest also retained on terraces which step from the river.

The Waingawa floodplain soils are formed from greywacke alluvial parent materials from the Tararua Ranges. Land use in the catchment is a mix of native forest in the upper catchment transitioning to a range of primary production activities within the Wairarapa Plains. The middle section of river also adjoins rural lifestyle development, and urban areas (Masterton) including the Hood Aerodrome.

Key recreational values include kayaking and wilderness fishing in the upper catchment, with much reduced amounts of these activities occurring downstream of the foothills (although kayakers are frequently seen in this area close to good vehicle access points where they can get out of the river). Jet boating is also noted as a recreational activity in the lower reaches.

The Waingawa River is an important ecological corridor. Of particular note is the Atiwhakatu Stream tributary, which is noted as a significant fish spawning area. Both rivers contribute to the diversity of fish species present in the study area, and are important for both native and exotic species. The Waingawa River is also the second of the important nesting sites for banded dotterels, and a number of other valued species have been recorded along the river including black shag, pied stilt, black billed gull, and NZ pipit.

The ecological value is reflected in its cultural values, which are linked to wetland areas that formed in cut off channels and old backwaters, becoming areas valued for mahinga kai. It is important to note that the mahinga kai value of the Waingawa River carries across to both Parkvale Stream and Booths Creek. Cultural relationships between these streams, the Waingawa River, the Mangatarere River and the Waiohine River, illustrate the intricacies and complex interconnectedness present within catchments.

General Issues

The Waingawa River is respected by people who live nearby as a high-energy river. This river is mostly entrenched within a fairly tight, naturally-confined floodplain. This means that much of the flooding – even in a large flood event – is contained by naturally-formed historic river terraces from where it enters the Wairarapa Plains until it joins the Raumāhanga River near Te Whiti. The erosion risk, both modelled and observed, is of much greater concern. The energy of the river regularly reshapes its main channel, and after each flood event the bed of the river is scattered with the remains of trees and vegetation eroded from banks.

Areas of high value, healthy native forest, in the upper catchment of the Waingawa are exposed to flooding. On the narrow floodplain within the foothills, the land use is predominantly lifestyle properties and small holdings with some primary production activities. A small band of industrial processing and production activities is located adjacent to Masterton around the two bridges.

The Waingawa River also contains a number of locations where critical or high value infrastructure sits within or near to the active river corridor. These include the water supply intake and pipeline to Masterton, and the associated treatment plant. In addition, the Masterton-Wellington railway line and State Highway 2 cross the river near Masterton. The Hood Aerodrome runway has also been threatened by erosion risk on a number of occasions. Measurements of the land lost to erosion between 1941 and 2012 along the length of the river indicate that approximately 210ha of land which would not have previously been classified as river channel has been lost to erosion. In addition the Waingawa River creates challenges for the establishment of vegetated buffer areas due to its deeply cut channel with areas of vertical river bank.

Waingawa Headwaters – Reach 14

Character

The headwaters of the Waingawa River flow through the Tararua Forest Park. In this area the river passes through bush clad gullies with rock-lined gorges, narrow boulder gardens with rapids and pools extending a wilderness character along the course of the river.

Key Characteristics

Bush clad gullie

Rock-lined gorges and bolder gardens

Limited visible human presence

Values

The headwaters of the Waingawa flow through fenced and unfenced indigenous vegetation protected as part of the Department of Conservation Estate. Rock-lined gorges framed with native beech and podocarp forest exhibit very low levels of landscape modification with corresponding very high scenic value. The entirety of this reach is zoned Rural (Conservation) in the WCDP (2013).

Due to the underlying strong wilderness and scenic values, this reach has a number of popular walking and tramping tracks with huts, leading into the Tararua Ranges. Additionally, it sees use for wilderness fishing, and some grade 2+ kayaking along boulder gardens and sharp ends. Mitre Flats is a popular fishing and kayaking area along this reach of river with foot access only.

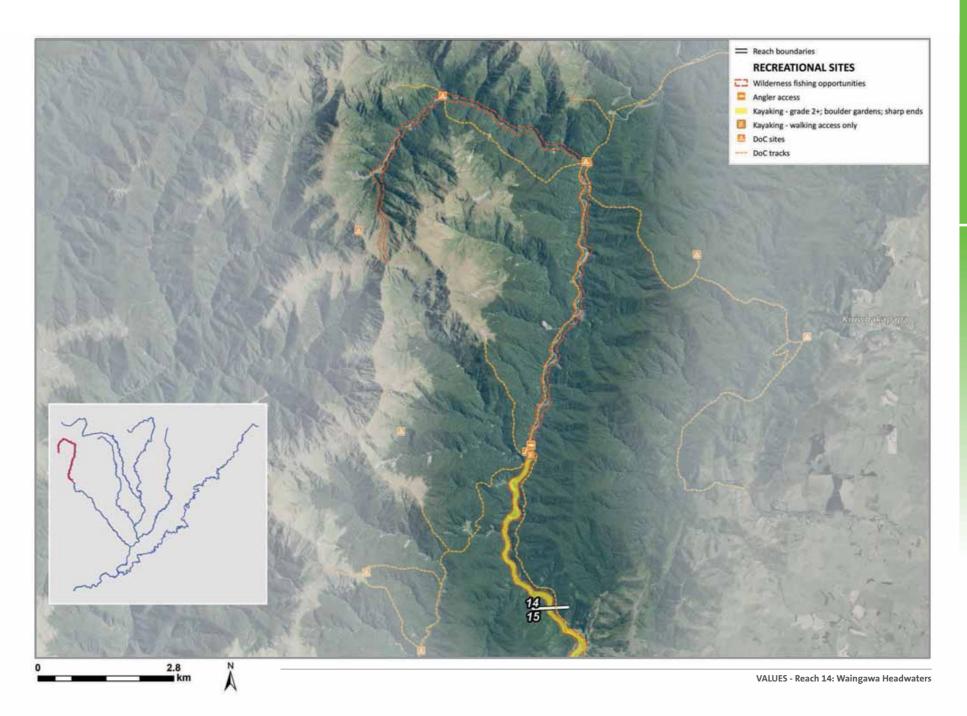
Key Floodplain Management Points

- . Encourage continued recognition of the values and character of this reach.
- Support initiatives that aim to preserve or improve the natural values of this reach.

There is no intent to carry out any form of maintenance activity within this reach as part of this FMP. There are no specific flood and erosion issues identified for this reach.

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES
z s		Entire reach	River management	Isolated works support, Code of Practice
M P		Entire reach	Planning and policy	Protection against deforestation in upper catchment
COM		Entire reach	Emergency management	Emergency management planning, flood forecasting and warning system
		Entire reach	Environmental enhancement	Community Support Officer

LANDSCAPE	VALUES	- RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
LANDSCAPE	SCENIC	VALUES	VALUES	VALUES	PLANNING	VALUES
MODIFICATION	VALUE	VALUES	VALUES	VALUES	r LAMMING	VALUES
Very Low	Very High	Walking tracks and huts (DoC), angler access, wilderness fishing	-	-	Rural (Conservation), River	Fenced indigenous forest, Unfenced indigenous forest, Stonefield and boulderfield



Upper Waingawa – Reach 15

Character

The upper Waingawa River flows from the Tararua Ranges through an area of low lying foothills separating the headwaters from the wider Wairarapa Plains. As the river emerges from the Tararua Forest Park, the river begins to develop a semi-braided form dispersed between rock-lined gorges. The margins of the river continue a dominant cover of native vegetation separating the river from surrounding low intensity rural use. The valley floor associated with the river also includes increasing areas of rural lifestyle use.

Key Characteristics

Discrete semi-braided areas separated by narrowed rock gorges

Continuous bands of native vegetation framing the river margin

Recent rural lifestyle expansion along the valley floor in some areas

Values

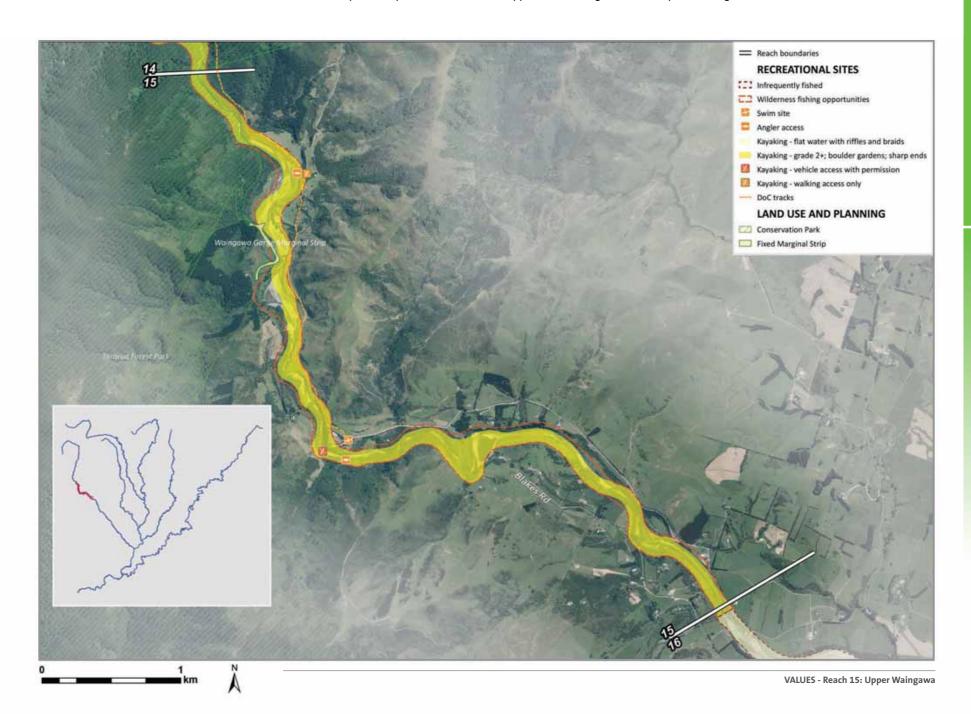
This reach of the river is slightly more modified than the Waingawa headwaters which flow through Tararua Forest Park. Gorges with rapids and pools continue wilderness recreation opportunities along the course of the river against a backdrop of areas of native broadleaf plants. Where the river begins to widen, exotic shelter belts and pasture grassland become established along the river margins, with areas of rural lifestyle settlement also established along the lower parts of this reach. This has resulted in a low level of landscape modification overall and a retention of high scenic value.

Walking tracks providing angler and kayak access continue from road ends occurring along this reach, with popular semiwilderness recreation sites identified at the Blake Stream confluence and the Pines. The latter site also forms a popular swimming area at the end of Upper Waingawa Road.

Terrestrial habitats with identified ecological values along this reach include fenced indigenous forest, unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefields and boulderfields.

- · Work with MDC to improve the security of the Masterton water supply, including intake, pipe crossing and pipeline.
- · Apply isolated works policy for all maintenance works. No river scheme is established in this reach.

LANDSCAPE VALUES		- RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL		
LANDSCAPE	SCENIC	VALUES	VALUES	VALUES	PLANNING	VALUES		
MODIFICATION	VALUE	VALUES	VALUES	VALUES	PLANNING	VALUES		
Low	High	Walking tracks (DoC), angler access, kayak access, swimming, kayaking, fishing	=	-	Rural (Conservation), Rural (Primary Production), Rural (Special), Road, River, Water Supply Intake	Fenced indigenous forest, Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields		

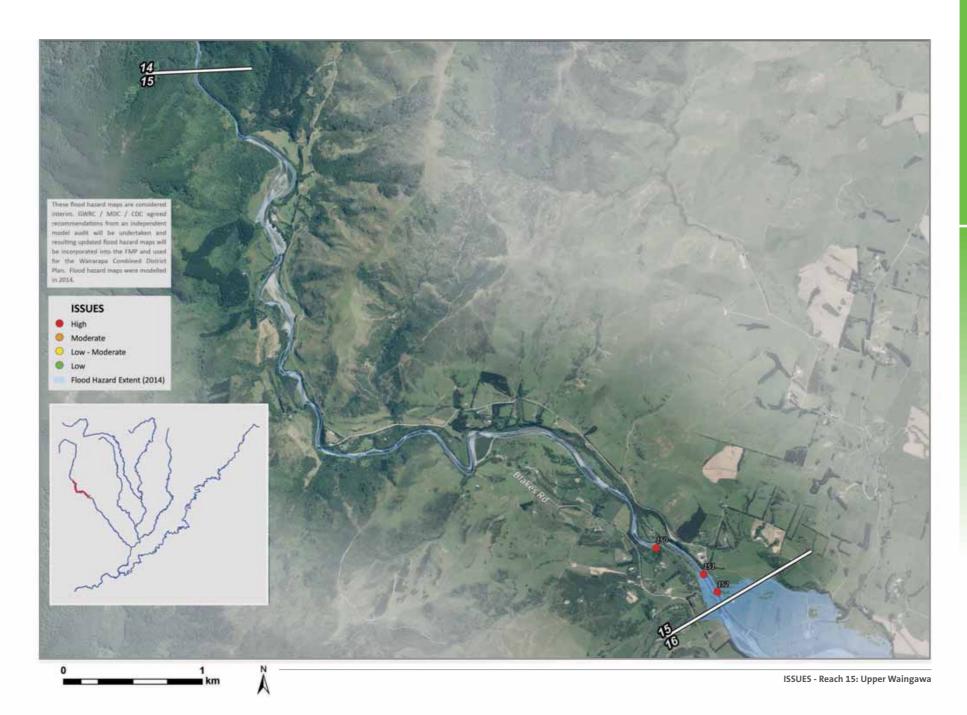


Upper Waingawa – Reach 15

Flood and erosion issues

Three erosion and flood management issues are identified along this reach, predominantly associated with Masterton's water supply. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RISK LEVEL	DESCRIPTION
пом	
LOW TO MODERATE	
MODERATE	
HOH	Masterton District Council water supply intake [150] The water supply intake for Masterton is located in the foothills area and within a stable gorge-like section of the river. It does sit within the erosion study area. No known issues exist with this intake point. MDC water supply pipe bridge [151] The river bed in the vicinity of the pipe bridge is subject to fluctuation, increasing risk of debris flow or scour to structure. Damage to this structure, which may occur as part of a large flood event, would have very significant consequences for the population of Masterton and therefore this issue is considered high priority.
	MDC water supply pipeline [152] The water supply pipeline runs through a narrow strip of land between the river bank and the road. This is under ongoing erosion pressure requiring ongoing management and maintenance of protection assets. Damage to this structure would have significant consequences for the population of Masterton.



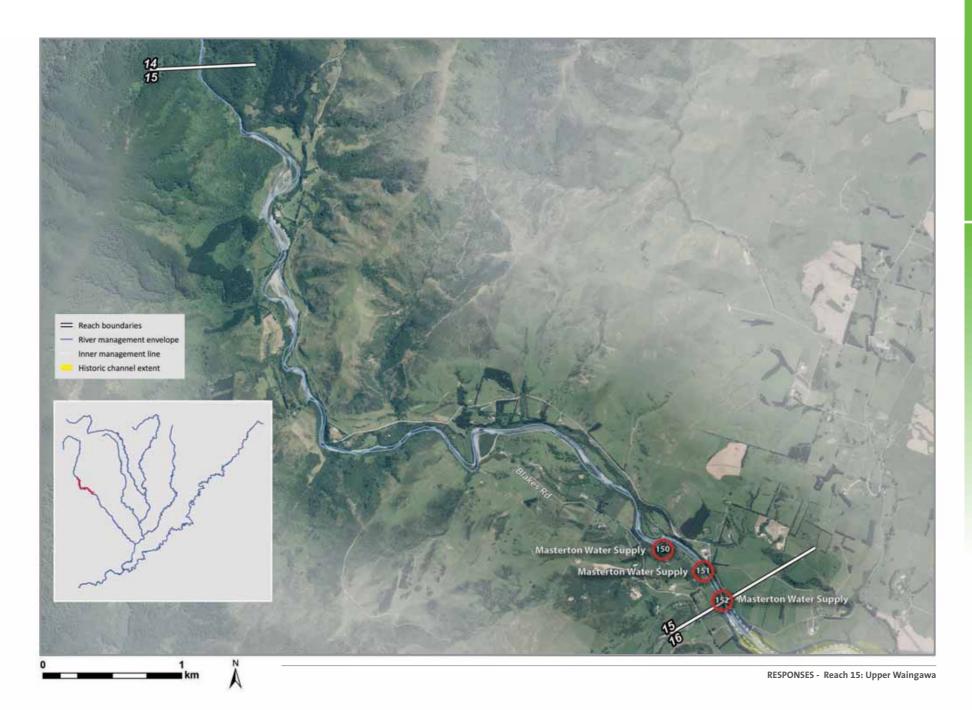
Upper Waingawa – Reach 15

Response

Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES		EVEL OF SERVICE (AEP)		Υ	PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
SPECIFIC RESPONSES	150 (151) (152)	Masterton water supply	River management	Provide continued advice and support to MDC with regard to operation of water supply infrastructure. Continue to provide erosion protection to the supply pipeline as a priority for the Waingawa River. Refer to the MDC Raw Water Supply Pipeline Major Project Response (page 150).		1%	MDC	GWRC	High
		Various sites	Environmental enhancement	Formalise an access point to the river at Upper Waingawa Road, and explore other sites such as Black Rock Road, South Road, Hughes Line. Initiate a care group and work with clubs that use these locations to maintain the sites and provide suitable and safe access to the river. Maintenance of site to be provided by community, supported by local authorities.			GWRC	Community	Medium
MMON METHODS		Entire reach	River management	River management envelope, river bed level monitoring, riparian planting of buffers, pest management in riparian planted buffers, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers					
		Entire reach	Planning and policy	Protection against deforestation in upper catchment, land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/retirement of assets, strategic land purchase					
		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	_				
8		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	_				



Upper Plains – Reach 16

Character

From the confluence with the Atiwhakatu Stream, the Waingawa River emerges onto the Masterton Plains from an area of undulating hills. The State Highway 2 Bridge is the landmark delineator between Reach 16 and the lower reaches of the Waingawa River. In this area, the river establishes the twisted semi-braided form from which its name is derived.

The margins of this corridor include willow planting and native vegetation. Terraces accommodating mixed agricultural use and vegetation step above the river corridor. Vegetation includes a significant stand of totara and kahikatea surrounding the Masterton Water Treatment Plant along the true left bank of the river, and a significant stand of native forest on the true right bank. Lifestyle blocks are prevalent along Norfolk Road.

Key Characteristics

LANDSCADE VALUES

Semi-braided form with islands visible from State Highway 2 Bridge

Margins of mixed willow and remnant native forest

Increasing settlement in proximity to Masterton

Values

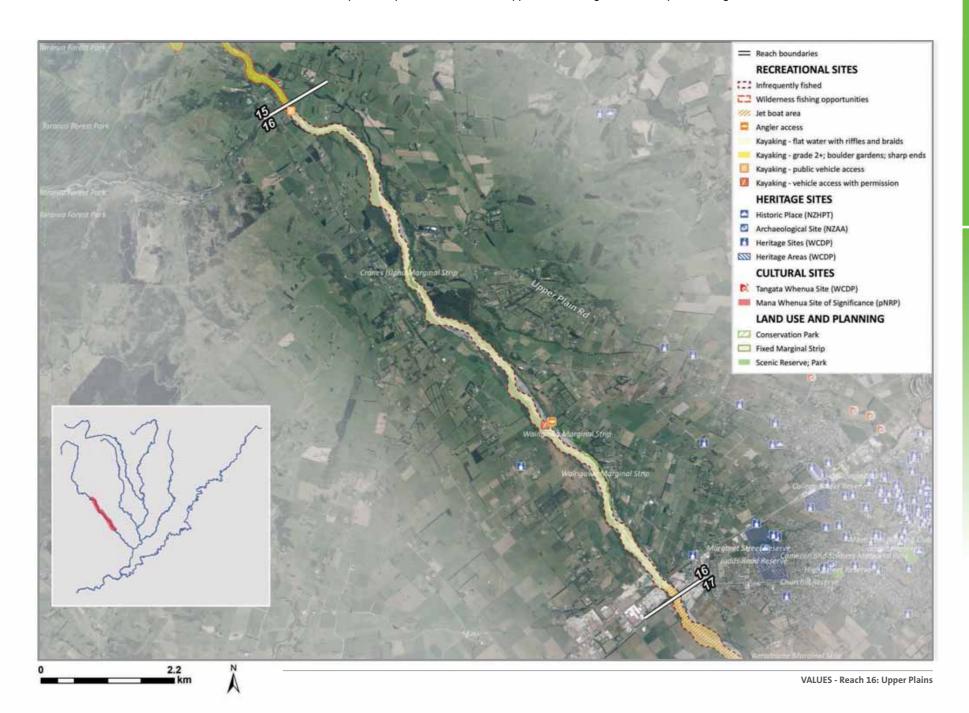
This reach continues through rural land used for primary production that is predominantly established in pasture. River re-contouring works become more frequent in this area, alongside areas of willow planting and large areas of indigenous vegetation. Overall this reach has undergone a low to medium level of landscape modification and has medium / high levels of scenic value.

Some kayaking continues along this reach resulting from the flat water with riffles and braids. The naturally shifting course of the river results in an unstable environment which is infrequently fished, whilst remaining important for fish passage. Access for both kayaking and fishing is obtained at the end of Skeets Road.

Important ecological values identified along this reach include the Waingawa River Bush RAP site, and identified terrestrial habitats include unfenced indigenous forest, mixed exotic-indigenous forest, indigenous treeland, stonefields and boulderfields.

- This FMP will shift the focus of river maintenance towards more intensive implementation of vegetated buffers.
 The design buffers will be allowed to erode when and where appropriate. This method will replace previous work practices of immediately responding to erosion issues with machinery in the channel.
- This FMP will increase river enhancement works.
- Protect the Waingawa River Bush RAP site from negative impacts of flooding and erosion.
- Work with MDC to improve the security of the Masterton water supply, including pipeline and treatment works.
- · Maintain the additional protection for Masterton provided by the Skeets Road stopbanks.
- Work with Carterton District Council to maintain the erosion security of the Taratahi Water Race intake.
- Work with the asset owner of the electricity distribution network to relocate pylons outside of the active channel.
- Address the security concerns regarding the stopbank between the State Highway 2 and rail bridges and promote
 relocation of this industrial area outside of the flood zone, and possibly redefine this area of land into a public
 recreation site
- Work with the infrastructure owners of the railway bridge and road bridge to ensure their continued operation and security
- Work with the Water Wairarapa Ltd in relation to dam and irrigation proposals within the vicinity of this reach.

LANDSCAPE	SCENIC	RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
MODIFICATION	VALUE	VALUES	VALUES	VALUES	PLANNING	VALUES
Low / Medium Medium / High		Angler access, kayak access, kayaking, infrequent fishing	-	-	Rural (Primary Production), Rural (Special), Road, River, Industrial, Railway, State Highway, Flood Protection and Mitigation, Water Supply and Education	Waingawa River Bush (RAP), Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields

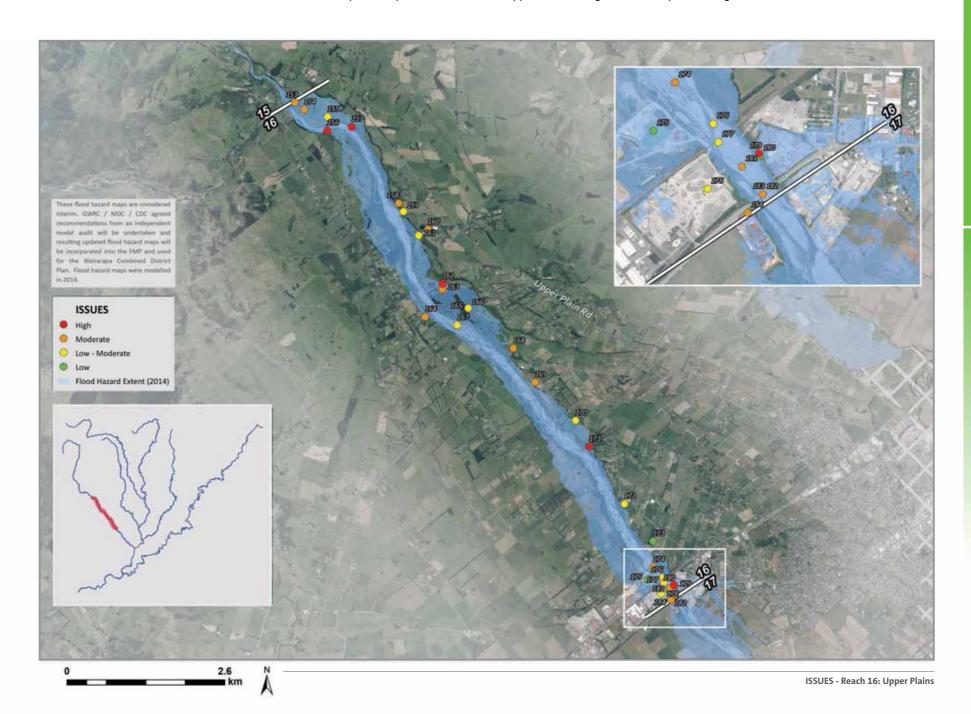


Upper Plains – Reach 16

Flood and erosion issues

A total of 32 erosion and flood management issues are identified along this reach, predominantly associated with water supply and rural development west of Masterton. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RISK LEVEL	DESCRIPTION	
МОП	MDC water supply future treatment site [165] The site designated for a potential future water treatment site sits within the erosion study area and modelled 1% AEP flood extent. No currently managed issues exist. SLUR site [173] A site on the Selected Land Use Register (SLUR) which sits within the erosion study area.	Contractors yards [175] Contractors yards are located within the erosion study area and are affected by modelled 1% AEP flood extents. Channel alignment [180] The buffer zones on the true right bank between the two bridges are very narrow and have been recommended for review.
LOW TO MODERATE	Farm buildings [155] A number of farm buildings including a milking shed sit within the modelled 1% AEP flood extent and erosion study area. No currently managed issues exist. Houses [159] Houses are located within the erosion study area. MDC Water Treatment Plant – sludge treatment area [161] The sludge treatment sections of the Water Treatment Plant are located on the lower river terraces and within the erosion study area. No currently managed issues exist. Historic river channel [166] An old river channel sits within the overflow path of the updated 1% AEP flood. The old gravel river bed has been planted over and closed off with a stopbank. Channel alignment [167] A lack of buffers at this location has created ongoing management issues and difficulty in maintaining the river within agreed design lines. The true right bank erosion currently extends beyond the designed buffer.	Flaggates in stopbanks [170] Two flaggates in Skeets Stopbank create possible back flow routes. These are occasionally blocked open because of misunderstandings about their purpose and use. Buildings [172] There are several buildings which sit within the erosion study area and modelled flood extent. No currently managed issues exist. Sub-transmission powerlines [176] Pylons just upstream of the railway bridge sit on the berms and are within the erosion study area. No currently managed issues exist. Rail bridge [177] Bed degradation is a managed and known issue in the area around the railway bridge. Contractors yards [178] Contractors yards are located within the erosion study area and affected by the 1% AEP flood extent. Known erosion management issues exist in this area. Sewer and water supply pipeline [182] Both sewer and water pipelines are clipped to the road bridge across the Waingawa. No currently managed issues exist.
MODERATE	Upper Waingawa Road [154] The Upper Waingawa Road is modelled to be flooded to a depth of up to 0.9m in a 1% AEP flood. House [153] A house is located within the erosion study area and modelled 1% AEP flood extents. No currently managed issues exist. Waingawa river bush RAP site [158] The RAP site sits within the erosion study area and is part of the buffer strip along this bank. It is also very close to the design channel alignment. No currently managed issues exist. MDC Water Treatment Plant – main facility [160] Parts of the Water Treatment Plant sit within the erosion study area. No currently managed issues exist. House [163] A single dwelling sits within the modelled flood extent for the 1% AEP flood. No currently managed issues exist. House [164] A single dwelling sits within the erosion study area. This house is also within the existing Wairarapa Combined District Plan erosion area. It is not modelled to be affected by the 1% AEP flood extent. No currently managed issues exist.	Tararua drive stopbanks [168] The stopbanks in this location are of low level, and their crest height is frequently monitored. House [169] The house and outbuildings are within the erosion study area but sit outside the modelled 1% AEP flood extent. No currently managed issues exist. Distribution network powerlines [174] A pole which is part of the distribution network for local electricity sits in the active channel on the river bed. Adjacent pylons sit close to the river berms and are at risk of erosion. Road Bridge [183] The bed degredation is a managed problem in the area around the road bridge. Pumpstation for sewer pipeline [184] The sewer pipeline pump station is located within the erosion study area and on the edge of the 1% AEP flood extents. No currently managed issues exist. Channel alignment [181] The buffer on the true left bank between the two bridges is very narrow and has been recommended for review.
нівн	Taratahi Water Race intake [156] Bed degradation in the vicinity of the water race has meant ongoing difficulties with maintaining water flow into the race. There is also a difficult balance to achieve between scour and aggradation effects due to the location of the intake in relation to the channel alignment. MDC water supply pipeline [157] Bed degradation at Black Creek is creating a risk to the Masterton Water Supply pipeline, which sits within the erosion study area. MDC water supply boost pump station [162] The boost pump station for the Masterton Water Supply sits within the 1% AEP flood extent. No currently managed issues exist.	Skeets stopbanks [171] The stopbank in this location cut off an historic overflow path that connected the Waingawa to the Waipoua River near Akura. It is a good quality stopbank maintained by GWRC but a failure could have flooding consequences for Masterton. High criticality. Stopbank [179] The stopbank on the true left bank between the two bridges is of very poor quality due to the mixing of wood mulch with the other materials used in its construction. It is believed to be of high failure risk and flooding through this area would affect the industrial yards further along the bank edge and along the fringes of Masterton. Material from this bank has been washed into the river in past events.



Upper Plains – Reach 16

Response

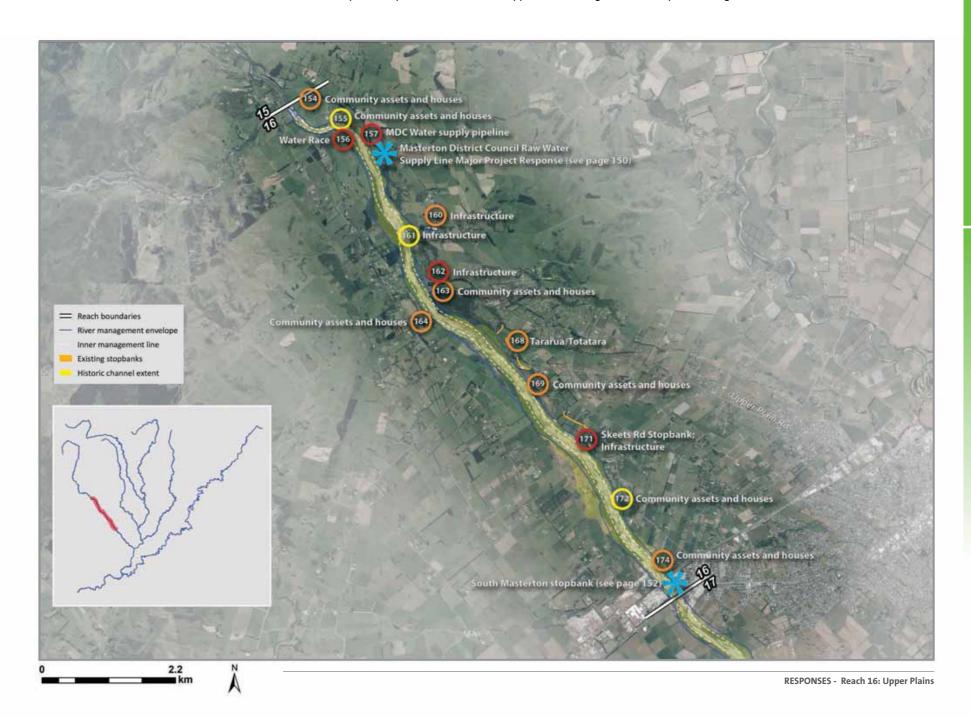
Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID	SITE TYPE OF RESPONSE MEASURES				CE (AEP)	RESPONSIBILITY		PRIORITY
					CURRENT	TARGET	PRIMARY	SECONDARY	
		Various sites	River management	Utilisation of river edge envelope common method. Establishment of successful buffer planting along the Waingawa is difficult in many places due to the high, steep sided and actively eroding banks. A key tool to enable buffer establishment is shallower profile banks which are then able to be planted to establish river edge vegetation. Shallower bank profiles will require the sacrifice of some areas of the buffer to the river to enable formation of more gentle slope gradients.	20%	5%	GWRC	Landowners	Medium
	156	Water race	River management	Ongoing maintenance plan linked to bed level monitoring to maintain security of water race until replacement or retirement. Consider duplication and redundancy of water race intake through Water Wairarapa Ltd.			CDC	GWRC	Medium
SPECIFIC RESPONSES	157 160 161	Infrastructure	River management	MDC responsible for contingency and repair plan to address the risk of loss of water supply infrastructure. MDC responsible for inspection of infrastructure attached to bridges to be undertaken after flood events. Refer to the MDC Raw Water Supply Pipeline Major Project Response (page 150).		1%	MDC	GWRC	High
	173	Skeets Road stopbanks	River management	The Skeets Road stopbanks are built and maintained to a high standard. They provide protection against overflows from the Waingawa River. These overflows would enter the Masterton urban area in event of their breach. Continuation of existing asset monitoring and maintenance plan for these stopbanks is essential.	1%	1%	GWRC		High
	154 155 163 164 169 171 172 174	Community assets and houses	Emergency management	Add Upper Waingawa Road to WREMO register of lifelines affected by large scale flood events. Add asset owners for vulnerable assets at ID24 and ID25 to WREMO register of vulnerable assets. Advise WREMO of breach scenario consequences for Skeets Road stopbank and development of contingency plan.		>1%	WREMO	MDC	Medium
		River access points	Environmental enhancement	Develop access locations at downstream of State Highway 2 bridge on the left bank of the river and explore other potential sites. Formalise and monitor.			GWRC	MDC	High
		Masterton Gateway	Environmental enhancement	Identify Masterton Gateway site and develop as an amenity and recreation access site. This links with the South Masterton Stopbank Major Project Response (page 152).			MDC	GWRC	High
		Masterton Gateway	Environmental enhancement	Support formation of Masterton Gateway care group, and encourage planting of native species at gateway to Masterton. Support initiatives to improve the values of the gateway area. Work with groups to improve quality of access points and rubbish clean up and reporting.	ı		GWRC	MDC	High
METHODS		Entire reach	River management	River management envelope, river bed level monitoring, riparian planting of buffers, pest management in riparian planted buffers, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers	_				
		Entire reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/retirement of assets, strategic land purchase	_				
COMMON		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system					
		Entire reach	Environmental enhancement	Environmental strategy, Community Support Officer, Riparian Management Officer, care group and clubs	_				
				·	_				

Stopbank Summary

ISSUE ID	NAME	CURRENT PURPOSE	LENGTH OF STOPBANK (M)	LENGTH INSIDE BUFFER ZONE (M)	CONDITION RATING (2016) (GOOD1/2/3/4/5 POOR)	CRITICALITY	BENEFITING WHOM? (PRIVATE INDIVIDUAL, PRIVATE MULTIPLE, PUBLIC, OTHER)	LEVEL OF PROTECTION (AEP)	OTHER ISSUES	FMP DIRECTION	FMP PRIORITY
168	Tararua/Totatara	Protection of property and historic overflow path to Masterton	731	0	3	Low	Private multiple	Unknown - estimated 2%	Series of three banks linking up natural high ground. Furthest downstream of the three stopbanks appears to offer little to no additional flood protection and is basically the natural high ground - question need to retain as asset.	Continue existing asset management	Low
171	Skeets Road	Protection of property and overflow path to Masterton	550	0	2	Low	Private multiple	Unknown - estimated 2%	Does not seem to be significantly affected by 1% AEP flood	Continue existing asset management	Low
	Upper Manaia Road	Limited purpose for this stopbank - length within buffer is basically gravel groyne utilised as an operational tool to divert flows and protect downstream alignment	130	40	2	High	Private multiple/Public Road	Unknown - estimated 2%	Training bank/gravel groyne rather than true stopbank	If threatened consider part realign	Low
179	South Masterton	Protects industrial estate and overflow path to SW Masterton	280	280	4	Low	Industrial properties	<1%	Quality uncertain, weed and tree infestation	Major Project Response	Low





Major Project Response: Masterton District Council Raw Water Supply Pipeline

The issue

Masterton District Council take potable water from the Waingawa River through an intake structure and pipeline which feeds the Water Treatment Plant located approximately 5km downstream. Following treatment, the potable water is then distributed throughout Masterton. The water supply intake is located on the right bank of the Waingawa River approximately 700m upstream of the Atiwhakatu confluence. Approximately 370m downstream of the intake, the pipeline crosses to the left bank of the Waingawa River. From this point the pipeline is in close proximity to the left bank of the Waingawa River in a number of locations (less than 20m in some areas) before it reaches the Water Treatment Plant. Due to the close proximity and highly erosive nature of the Waingawa River, the pipeline is considered to be at risk from lateral bank erosion. It has been threatened and even exposed on a number of occasions in the past.

The past management regime has utilised a combination of boulder groynes (sourced from within the river) and channel alignment works (bed and beach recontouring) to provide a degree of protection. These maintenance activities are a short-term intervention which require frequent renewal based on changes in river alignment and bank erosion during even relatively minor flood events.

The primary area of concern is at the Black Creek confluence. At this location the river transitions from the foothills of the Tararua Ranges out onto the alluvial floodplain and the reach character changes from a relatively confined narrow channel into a wider, more variable channel with a more semi braided morphology. The location most under threat is on the outside bend of a relatively tightly formed "5" bend. The river bed is naturally degrading (lowering) at this location which causes difficulties for CDC in maintaining sufficient water levels in the river for water to flow into the Taratahi Water Race, which is located approximately 250m upstream from the Black Creek confluence. CDC have constructed a boulder weir in the river to ensure water levels are high enough to act as a partial-weir and aid diversion of water into the water race. This weir has the potential to affect the river flow direction during floods by directing the main flow towards the left bank of the river and increasing the erosion potential on the outside of the bend at this location, where the water pipeline is in close proximity to the current river bank.

Opportunities

In the future there may be opportunities though the Water Wairarapa Ltd project to provide both municipal and water race water requirements via a dam proposed within the adjacent Black Creek catchment. This project is currently going through a feasibility assessment and therefore it is too early to be considered by the proposed project response in this FMP.

MDC have an emergency management plan to deal with any interruption to the supply of water to the treatment plant. There is sufficient storage in the water supply system to provide three days of potable water to Masterton. This provides sufficient time to enable deployment of a temporary pumping system directly from the river powered by diesel generators. Once this is set up it is possible to use this temporary system for as long as it takes to undertake the pipeline repairs and whatever emergency river works that are needed.

Relationship with common methods

River management envelopes exist and are utilised, although some modification of these lines may be necessary. Where the pipe alignment is within the identified buffer zone, an exemption from the general buffer approach is required to recognise the importance of the asset and the associated need for a higher level of service than a vegetative edge approach at these sites. The effectiveness of vegetated buffers in the steeper, incised upper reaches of the Waingawa River are also somewhat limited and the vegetation will typically only slow down the rate of erosion rather than preventing it all together.

Description

General

Response Part 1 (Structural)

To provide a higher level of security at the most at-risk site it is considered that a minimum of three rock groynes are required at the Black Creek confluence. See the plan on the next page for location and general arrangement.

Response Part 2 (Coordinated River Management and Emergency Management Planning)

This response will look to establish a Memorandum of Understanding between GWRC and MDC to enable the risks associated with the pipeline to be mitigated through a combination of Emergency Management Planning and River Management specific to the MDC Water Pipeline. This will establish a shared organisational understanding around annual level of service expectations implemented through the established river management scheme, and potential requirements in the event of an emergency situation whereby the pipeline was threatened or compromised by the effects of river engine.

Costs

Part 1

Three Rock Groynes - up to \$300,000 based on each groyne being approximately 450 tonnes. This includes preliminary and general works, contingency of 30%, and design, consenting, and supervision.

Part .

Approximately \$5-20,000 per annum with an emergency funding allowance of around \$50,000 in the event of a significant flood event (river works only, excludes pipeline repair).

Implications

Implementation of Part 1 of the response will provide MDC with an increased level of security for their raw water main at the location identified as having the highest likelihood of failure. This will also reduce the cost of reactive maintenance requirements.

Implementation of Part 2 of the response provides for improved procedures to manage the risk associated with the pipeline and in the event of an emergency situation allows for incident recovery minimising any impacts on the community.

Both responses should include a management strategy for proactively working with CDC to ensure that the work carried out to the intake of the Taratahi Water Race minimises potential negative effects on the opposite bank adjacent to the MDC pipeline.

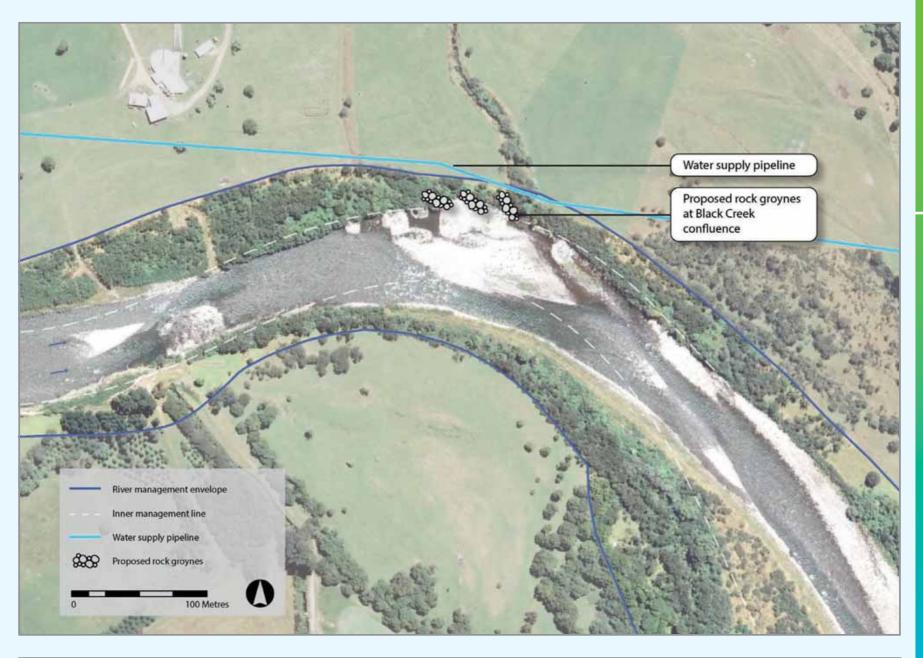
Priority

This response is classified high priority given the importance of the asset to be protected. Response Part 1 is considered low priority in the early years of FMP implementation but could be triggered following a changing cycle of flood events, GWRC/MDC agreement or a future FMP review. Response Part 2 is considered high priority.

Level of Service

Up to 1% AEP level of service, to be confirmed with MDC.

REFERENCE NUMBER	MANAGEMENT MEASURE	CURRENT LEVEL OF SERVICE	THREATS TO CURRENT LEVEL OF SERVICE	PROPOSED LEVEL OF SERVICE	PRIMARY REASON FOR RESPONSE	RESPONSIBILITY	PRIORITY	COST	FUNDING
157	Increase bank protection to river edge at Black Creek confluence	Low-medium	Erosion by the river	Up to 1% AEP	To increase protection to water supply pipeline	MDC supported by GWRC	Low	Up to \$300,000	Capital funding
157	Targeted operational river management with emergency management plan	Low - medium	Erosion by the river	>1% AEP	To manage risk of erosion posed to the water supply pipeline	GWRC (river management) MDC (Emergency management plan)	High	Varying but of magnitude of \$5-20,000 per annum generally, with allowance for targeted emergency works as required	Operational funding



Masterton District Council Raw Water Supply Pipeline



Major Project Response: South Masterton Stopbank

The issue

There are a number of issues associated with the section of the Waingawa River between the rail bridge and State Highway 2 Bridge.

- The stopbank on the left (northeastern) side of the Waingawa River between the railway and State Highway 2
 bridges is located within the buffer and is at risk of erosion. This stopbank is also in relatively poor condition,
 although it has been assessed as "fit for purpose" as it is providing protection for a relatively small area of
 industrially zoned land and is therefore not considered to be a critical asset. It is at risk of failure in an extreme flood
 event.
- · Managing the channel alignment through this reach is useful for reducing the scour risk at the rail and road bridges.
- The property on the immediate landward side of the stopbank has historically been used for timber treatment and is confirmed as being a contaminated site (SLUR SN/06/141/02).

Opportunities

Improvements to the visual appearance, recreational opportunities, public access, and ecological value of the river margins on approach to Masterton from the south. This coincides with a long-term aspiration of public ownership of river margins in this key gateway area in collaboration with willing landowners.

Relationship with common methods

The location of the stopbank within a buffer means that consideration needs to be given to retreating the stopbank to a less erosion-prone location or abandoning/retiring the asset.

Description

General

The main risk to this reach of the river is lateral erosion of the river banks leading to erosion and failure of the left bank stopbank. The consequences of failure of the stopbank, in terms of flood inundation, are limited to a relatively isolated area of industrial land immediately adjacent to the stopbank. In addition to the consequences of inundation, there is also the potential for contaminated material to be eroded into the river or mobilised through groundwater flows.

The extent of contamination of the site and possible pathways for the contamination to mobilise into the surface or groundwater are currently unknown. A detailed site investigation is required to understand the extent and degree of contamination and the environmental risks this presents. This investigation would also include an assessment of options for containing or remediating the contaminants on the site. Remediation of the site could be done in conjunction with the retreat of the stopbank beyond the buffer.

This response will seek to maintain the status quo in terms of river management using the common methods to maintain the stopbank in its current position whilst the risks and mitigation options associated with the site contamination are investigated in parallel with consideration of retreating the stopbank.

Costs

Contaminated site investigation - \$100.000.

Further costs for remediation and retreat of the stopbank will be dependent on the outcomes of the contaminated site investigation.

Implications

There is a residual risk of failure of the stopbank or an over-design event that needs to be managed while the investigations are being undertaken. It is likely that this can be managed through appropriate flood warnings and education of the residents and businesses affected.

Priority

Medium priority to undertake the contaminated site investigation. Priority for future works would be dependent on the outcomes and risks identified in the contaminated site investigation but is unlikely to be more than medium unless serious contamination, close to the river is identified.

Level of Service

The response provides the status quo in terms of the level of service as well as managing the residual risk through emergency management provisions. The longer term plan for the stopbank and the wider area can be developed once there is a better understanding of the site contamination and any remediation or containment requirements.

REFERENCE NUMBER	MANAGEMENT MEASURE	CURRENT LEVEL OF SERVICE	THREATS TO CURRENT LEVEL OF SERVICE	PROPOSED LEVEL OF SERVICE	PRIMARY REASON FOR RESPONSE	RESPONSIBILITY	PRIORITY	COST	FUNDING
179	Retreat existing stopbank to less erosion-prone location outside the buffer	2-10% AEP	Erosion by the river	5% AEP	Stopbank is non critical asset from flood hazard perspective but may be important for preventing contaminated material entering the river.	GWRC	Low	TBC	Capital funding TBC
179	Contaminated site assessment, visual improvements within the buffer, establishment of public access to the river	20-1% AEP	Erosion by the river	TBC	Appealing gateway to Masterton, recreational access and contaminated site management.	MDC/GWRC	Medium	\$100,000 for contaminated site assessment	Capital funding TBC



South Masterton Stopbank

South Masterton - Reach 17

Character

The Waingawa River continues a twisted semi-braided form to the east of the State Highway 2 Bridge. The margins of the river corridor are more consistently established in willows, separating the river from adjoining areas of pasture and cropland. Hood Aerodrome, urban edge development and gravel extraction also influence the character of the river. In other areas, the river retains a varied and dynamic semi-braided form.

Key Characteristics

Broad semi-braided form

Consistent willow planting along margins

Values

The close proximity of the southern end of Masterton together with gravel extraction visible from State Highway 2
Bridge frequently detracts from natural values associated with the river. Overall this results in a perceived medium / high
level of landscape modification with medium scenic values retained along the wider reach.

Some kayaking occurs along this reach on account of the continuation of flat water with riffles and braids flowing from the upper reaches of the river. The State Highway 2 Bridge also forms the upper limit of jet boating typically encountered along the Waingawa.

Fishing remains infrequent throughout this reach because of the changing course of the river. Whilst fish passage remains important, the form of the river remains unstable and does not typically hold fish within it. Popular swimming sites are identified at South Road and Hughes Line on each side of the river immediately above Hood Aerodrome.

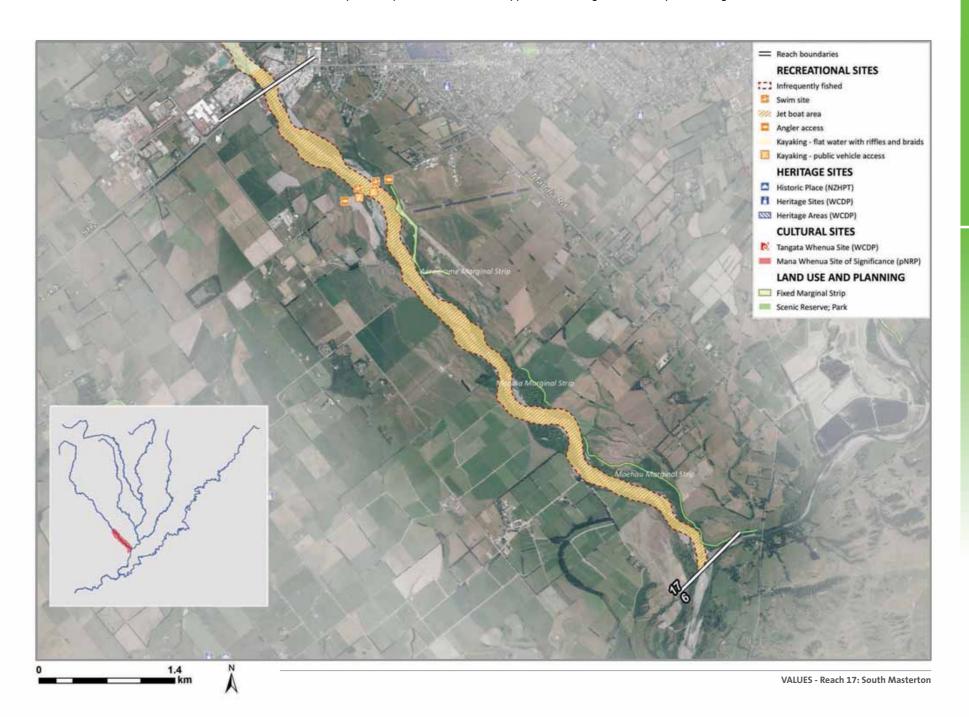
Terrestrial habitats with identified ecological values along this reach include mixed exotic-indigenous forest, indigenous treeland, stonefields and boulderfields, natural wetlands and ponds.

Wetlands along the margins of the Waingawa River were important for gathering mahinga kai, with cultural sites also associated with the mixing of mauri as water flows into the Ruamāhanga at the bottom end of this reach.

Key Floodplain Management Points

- This FMP will shift the focus of river maintenance towards more intensive implementation of vegetated buffers.
 The design buffers will be allowed to erode when and where appropriate. This method will replace previous work practices of immediately responding to erosion issues with machinery in the channel.
- This FMP will increase river enhancement works.
- · Work with the owners of Hood Aerodrome to maintain the operation and security of their facility.
- Work with MDC and CDC to address the dumping of rubbish that occurs at access points along this reach.
- Continue to develop land access and retirement agreements to widen the river corridor.
- Recreation management to encourage good quality recreation opportunities.

LANDSCAPE VALUES		— RECREATION	HERITAGE	CULTURAL	LAND USE AND	ECOLOGICAL
LANDSCAPE MODIFICATION	SCENIC VALUE	VALUES	VALUES	VALUES	PLANNING	VALUES
Medium / High	Medium	Angler access, kayak access, kayaking, jet boating, swimming, infrequent fishing	-	Mixing of mauri	Rural (Primary Production), Rural (Special), Road, River, Industrial, State Highway, Aerodrome and Recreation Purposes	Mixed exotic-indigenous forest, Indigenous treeland, Stonefields and boulderfields, Natural wetlands and ponds

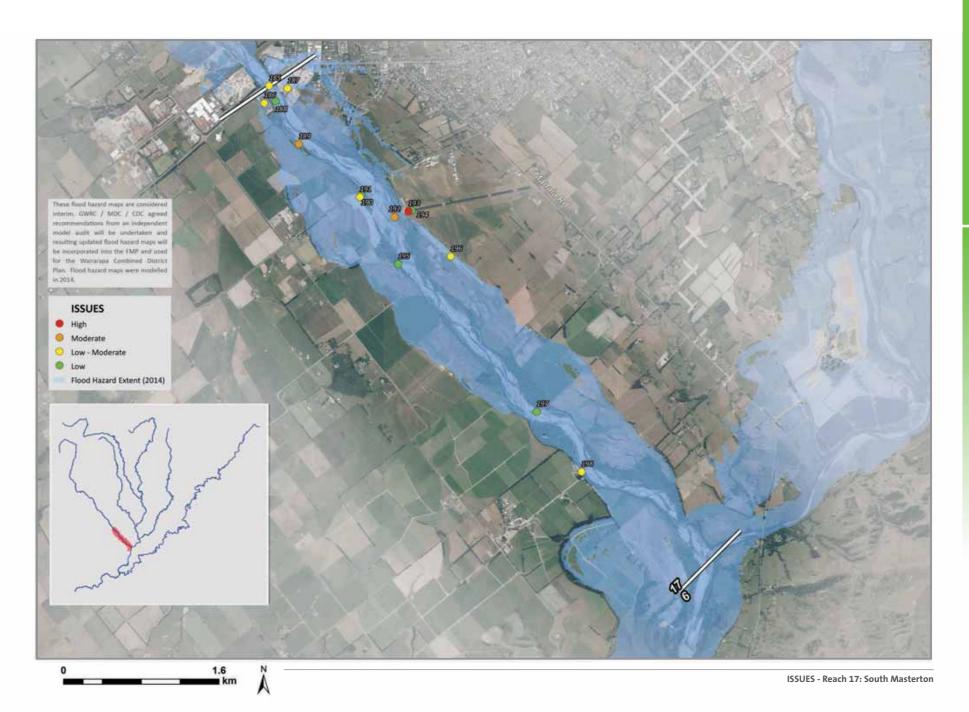


South Masterton - Reach 17

Flood and erosion issues

A total of 14 erosion and flood management issues are identified along this reach. Issues have been ranked according to their consequence and likelihood (i.e. risk) and assigned an ID number [xx].

RIS LEV		DESCRIPTION	
	МОЛ	Powerlines [188] Distribution network powerline pylons are located within the erosion study area 30m downstream of State Highway 2. No currently managed issues exist. Illegal dumping site [190] This recreation access site is affected by illegal dumping of rubbish. SLUR site [194] The aerodrome is a registered SLUR site which sits within the erosion study area	Water intake [195] There is a private water intake structure located within the erosion study area. It is not known to have any issues. Distribution network [197] The pylon on the true right bank sits within the erosion study area, the true left bank is believed to be outside of the erosion study area extents. No currently managed issues exist.
	LOW TO MODERATE	Powerlines [185] Transmission network powerline pylons are located within erosion study area. No currently managed issues exist. Contractor's yards [186, 187] Contractor's yards are located within the erosion study area and 1% AEP flood risk. Erosion management is an ongoing issue at this location. Recreation area [191] The good access to the end of Hughes Line makes it a popular area for recreation groups. There is interest in developing this access and area further from a number of interest groups.	Drag strip [196] The Masterton drag strip is located within the erosion study area and is affected by the modelled 1% AEP flood. No currently managed issues exist. Private water intake [198] A private water intake is located within the erosion study area. No currently managed issues exist.
	MODERATE	Land retirement agreements [189] Land use changes are currently underway in this area to increase the amount of buffer strip available to manage riverbank erosion. Flight path [192] Tree height has a controlled level for aircraft taking off from the aerodrome.	
	표 표	Aerodrome runway [193] The aerodrome runway is known to be affected by erosion and has been eroded in recent past (2000). Situated within the erosion study area.	

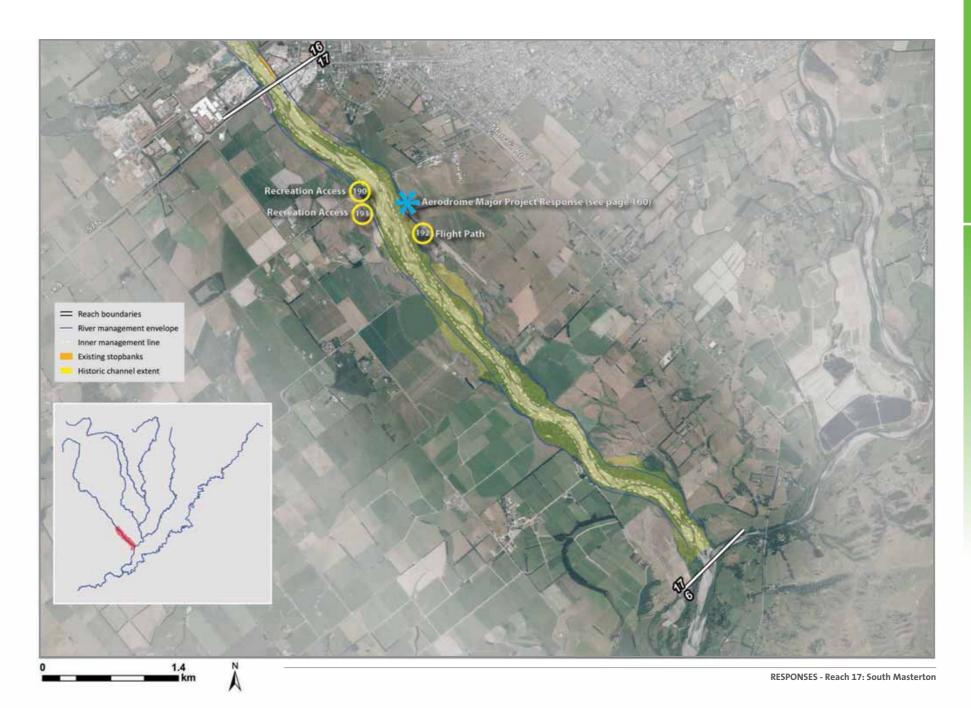


South Masterton - Reach 17

Response

Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

	ISSUE ID SITE TYPE OF RESPONSE MEASURES		MEASURES	LEVEL OF SERV	ICE (AEP)	RESPONSIBILITY	,	PRIORITY	
					CURRENT	TARGET	PRIMARY	SECONDARY	
ONSES		Various sites	River management	Utilisation of river edge envelope common method. Buffer plantings within the Waingawa River are challenging in many places. A key tool to their establishment is the erosion of banks to create shallower profile banks which are then able to be planted to establish river edge vegetation. Shallower bank profiles will require the sacrifice of some areas of the buffer to the river.	20%	5%	GWRC	Landowners	Medium
RESP	Flight path River management Maintain tree height within the buffer zone and under the flight path restrictions.		Maintain tree height within the buffer zone and under the flight path restrictions.			GWRC	MDC	High	
ECIFIC	191 190 Recreational access sites Environmental enhancement Develop and formalise access points on true right and left banks, establish care groups to manage these areas.				Community	GWRC	Medium		
ß		Three Rivers Trail	Environmental enhancement	As part of the Environmental Strategy, establish Three Rivers Trail to link Masterton to the Waingawa, Ruamāhanga, and Waipoua Rivers. Incorporate as part of larger Trails Wairarapa projects/initiatives. Link to Tourism Wairarapa.			Community	GWRC	Medium
НОБЅ		Entire reach	River management	River management envelope, river bed level monitoring, gravel extraction and analysis, riparian planting of buffers, pest management in riparian plantied buffers, pool-riffle-run envelope, historic channel lines, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers					
METI		Entire reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/ retirement of assets, strategic land purchase	-				
MOM		Entire reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	_				
Ö		Entire reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	-				





Major Project Response: Hood Aerodrome

The issue

The runway for the Hood Aerodrome has been continually affected by erosion and was close to getting washed away during a flood in 2000 (see photograph on the right side). Four rock groynes constructed following this flood provide some degree of protection but are at risk of being outflanked from upstream. A number of small floods in 2015 and in early 2016 caused erosion to occur upstream of the runway. In response to this, 1100 willow poles were planted in June 2016 along with some minor in-channel works in an attempt to realign the river to its desired design alignment and establish a vegetated buffer. In a steep, dynamic river, such as the Waingawa, willow protection works are only able to slow down the rate of erosion and will not be capable of completely preventing it. If a greater level of security to the runway is desired then a rock line is required from the terrace to tie in with the upstream rock groyne. The rock line would be 140m long and would act in part as a deflector groyne to direct the main flow away from the runway.

Opportunities

This response provides a higher degree of security to the runway, which would be of particular importance if commercial flights are re-established from the site. It also avoids the risk associated with potentially contaminated land (Selected Land Use Register SN/06/004/02 Manawatu Aerial Topdressing, Category I) being eroded into the river.

Relationship with common methods

The current management of this reach using willows combined with in-channel works is aligned with the common methods of riparian planting of buffers and the Code of Practice. This response and its use of a rock line/training groyne is a standard response provided for in the Code of Practice.

Description

General

A 140m long rock line extending from the terrace to the existing upstream rock groyne.

Costs

\$755,000 (3,650 t rock @ \$130/t (placed with geotextile) \$474,000 + \$29,000 Preliminary and general, 30% Contingency, 20% Design, consenting, and supervision.)

Implications

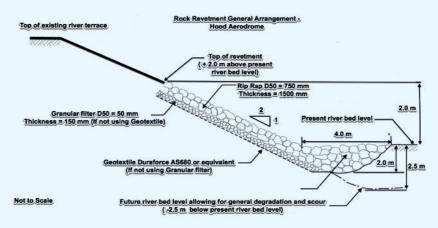
Possibly diverts erosion issue to opposite side of river by providing hard point on left bank.

Priority

Currently a low priority but if a new commercial operator is found for the aerodrome then this could change.

Level of Service

Up to 2% AEP level of service to be confirmed in discussion with MDC and potential commercial operator for aerodrome.

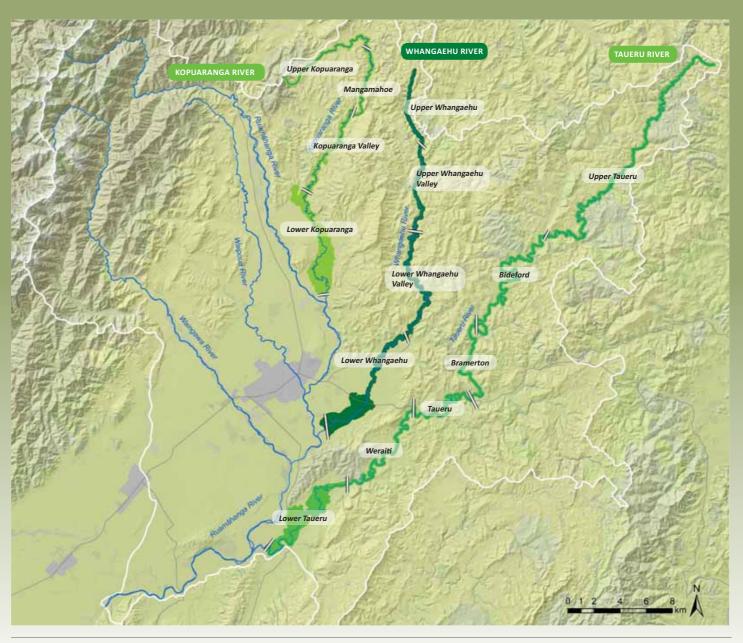




REFERENCE		CURRENT LEVEL	THREATS TO CURRENT	PROPOSED LEVEL OF	PRIMARY REASON				
NUMBER	MANAGEMENT MEASURE	OF SERVICE	LEVEL OF SERVICE	SERVICE	FOR RESPONSE	RESPONSIBILITY	PRIORITY	COST	FUNDING
ID 192, 193 and 194	Rock line connecting terrace with existing rock groyne at the end of the runway	Low	Erosion by the river	2% AEP	To increase protection to the runway and avoid any contaminated material being eroded into the river	MDC/GWRC	Low	\$755,000	Capital funding TBC



Hood Aerodrome



9. Eastern Rivers

The Kopuaranga, Whangaehu and Taueru (Tauweru) Rivers have been grouped together as the Eastern Rivers. Their character, values, and flood and erosion issues are broadly similar, as are the management objectives and techniques used.

The floodplains of the Eastern Rivers are relatively sparsely populated, although population density is increasing with lifestyle block development in the lower reaches, particularly on the Kopuaranga and Whangaehu Rivers in areas closer to Masterton. This is having an impact on informal access arrangements to recreational and cultural sites. Mauriceville, on the Kopuaranga River, is the largest settlement.

The rivers are generally considered to have low to medium levels of landscape modification, tending towards higher levels of modification in the lower reaches. The three rivers have low/medium levels of scenic value in their lower reaches, with areas of medium/high scenic value tending to occur in the upper reaches (and coinciding with less modified reaches). In many areas, willow trees dominate the channel form. In the reaches where current scheme maintenance is taking place, crack willow infestation has been controlled. Elsewhere, crack willow infestation is a big problem due to the channel constriction it causes.

Land use in the catchments is predominantly primary production activities (dairying, dry stock grazing, cropping, and plantation forestry) with a few scattered areas of native forest. There is little evidence of lifestyle type development in the upper catchments.

All three rivers are used for game bird hunting and fishing. The Kopuaranga River is the most fished of the three. The lower Taueru River is used for kayaking. A number of informal access arrangements are in place for recreational access.

Several cultural value sites occur throughout the Eastern Rivers. This includes Kopuaranga settlement and Kohekutu Pā along the Kopuaranga River, and multiple pā and urupā along the Taueru River. Whilst there are no specific sites recorded on the the Whangaehu River, this is known to be very significant to local Maori, containing many wāhi tapu areas and important spiritual connection with Rangitumau.

The Kopuaranga and Taueru Rivers were important travel routes for Maori travelling north and north-east respectively. As a result, these two rivers have mahinga kai values in their channels and surrounding forested areas. In particular, the upper Taueru River is noted for freshwater crayfish and the lower Taueru River for eels. This eel fishery remains important.

There is limited ecological information on the Eastern Rivers in relation to the abundance of birdlife and fish species. There are a number of areas of habitat value, such as natural ponds/wetlands and patches of indigenous forest (both fenced and unfenced). The lower Taueru River also contains the Te Kopi Road and Peters Bush RAPs.

General Issues

- · Flooding of large areas of farmland (entire valley floors) and access routes cut off
- Lifestyle block development near Masterton
- Potential for greater erosion/changes in channel form in the future as a consequence of willow removal

Kopuaranga River

Character and Values

The Kopuaranga River flows into the Ruamāhanga River to the north of Masterton. The headwaters originate in the northern Wairarapa hill country to the east of Mount Bruce. The main river channel from its headwaters to its confluence with the Ruamāhanga River is 58km in length.

The Kopuaranga River has a number of small tributaries. The main channel flows on a northeast course from its source in Mount Bruce to Hastwell, where it crosses a relatively wide valley before turning south. The river then flows south within a narrow valley, following the line of the West Wairarapa fault. In its lower reaches the river turns away from the fault line and follows an old course of the Ruamähanga River, joining the Ruamähanga River east of Opaki.

The name Kopuaranga means fish in a deep or dark pool, and the river has long been associated with fishing.

In its upper reaches across the Hastwell's Valley, the river channel is characterised as an entrenched channel. The river then flows within a narrow fault-formed valley in a tightly meandering channel. On its lower reaches, the river channel becomes wider and straighter, with sections of tighter meandering channels.

The Kopuaranga floodplain contains a mix of soils formed from sandstone, limestone and siltstone. Vast tracts of the fertile Kopuaranga river deposits were used as gardens for centuries. Land use in the catchment is now predominantly in primary production activities (dairying, dry stock grazing, cropping and plantation forestry) with a few scattered areas of native forest throughout the catchment.

In terms of recreation values, the Kopuaranga River is popular for fishing and game bird hunting, and in some areas this has led to enhancement of natural wetlands and ponds, improving the ecological value of the river.

Two cultural sites have been identified along the Kopuaranga River, these being Kopuaranga settlement, and Kohekutu Pā. However the river used to form part of a northwards travel corridor and it has value for mahinga kai, related to both the river and the surrounding forested area.

Key Floodplain Management Points

This FMP provides a framework to supply erosion control works at priority locations, increase planting for erosion control and river enhancement, and other limited noxious plant control works which are included into river maintenance activities. An extension of the scheme boundary further upstream for 24km from Clarke Domain will be implemented.

Key characteristics by reach:

Upper Kopuaranga

Small stream corridor through rolling pastoral landscap

Grass banks with bank slumping in area

Mangamahoe

Enclosed valley landform containing road and rail corrido

Tightly meandering willow choked corrido

Flax and cabbage tree planting reintroduced in some low-lying area:

Kopuaranga Valley

Meandering river corridor along semi-enclosed valley landforn

Increasing rural lifestyle development along river margir

Mixed willow, exotic planting and grass margins

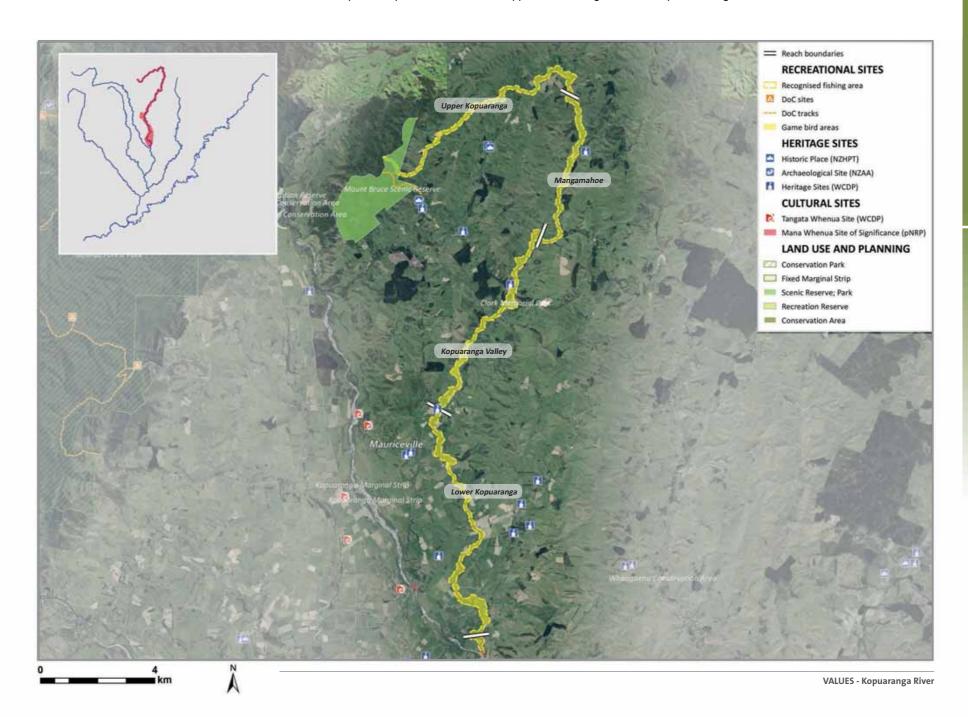
Lower Kopuaranga

Meandering course along eastern edge of Wairarapa Plain

Sparsely settled farmed margins

Mixed poplar, willow and conifer margins

REACH	LANDSCAPE MODIFICATION	SCENIC VALUE	RECREATION VALUES	HERITAGE VALUES	CULTURAL VALUES	LAND USE AND PLANNING	ECOLOGICAL VALUES
Upper Kopuaranga	Low / Medium	Medium	Fishing, game bird hunting	-	-	Rural (Conservation), Rural (Primary Production), Rural (Special), Road, River, Railway	Natural wetlands and ponds
Mangamahoe	Low / Medium	Low / Medium	Fishing, game bird hunting	-	-	Rural (Primary Production), Rural (Special), Road, River, Railway, Cemetery	Unfenced indigenous forest, Mixed exotic-indigenous forest
Kopuaranga Valley	Medium	Medium	Fishing, game bird hunting			Rural (Primary Production), Rural (Special), Road, River, Railway, Recreation, Education, Telecommunication	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Natural wetlands and ponds
Lower Kopuaranga	Medium	Low / Medium	Fishing, game bird hunting	Kopuaranga Truss Bridge (WCDP)	Kopuaranga settlement	Rural (Primary Production), Rural (Special), Road, River, Railway	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Natural wetlands and ponds



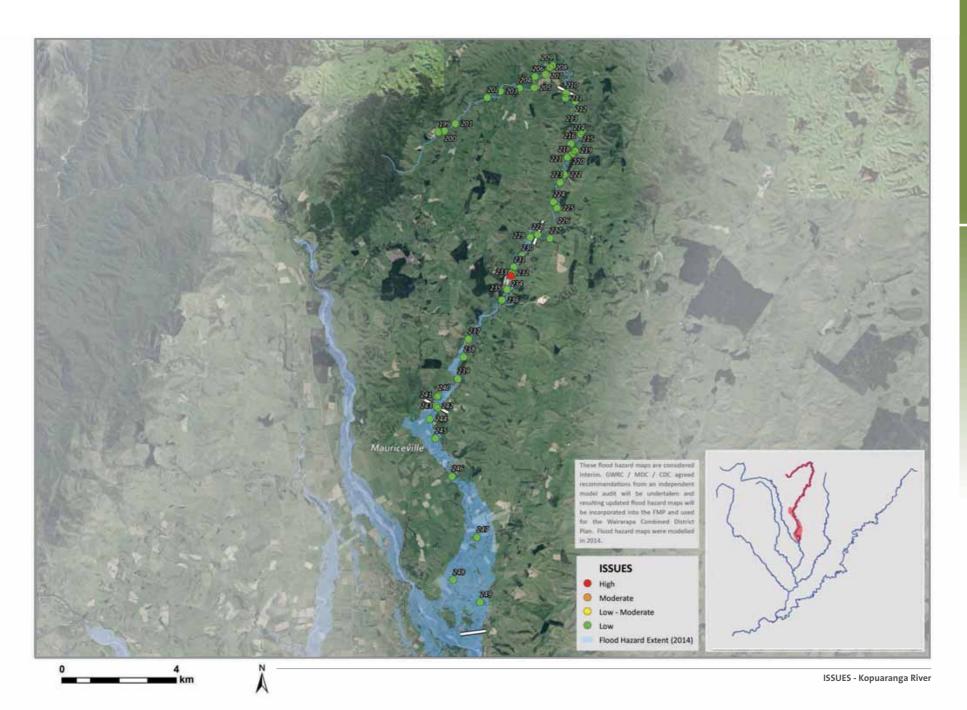
Kopuaranga River

Issues

The Kopuaranga River is prone to overtopping the banks of its incised (deeply cut) channel and spilling out onto the floodplain, even in relatively small flood events. This, combined with a channel choked with willows, may lead to extensive flooding across the plains affecting farms, homes and a number of rural roads.

There is minimal erosion risk posed by the Kopuaranga River, although there are concerns regarding silts washed from the banks and into the stream from its upper reaches. In its lower reaches it sits within a remnant overflow path of the Ruamāhanga River. A number of rural assets, structures, farm tracks and buildings have been included in the erosion hazard study area.

RISK LEVEL	DESCRIPTION			
мот	Road [199] Within erosion study area Road [200] Within erosion study area Road [201] Within erosion study area Road [202] Within erosion study area Culvert/road [203] Within erosion study area Private road/culvert [204] Within erosion study area Road [205] Within erosion study area Road [205] Within erosion study area Outbuildings [206] Within erosion study area Road [207] Within erosion study area Private access/culvert [208] Within erosion study area Outbuildings [209] Within erosion study area Road/bridge & graveyard? [210] Within erosion study area Road/bridge & graveyard? [210] Within erosion study area Road/bridge [211] Within erosion study area	Road [212] Within erosion study area Road [213] Within erosion study area Rail [214] Within erosion study area Road [215] Within erosion study area Private access/bridge [216] Within erosion study area Rail [217] Within erosion study area Road [218] Within erosion study area Private bridge [219] Within erosion study area Private bridge [219] Within erosion study area Woolshed [220] Within erosion study area House and buildings [221] Potential oxbow cut-off Private access/bridge [222] Within erosion study area Shed [223] Within erosion study area	Rail [224] Within erosion study area Private access/bridge [225] Within erosion study area Road [226] Within erosion study area Road [227] Within erosion study area Rail and private access [228] Within erosion study area Private bridge [229] Within erosion study area Private access/outbuildings [230] Within erosion study area Road [231] Within erosion study area Road bridge [232] Within erosion study area Road bridge [233] Within erosion study area Rail bridge [233] Within erosion study area Rail bridge [235] Within erosion study area Rail and road access [236] Within erosion study area Stock bridge [237] Within erosion study area	Rail [238] Within erosion study area Road bridge [239] Within erosion study area Private access bridge [240] Within erosion study area Road [241] Within erosion study area Private access bridge [242] Within erosion study area Railway bridge [243] Within erosion study area Private access bridge [244] Within erosion study area Private access bridge [244] Within erosion study area Private access bridge [245] Within erosion study area Donovans Road Bridge [246] Within erosion study area Stock bridge [247] Within erosion study area Stock bridge [248] Within erosion study area Private access bridge [249] Within erosion study area
LOW TO MODERATE				
MODERATE				
HBIH	Mauriceville settlement [234] Within 1% AEP flood extent and affected by the erosion stu	dy area		



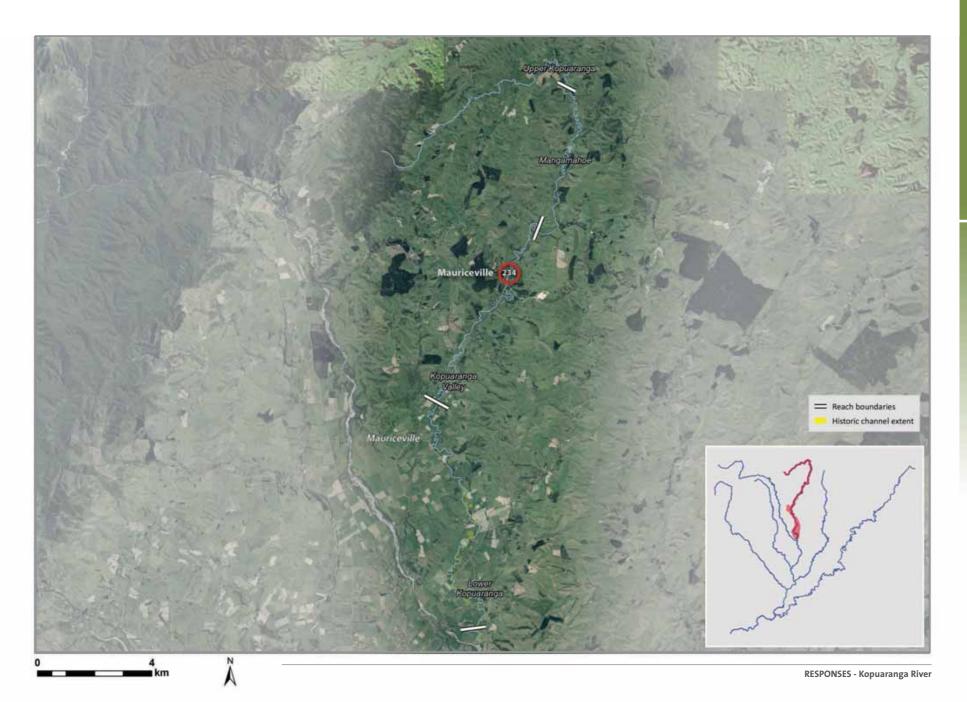
Kopuaranga River

Response

Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES	LEVEL OF SERV	ICE (AEP)	RESPONSIBILIT	Υ	PRIORITY
					Current	Target	Primary	Secondary	
CIFIC	234	Mauriceville	Emergency management	Provide flood hazard advice to Mauriceville	20%	5%	GWRC	Landowners	Medium
SPE	Scheme boundary extension to include Mauriceville. 10-year development phase in upper reach (upstream 24km) Within scheme River management prioritising willow removal and constriction point widening. Provision of erosion control management at priority locations within scheme (targeting downstream affected areas as a result of upstream drainage improvements).				GWRC	Landowners	Medium		
HODS		Within scheme	River management	River management envelope, recognition of vegetated edge protection as a river management tool, pest management in riparian planted buffers, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers	_				
MET		Entire Reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/ retirement of assets, strategic land purchase					
MMON		Entire Reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system	_				
9		Entire Reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs	_				
		·	·						



Whangaehu River

The Whangaehu River extends from the northern area of the Upper Wairarapa Valley to the Ruamāhanga to the southeast of Masterton. The altitude of the Whangaehu catchment ranges from approximately 410m in the headwaters to around 90-95m at the lower end of the Te Ore Ore plains.

The upper reaches of the river flow from steep hill country near Ihuraua, and the river flows for some 32km to the Ruamähanga River. It flows due south in the middle of a long rectangular catchment following the line of the ancient Alfredton fault. The steep catchment sides contain the river in a narrow valley in this area. In the lower reaches it meanders across the Te Ore Ore plains east of Masterton.

Formalised access to the Whangaehu River is limited, although a number of informal access agreements have been established between fishing and hunting recreation groups or individuals and landowners.

The Whangaehu River is very significant to Maori, with several cultural sites along the river and in the adjacent hills.

The Whangaehu catchment contains a mix of soils formed from sandstone, limestone and siltstone. Land use in the catchment is predominantly primary production activities – dairying, dry stock grazing, cropping, and plantation forestry – with a few scattered areas of native forest throughout the catchment. There is little evidence of lifestyle type development in the upper catchment, although a number of subdivided lifestyle-sized lots have been created on the Te Ore Ore plains closer to Masterton.

Key Floodplain Management Points

This FMP provides a framework to supply erosion control works at priority locations, increase planting for erosion control and river enhancement, and other limited noxious plant control works which are included into river maintenance activities.

Key characteristics by reach

Upper Whangaehu

Meandering stream through strongly rolling hill

Mixed forestry and pastoral land use

Open stream margins with sporadic willow and regenerating vegetation in upper reache

Upper Whangaehu Valley

Transition from stream to river

Strongly rolling valley floo

Steep gorges with mixed indigenous and willow vegetatio

Lower Whangaehu Valley

Meandering valley floor course

Mixed willow and kanuka along margin

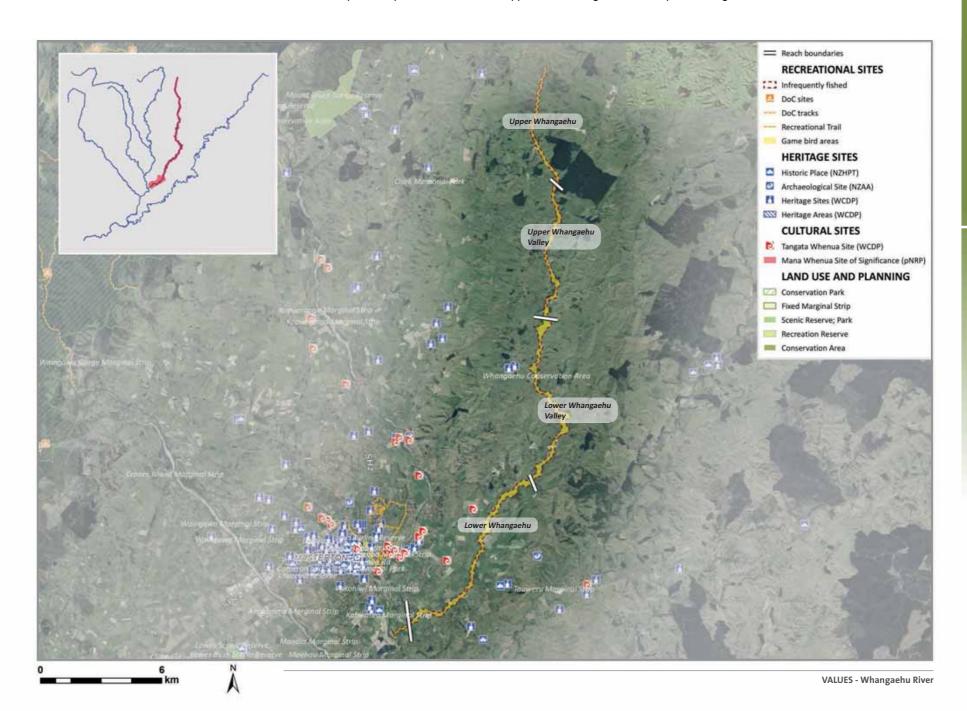
Lower Whangaehu

Steenly incised grass hanks

Stock fencing separating river margins from surrounding area

Mixed poplar, willow and alder planting

REACH	LANDSCAPE MODIFICATION	SCENIC VALUE	RECREATION VALUES	HERITAGE VALUES	CULTURAL VALUES	LAND USE AND PLANNING	ECOLOGICAL VALUES
Upper	Low / Medium	Medium / High	Game bird hunting, infrequent fishing	-	-	Rural (Primary Production), Road,	•
Whangaehu						River	
Upper	Low / Medium	Medium / High	Game bird hunting, infrequent fishing	-	-	Rural (Primary Production), Road,	Indigenous forest, Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland
Whangaehu						River	
Valley							
Lower	Medium	Medium / High	Game bird hunting, infrequent fishing			Rural (Primary Production), Road,	Fenced indigenous forest, Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous
Whangaehu						River	treeland
Valley							
Lower	Medium	Low / Medium	Game bird hunting, infrequent fishing	-	-	Rural (Primary Production), Rural	Mixed exotic-indigenous forest, Indigenous treeland
Whangaehu						(Special), Road, River	



Whangaehu River

Issues

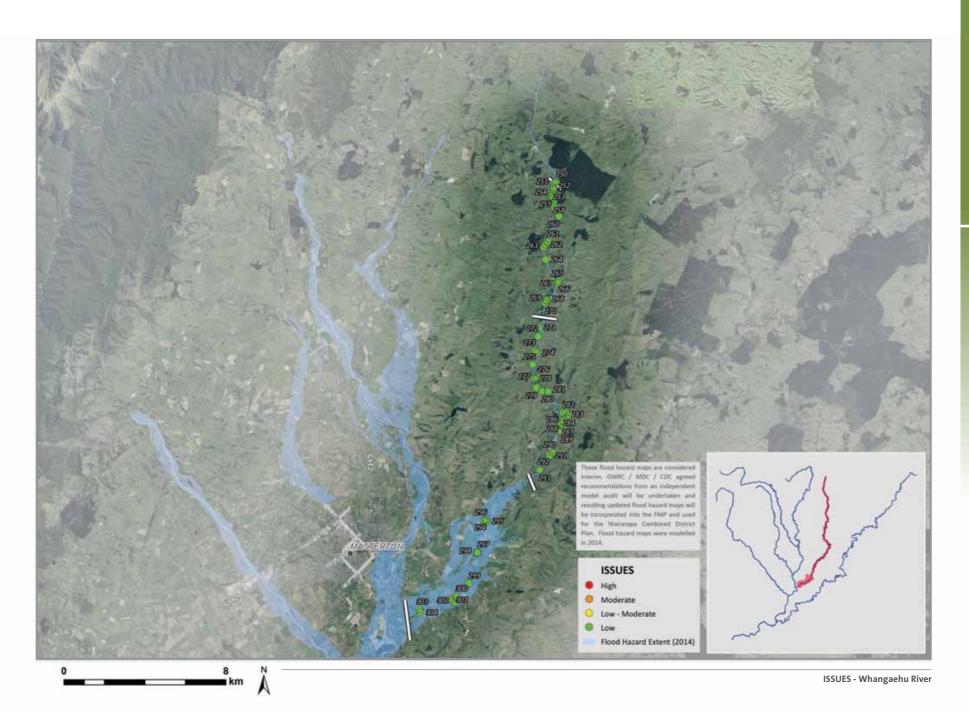
The small channel capacity of the main channel of the Whangaehu is frequently exceeded during heavy rainfall or storm events. When the river overtops its banks the floodwaters flow across the floodplain and into secondary or historic channels spread across the large flat area of the floodplain.

Historically, flooding in the Whangaehu River would have been exacerbated by blockages in the confined channel.

Flooding across the floodplain cuts off a number of communities when the east-west roads from Masterton are flooded. In many places the bridges are high enough above the floodplains to remain dry, but the roads on either side of them are covered with water deep enough to cause severe hazard for motor vehicles.

The erosion risk is relatively small due to the low energy of this river, and its limited ability to modify the surrounding geology. A number of bridges, sections of rural roads, and farm outbuildings are included within the erosion hazard study area. The river is, however, susceptible to silting from its banks and the hills in the catchment.

Road [250] Within erosion study area	Stock bridge [264]	Outbuildings [278]	Road [292]
	Within erosion study area	Within erosion study area	Within erosion study area
Road bridge [251]	Road [265]	Private access bridge [279]	Stock bridge [293]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Outbuildings [252]	Private access [266]	Road [280]	Road bridge [294]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Road and private access [253]	Stock bridge [267]	Road [281]	Outbuildings [295]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Road [254]	Outbuildings [268]	House and buildings [282]	Road [296]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Private access/bridge [255]	Outbuildings [269]	Road [283]	Outbuildings [297]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
House and buildings [256]	Private access bridge [270]	Road and bridge [284]	Road bridge [298]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Road [257]	Outbuildings [271]	Road [285]	Road bridge [299]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Road bridge [258]	Stock bridge [272]	Road [286]	Road bridge [300]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Stock bridge [259]	Stock bridge [273]	Road bridge [287]	Stock bridge [301]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Private access/bridge [260]	Access bridge [274]	Outbuildings [288]	Stock bridge [302]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Road [261]	Woolshed [275]	Road bridge [289]	Private access bridge [303]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Road [262]	Road [276]	Road [290]	Private access [304]
Within erosion study area	Within erosion study area	Within erosion study area	Within erosion study area
Road [263]	Access bridge [277]	Road [291]	
Within erosion study area	Within erosion study area	Within erosion study area	
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	Outbuildings [252] Within erosion study area Road and private access [253] Within erosion study area Road [254] Within erosion study area Private access/bridge [255] Within erosion study area House and buildings [256] Within erosion study area Road [257] Within erosion study area Road pridge [258] Within erosion study area Stock bridge [259] Within erosion study area Stock bridge [259] Within erosion study area Private access/bridge [260] Within erosion study area Road [261] Within erosion study area Road [262] Within erosion study area Road [262]	Outbuildings [252] Private access [266] Within erosion study area Within erosion study area Road and private access [253] Stock bridge [267] Within erosion study area Within erosion study area Road [254] Outbuildings [268] Within erosion study area Within erosion study area Private access/bridge [255] Outbuildings [269] Within erosion study area Within erosion study area House and buildings [256] Private access bridge [270] Within erosion study area Within erosion study area Road [257] Outbuildings [271] Within erosion study area Within erosion study area Road bridge [258] Stock bridge [272] Within erosion study area Within erosion study area Stock bridge [259] Stock bridge [273] Within erosion study area Within erosion study area Stock bridge [259] Stock bridge [274] Within erosion study area Within erosion study area Private access/bridge [260] Access bridge [274] Within erosion study area Within erosion study area Road [261] Woolshed [275] Within erosion study area Within erosion study area Road [262] Road [276] Within erosion study area Within erosion study area Road [263] Wothin erosion study area Within erosion study area Within erosion study area Road [263] Wothin erosion study area	Outbuildings [252] Private access [266] Road [280] Within erosion study area Within erosion study area Within erosion study area Road and private access [253] Stock bridge [267] Road [281] Within erosion study area Within erosion study area Within erosion study area Road [254] Outbuildings [268] House and buildings [282] Within erosion study area Within erosion study area Within erosion study area Private access/bridge [255] Outbuildings [269] Road [283] Within erosion study area Within erosion study area Within erosion study area House and buildings [256] Private access bridge [270] Road and bridge [284] Within erosion study area Within erosion study area Within erosion study area Road [257] Outbuildings [271] Road [285] Within erosion study area Within erosion study area Within erosion study area Road bridge [258] Stock bridge [272] Road [286] Within erosion study area Within erosion study area Within erosion study area Within erosion study area Private access/bridge [259] Access bridge [274]



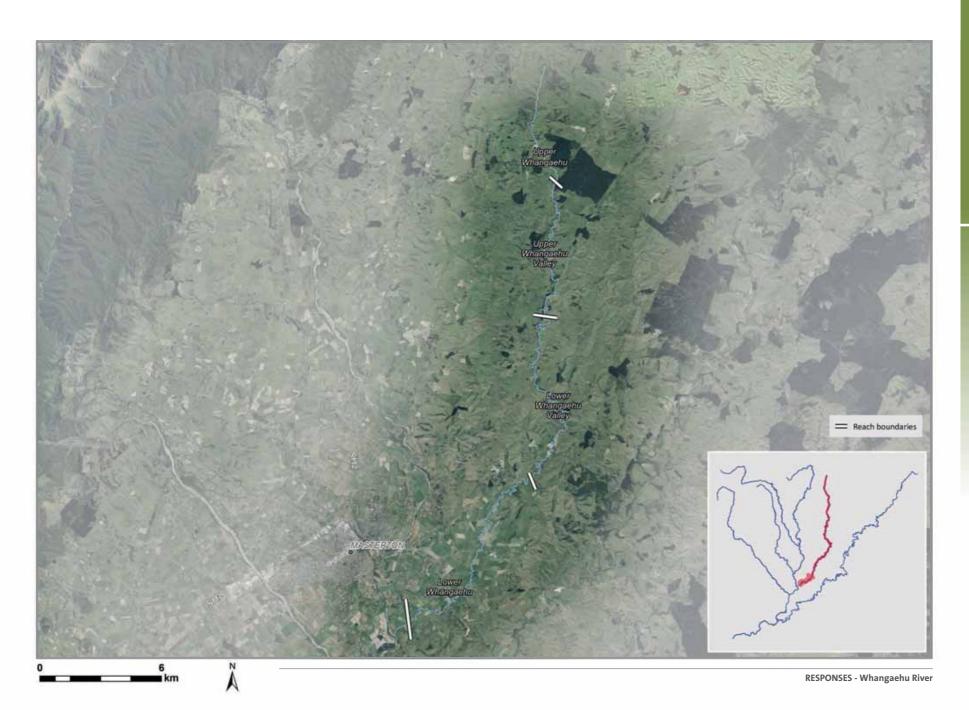
Whangaehu River

Response

Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES
OMMON METHODS		Within scheme	River management	River management envelope, riparian planting of buffers, pest management in riparian planted buffers, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers
		Entire Reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/ retirement of assets, strategic land purchase
		Entire Reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system
Ö		Entire Reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs



Taueru River

The Taueru (also known as Tauweru) River forms the eastern most river in the study area and flows through the eastern Wairarapa Hills before connecting with the Ruamāhanga to the west of Gladstone along the eastern edge of the wider Wairarapa Plains. This has a total catchment area of 498km² and the main channel has a total length of 69km.

The river has a number of small tributaries, and comparably, for the size of the catchment, has a relatively small and narrow river channel. The upper reaches of the river pass through strongly rolling terrain containing pasture and forestry. The main river channel in the lower reaches has a relatively low gradient with a meandering pattern.

The Taueru River can be translated to mean "hanging in clusters".

The Taueru River catchment contains a mix of soils formed from sandstone, limestone and siltstone in the eastern Wairarapa hill country. Land use in the catchment is predominantly primary production activities (dairying, dry stock grazing, cropping, and plantation forestry), with a few scattered areas of native forest throughout the catchment. Farming activity, which dominates the modern land use along its length, has had a substantial impact on the landform of the river. Pockets of good quality remnant native vegetation remain in some less accessible steep-sided gully areas, including isolated locations where remnant totara and kahikatea can be found. Within the managed area of the river, introduced vegetation in the form of clumps of willow and poplar dominates the channel form. Outside of the managed area, much of the floodplain and banks are grazed. This diverse mix of character has meant that reaches have generally been classified as having medium level of modification.

The floodplain of the Taueru River is relatively sparsely populated, with the development spread evenly along the length of the river and generally confined by the topography of the narrow valley.

The Taueru is particularly significant to Maori due to its historic significance as a travel route towards the north east and the coastal areas along the eastern side of New Zealand. This led to the formation of a number of settlements. There are several cultural sites identified along the river including locations of pā, urupā and mahinga kai. The Taueru River was a particularly abundant source of freshwater crayfish. Eels were more abundant in lower reaches of the river and today these parts of the river remain a valued fishery.

The remnant pockets of native vegetation and the river form make it important in some locations for recreational pursuits, which include game bird hunting, fishing and kayaking.

The lower reaches of the Taueru include several RAP sites, including Te Kopi Road and Peter Bush.

ev characteristics by reach

Upper Taueru

Mixed forestry and farmland

Meandering stream with open grazed marging

Corridors and clumps of willow and poplar trees

Bideford

Meandering willow-lined corrido

Isolated gorges with remnant totara and kahikatea

Bramerton

eeping river form, semi-enclosed river corridor

Open grazed pasture bank

Pockets of remnant indigenous fores

Taueru

Meandering course cut below river terrace

River terracing containing historic settlemen

Open grazed margins with sporadic willow, poplar and eucalypt

Werait

Incised channel meandering through enclosed river terrace.

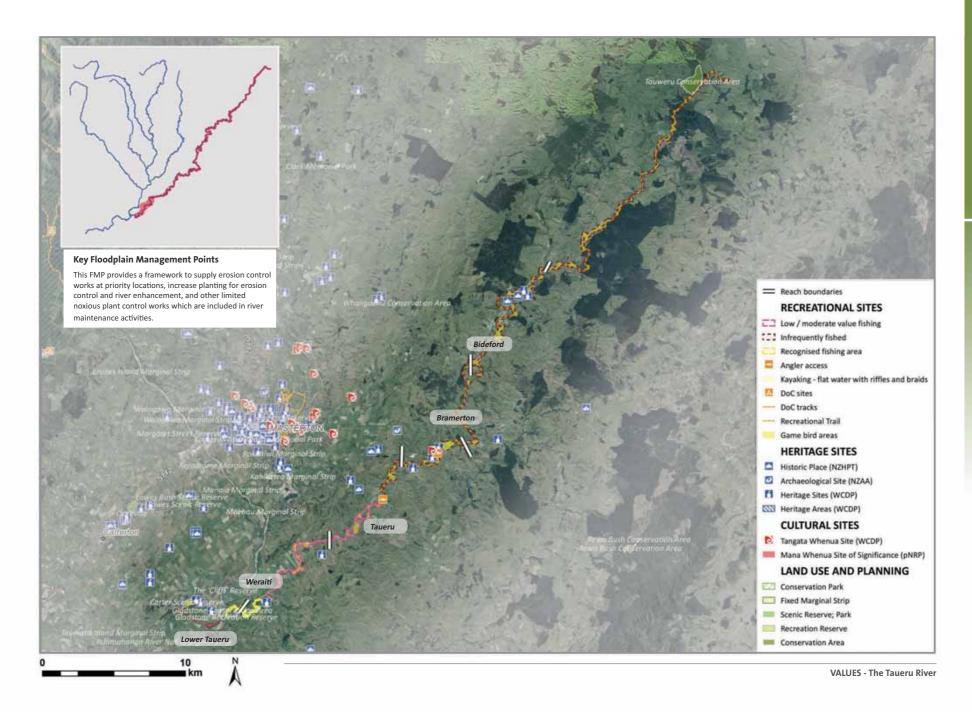
Mixed willow and pasture margins

Lower Taueru

Incised channel meandering through the Wairarana Plain

Grassed margins separated from surrounding rural land us

REACH	LANDSCAPE LANDSCAPE MODIFICATION	SCENIC VALUE	- RECREATION VALUES	HERITAGE VALUES	CULTURAL VALUES	LAND USE AND PLANNING	ECOLOGICAL VALUES
Upper Taueru	Medium	Medium / High	Game bird hunting, infrequent fishing	-	-	Rural (Primary Production), Road, River	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland
Bideford	Low / Medium	Medium	Game bird hunting, infrequent fishing	-	-	Rural (Primary Production), Road, River	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous Vegetation
Bramerton	Medium	Medium	Game bird hunting, infrequent fishing			Rural (Primary Production), River	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous Vegetation
Taueru	Medium	Medium	Angler access, game bird hunting, infrequently fished	-	Historic pa site, urupā and mahinga kai	Rural (Primary Production), Road, River	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Natural wetlands and ponds
Weraiti	Medium	Low / Medium	Angler access, game bird hunting, low/ moderate value fishing	-	-	Rural (Primary Production), Rural (Special), Road, River	Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland
Lower Taueru	Medium	Medium	Kayak access, kayaking, game bird hunting, excellent fishing	Memorial Oaks (WCDP)	Urupā	Rural (Primary Production), Rural (Special), Road, River, Flood Protection and Mitigation	Te Kopi Road (RAP), Peter's Bush (RAP), Unfenced indigenous forest, Mixed exotic-indigenous forest, Indigenous treeland, Natural wetlands and ponds



Taueru River

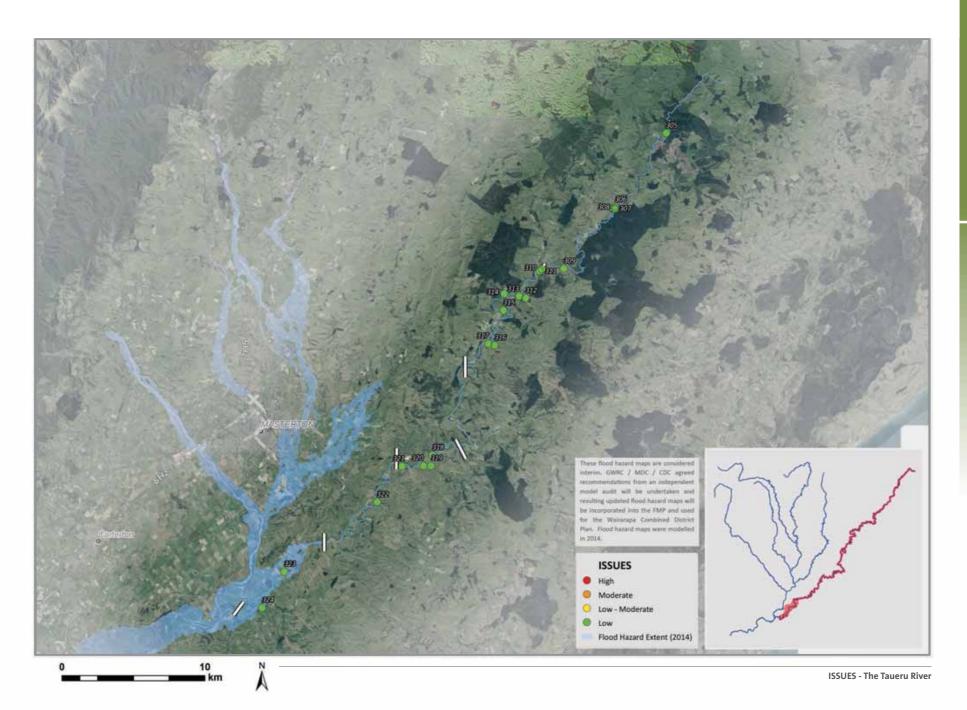
Issues

Flooding frequently overtops the banks of the river to flow across the floodplain, and to a lesser extent through secondary channels. The large catchment of Taueru has led to some significant floods in the past.

The key risks relate to flooding of productive land, access routes to residential property, and the flood risk for rural homes.

The erosion risk posed by the Taueru River is very limited, and only a small number of bridges and structures sit within the erosion hazard study area. The river however is susceptible to heavy silting from sediments washed from its banks and hills in the catchment.

RISK LEVEL	DESCRIPTION			
	Road and Bridge [305] Within erosion study area House and outbuildings [306] Within erosion study area	Road bridge [310] Within erosion study area Road [311] Within erosion study area	Private access bridge [315] Within erosion study area Private access [316] Within erosion study area	Stock bridge [320] Within erosion study area Private access bridge [321] Within erosion study area
LOW	House and outbuildings [307] Within erosion study area	Road [312] Within erosion study area	Private access bridge [317] Within erosion study area	Road bridge [322] Within erosion study area
_	Private access bridge [308] Within erosion study area	Private access bridge [313] Within erosion study area	Road bridge [318] Within erosion study area	Private access bridge [323] Within erosion study area
	Private access bridge [309] Within erosion study area	Private access bridge [314] Within erosion study area	Stock bridge [319] Within erosion study area	Road bridge [324] Within erosion study area
LOW TO MODERATE				
MODERATE				
HIGH				



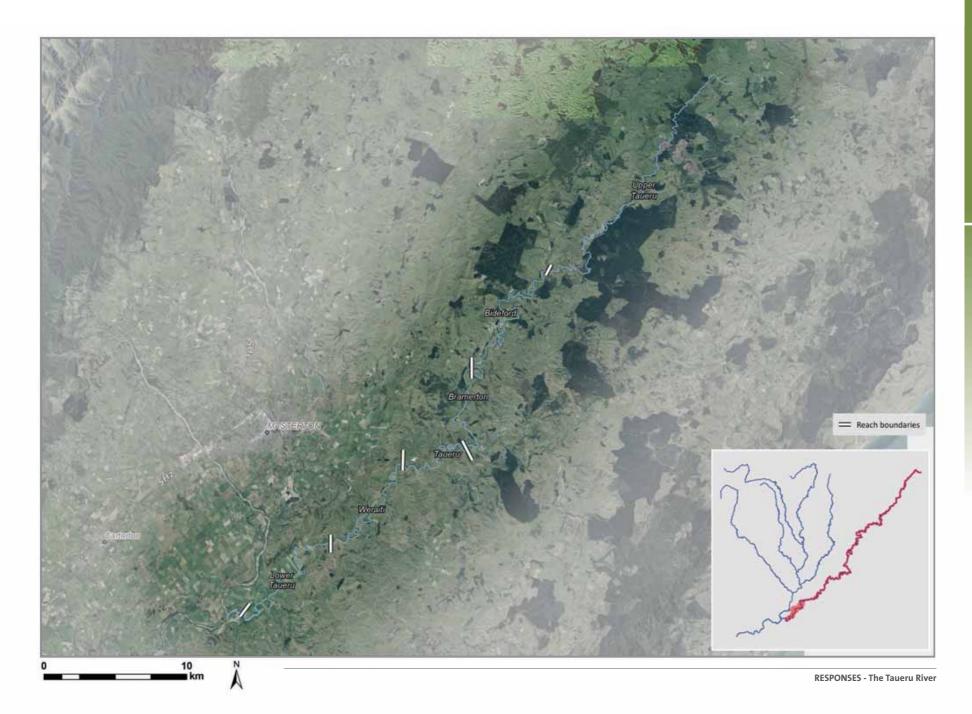
Taueru River

Response

Common methods and specific responses that apply to this reach are set out below. The common methods used to address specific issues are listed in *Appendix 5*.

Reach Specific Responses

	ISSUE ID	SITE	TYPE OF RESPONSE	MEASURES
тнорѕ		Within scheme	River management	River management envelope, river bed level monitoring, riparian planting of buffers, pest management in riparian planted buffers, pool-riffle-run envelope, isolated works support, Code of Practice, mixed riparian planting within buffers, alternative land uses within riparian planted buffers
OMMON ME		Entire Reach	Planning and policy	Land use controls, flood hazard maps, rural stopbank policy, scheme funding decision making policy, abandonment/ retirement of assets, strategic land purchase
		Entire Reach	Emergency management	Emergency management planning, community resilience, flood forecasting and warning system
ŏ		Entire Reach	Environmental enhancement	Environmental Strategy, Community Support Officer, Riparian Management Officer, care group and clubs



Appendix 1: Floodplain Management Planning Process

Floodplain management planning is the process that aims to create a plan for how to keep people and property safe from floodwaters, and at the same time puts in place steps to prepare people for coping with a flood when it occurs. Specifically, the FMP process involves recognising the necessity of managing risks to life and property, and the economic effect of flooding on the community. It also recognises the impacts of river management practices on environmental, cultural, and social wellbeing.

Work on this FMP began in 2012. Information has been gathered from a range of sources and ideas have been discussed by the FMP Subcommittee. The preparation of this FMP followed a three-phase process as outlined below.

The process followed the 'Guidelines for Floodplain Management Planning' (GWRC, 2013).

Phase 1 - Investigation

The first phase of work involved collecting data and establishing and understanding the flood and erosion problems. In doing this, a clear picture of values of the rivers and the adjacent floodplains was recognised alongside the existing flood and erosion risks. This required an understanding of the relationships between flood hazards, people and communities including the values that are shared and the way in which the interactions between these are managed.

On the technical level, this phase involved hydrological/climatic assessment, cultural values assessment, ecological and landscape assessment, hydraulic modelling and flood hazard mapping, flood damage assessment, and the assessment of implications for existing zoning. During this phase, a significant flood risk was identified for the Masterton urban area from the flooding of the Waipoua River.

Contact and briefing with affected parties and the community was also carried out by way of an open day and letter drop, as well as presentation of the flood hazard maps in Masterton.

The Te Kāuru Upper Ruamāhanga FMP Subcommittee

The FMP Subcommittee, made up of community and local government representatives, was also established during Phase 1. This Subcommittee was set up as a focus and governance group to assist with the different phases of this work.

The FMP Subcommittee, chaired by Bob Francis, is made up of:

- · the GWRC Councillor for the Wairarapa constituency;
- · one other GWRC Councillor:
- one elected member each nominated by Masterton District Council and Carterton District Council;
- · one member nominated by Kahungunu ki Wairarapa;
- one member nominated by Rangitāne ō Wairarapa;
- · up to two members nominated by the existing scheme committees; and
- · up to four community members appointed for their skills and experience relevant to the work of the Subcommittee, whom are all appointed by Council.

Over the course of the FMP development, a few members joined and left the Subcommittee for different reasons. We particularly want to acknowledge Councillor Gary McPhee and Siobhan Garlick, who passed away during the development of this FMP. All together fifteen members contributed to the FMP Subcommittee





























DATE

WORKSHOP TOPICS

Phase 2 - Identify and Assess Management Options

This phase of the FMP process saw detailed information gathering and considerable consultation with interested parties and stakeholders. In terms of technical studies and referenced documents, a variety of reports and other documents have informed decisions, as well as provided evidence-based conclusions on how the rice ran best be managed to control the risks associated with flooding and erosion. The consultation involved numerous meetings, open days, letters, radio coverage, participation in A&P shows, and workshop sessions to gather comments from relevant parties.

During this phase, the aims for this FMP were developed by the FMP Subcommittee in consultation with the community; these are outlined in Section 2.5. Overarching aims for the catchment were elaborated on for different reaches of the rivers. Based on the identified aims, a multi criteria analysis (MCA) was developed specifically for the Te Kāuru catchment to evaluate river management options. This MCA process tested the options against the overarching FMP aims and identified areas requiring improvement to bring their performance to a level acceptable to the subcommittee.

Over 300 issues were identified associated with rivers, flood and erosion risks. These are detailed in the Vision and Aims report, and Part 2 of this FMP.

The technical studies and consultation investigations helped identify and inform flood management options which were considered through a series of workshops run with the FMP Subcommittee including field visits and discussions of the community's needs and appropriate solutions. In this phase, a series of structural and non-structural options were evaluated by the FMP Subcommittee against the aims of this FMP, with the process and outcome being focused on reducing the potential flood and erosion risk.

The FMP Subcommittee workshop topics and associated key decisions are listed in the table below.

DATE WORKSHOP TOPICS		KEY DECISIONS	
20 October 2015	Multi Criteria Analysis (MCA) establishment		
15 March 2016	MCA Recap	Use of MCA	
	Common methods applied across Waingawa River		
14 April 2016	Common methods:	Support Pool, Riffle, Run Count and Retreatment of	
	River Buffer (banks)	Assets	
	River Buffer (beds)		
	Pool, riffle and run count		
	Retreat or Retirement of Assets		
	Governance and funding		
17 May 2016	Common methods:	Support Mixed Vegetated Planting, Emergency	
	Governance and funding	Management and Community Groups	
	Mixed vegetated planting		
	Emergency management		
	Private bridges across river		
	Community groups		
17 June 2016	Rathkeale Stopbank	Support High Level Application of all Common	
	Common methods endorsement / feedback	Methods	
26 July 2016	Waingawa State Highway 2 Gateway / Stopbank		
	River Road Properties		
25 August 2016	Rathkeale Stopbank options	Support improvements to amenity at South Masterton Gateway	
	Waingawa Stopbank update		
	South Masterton Gateway	Support inclusion of Mauriceville in management Scheme	
	Mauriceville		
13 September 2016	Overview of MDC Assets and flood risk implications	Approve Structure and Preparation of Working Draft of FMP	
6 December 2016	Issue 1st Working Draft of FMP		
7 February 2017	Feedback on working draft FMP		
7 March 2017	Summary of feedback on the working draft FMP, and outcomes of the feedback		

DAIL	WORKSHOT TOTICS	KET DECISIONS
4 April 2017	Governance MCA summary of major project responses	Approval of outcomes of MCA process with major projects
	Common methods by river	Support identification of use of Common Methods across each river
13 June 2017	Science of hydrological assessment	
	Management of water courses	
22 August 2017	Waipoua Masterton Urban Area Project Group August meeting Feedback from Whaitua consultation regarding 'managing the rivers'	
	Benefits of wider river active bed and vegetated buffers	
	Design lines/river management envelopes – How were they developed? And how will they be implemented?	
	Major project response updates a. River Road	
	b. Masterton District Council Raw Water Supply Pipeline	
	c. South Masterton stopbank discussion	
12 September 2017	Buffer management report	Acceptance of proposed buffer management approach
	Funding	Agreement to include Kopuaranga scheme expansior in the draft FMP
	Kopuaranga scheme expansion Rathkeale stopbank	in the dialt rivir
24 October 2017	Implementation of buffers River management descriptions	Acceptance of implementation process for buffer management
		Draft FMP to have preferred options not multiple options
		Detail of river management descriptions and level of service descriptions to remain as a supplementary report
		Confirmed that the preferred river management approach is to generally work within the existing rive management envelopes
		Desire to include designation of the buffers in the draft FMP
28 November 2017	Draft FMP Volumes 1 and 2	Confirm general structure of FMP
		Review general and more specific comments on content of FMP, covering:
		 Non-statutory status
		 Relationship to NPS: Freshwater
		 Reliance on mixed vegetation
		Adaptive management
		Relationship to Code of Practice
		Terminology
13 February 2018	Responses to Draft FMP Feedback	Confirm feedback responses have been identified
	Rathkeale update	Review draft responses
	Consultation	That genuine and honest feedback from the community is being sought
12 March 2018	Review updates to FMP Volumes 1 and 2	MDC and CDC to endorse draft for consultation
	Confirm corrections to be updated in working drafts	
	Consultation responses	
10 April 2018	Communication and engagement plan	Focus on implementing flexible, vegetated buffers
	Wide design lines	,

KEY DECISIONS

DATE	WORKSHOP TOPICS	KEY DECISIONS
8 May 2018	Plant species	Seek agreement with iwi regarding plant selection
	Engagement Plan	List of changes to be circulated ahead of next meeting
	Rathkeale	
	Funding	
	Future flooding and Climate Change	
5 June 2018	Draft FMP Volume 1 and 2	FMP endorsed for community engagement
3 July 2018	Engagement documents / activities	Environment Committee endorsement for
	Whaitua Implementation Design Team	engagement
	Waipoua update	
8 August 2018	Feedback from coffee group meetings	Recognise importance of addressing weeds in buffers
	Waipoua River modelling	MDC and GWRC to proceed collectively
11 September 2018	Stage 1 engagement summary Waipoua option development	Working Group to progress with developing urban Major Project Response for Masterton
45.0 . 1 . 0040		
15 October 2018	Sustainable Wairarapa Discussion – lan Gunn	
	Engagement Summary Report	
	Project Managers Report	
	Draft hazard maps for Waipoua	
1 November 2018	Rathkeale update	Land the of Malana and a development
1 November 2018	Waipoua flood hazard engagement feedback	Long list of Waipoua approaches development
	Oxford Street engagement	
	Waipoua option development	
10 December 2018	Major workstream responding to feedback	
10 December 2018	Community Involvement	Support for approach to community engagement
	Flood hazard maps	
	FMP Project Manager's report	
	Whaitua update	
20.1 2010	Water Wairarapa update	
29 January 2019	Urban Waipoua identified approach	
	Buffer Benefits Report – Russell Death	
	Updates to Volume 1	
13 February 2019	Volume 1 updates	Planting and weed control key outcomes
	Volume 2 updates	
	Volume 3 updates	
	Engagement	
21 February 2019	Updates to FMP Volume 1 for re-engagement	Volume 3 endorsed for public engagement
5 March 2019	Engagement on Volume 3	
	Outline of proposed FMP as one volume	
13 March 2019	Summary of engagement	FMP Endorsed for consultation
	Draft proposed FMP	
	Consultation	
11 April 2019	Engagement report	Establish hearings panel
	Submissions so far	
	Phase 2 summary report	
29 April - 22 May 2019	Hearing and deliberations	
28 May 2019	Summary of submissions and responses	
F	Draft independent audit	
5 June 2019	Resolve updates to FMP	

There were several key constraints that had to be considered when assessing management options, for example:

- Location of existing assets (such as bridges, roads, houses); and
- Balancing environmental and cultural value of allowing the river flexibility to behave more naturally with the economic costs of the potential loss of productive land.

In particular, the FMP Subcommittee promoted a river management approach that sought to allow the rivers to behave more naturally, with less frequent intervention, within the current envelopes. This was an explicit attempt to strike a balance between improving the river environments and recognising the economic value of the adjacent land (and the views of those landowners).

In addition to the workshops outlined above, approximately 20 Subcommittee meetings were held in Masterton (open for the public) where the FMP Subcommittee endorsed various steps of the project development. All the reports are available to the public through the GWRC official website.

Phase 3 - Prepare draft Floodplain Management Plan

Based on the evaluation of different options against the vision and aims of this FMP, the preferred option combinations were selected by the FMP Subcommittee and were presented to the community as a "draft" FMP. The preferred options were presented in draft form (as part of three separate volumes) to the community for feedback.

Consultation

One of the key parts of FMP process has been engaging with the community. In particular, engaging with people who may live on or own flood prone land. This FMP brings together several years of intensive work by:

- · Key stakeholders and affected parties;
- The rural community;
- · The urban community of Masterton;
- The FMP Subcommittee:
- GWRC, Carterton District Council, and Masterton District Council;
- Ngāti Kahungunu ki Wairarapa and Rangitāne o Wairarapa; and
- · Various interest groups, public agencies and businesses.

As part of this work, the FMP Subcommittee was a crucial component of consultation on the future management of the river, has made decisions on detailed technical investigations, and endorsed preferred options for addressing the flood and erosion risks at specific locations. These decisions form the basis of this FMP.

The process of how to contribute to the draft FMP was outlined in the draft FMP Volume 1 document in "Section 5: How can the community contribute?" and in the draft FMP Volume 3 document in "Section 7: How can the community contribute?".

Appendix 2: Previous River Management Practices

River management refers to works within the bed of the river and on the river banks, and the maintenance of stopbanks. Over the last 50 years, river management schemes have been proposed, developed, and maintained. These schemes collectively reduced, mitigated or managed flooding and erosion risk, with the purpose of protecting people, property, infrastructure, and productive rural land. These schemes were formed at various times based on the wishes and with the support of the local community.

Previously there were two distinct types of river management schemes operating within the Te Käuru Upper Ruamähanga catchment, which reflected the different natures of the rivers. Schemes covering the western side of the valley were dealing with larger, gravel bedded rivers (the Waingawa, Waipoua and Ruamāhanga Rivers). Schemes established on the eastern side included the Kopuaranga, Whangaehu and Taueru Rivers that are smaller, silt bedded rivers coming from the Eastern Hills.

Activities and approaches

The previous approach to flood risk management in the catchment primarily addressed erosion concerns. The gravel bed river management schemes used a river management envelope as a tool to maintain a sufficient river channel to accommodate flood flows. The aim was to keep the river's channel within a design alignment and plant edges each side of the active bed in appropriately wide vegetated buffers to enable maintenance of the channel over time.

Along fast flowing erosion-prone rivers, modern sterile varieties of willow trees are the preferred type of vegetation included in buffers because of their robust nature and vigorous growth, combined with an ability to resist erosion. The principle being that the buffers perform the bulk of the erosion protection and allow the scheme managers to manage break-outs of the river alignment before they damage assets and productive land located behind the buffers and stopbanks. In comparison with earlier willow plantings, such as those done historically on the Whangaehu, Taueru and Kopuaranga Rivers, more modern management takes a hands-on approach to establishing and managing the willow plantations so that they do not impinge on the river channel or otherwise cause a nuisance.

Other complementary river management activities used throughout the Te Kāuru Upper Ruamāhanga catchment have included:

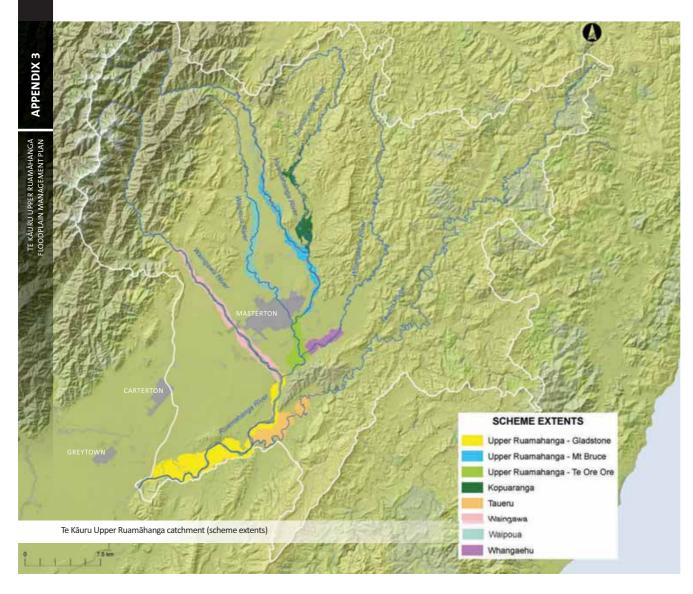
- · Gravel extraction;
- Bed and/or beach re-contouring (moving gravel within the river bed);
- Rock rip-rap (placement of rock lines along the edge/bank of the river);
- · Rock groynes (placement of rock built out from the river edge/bank); and
- Vegetation clearance to prevent the build-up of islands in the river channel. This type of work involves using
 machinery such as diggers and bulldozers on the edge of the river, or sometimes in the river channel itself.

The focus of previous river management has been driven by a desire to minimise the impact of erosion and flooding on agricultural land and a drive to maximise the productive capacity of that land. Agricultural land use remains one of the key drivers behind the need for river and erosion management and creates the greatest demands on the management of our rivers. This approach came from the prevailing values at the time the schemes were established, where overall economic development was the primary concern. In recent years, concern has been raised about the sustainability of the river management techniques used, and the impacts that these techniques and schemes have had on the river environment and cultural values. As a result of these concerns, and collaborative work between the schemes and community representatives, steps have been made to change or modify these management practices. This FMP aims to build on these improvements and includes the concept of giving the river more room to develop a natural form. It also recognises the full range of river and floodplain values as part of the assessment and option development process.

Gravel management and willow cabling are examples of many works that take place in the rivers







Appendix 3: River Management Schemes of the Te Kāuru Upper Ruamāhanga Area

Upper Ruamāhanga Schemes

There has been a long history of river management on the Upper Ruamähanga River associated with human settlement and people's desire to protect themselves and their assets (land and structures) from the negative effects of flooding.

The modern Upper Ruamāhanga River Management Scheme was established in 1982 and covered a length of 58km of the Ruamāhanga River from Mount Bruce downstream to the Waiohine confluence. The scheme was designed to protect an area of about 2,760ha of rural land and a number of public utilities using a combination of stopbanks, vegetated buffers and heavy bank protection. The overall guiding philosophy was based on an established set of design lines.

A major review of the scheme was undertaken in 2001/02 in response to a number of issues, particularly the river management approach and rating classifications which was considered to be inequitable to certain reaches of the scheme. This review resulted in the Upper Ruamāhanga Scheme being split into three sections, namely the Mt Bruce Scheme (25km), the Te Ore Ore Scheme (9km), and the Gladstone Scheme (24km), to reflect the typical quantum of works required and the subsequent relative rating requirements of each section of the river.

Waingawa River Scheme

The Waingawa River Management Scheme covers a length of 17km, stretching from the Atiwhakatu Stream to the Ruamähanga River confluence downstream. The river is bisected by a number of geological fault lines and this influences the natural characteristics of the river. The floodplain is generally well defined by clear river terraces, indicating where the river has been over a geologic timeframe, although cross country overflows towards Masterton were possible prior to the construction of stopbanks in the vicinity of West Bush/Skeets Road. After a series of floods in 1988 local landowners and the District Councils put forward a request for a river management scheme be set up to manage the effects and to provide ongoing protection to land and community assets. The scheme was established in 1992. Prior to establishing the scheme, any work carried out in the river to mitigate flood and erosion damage was carried out by individual landowners or the utility owner at their own expense.

A significant aspect of the scheme was a mechanism for encouraging the retirement of private land adjacent to the river for the creation of a vegetated buffer. This mechanism involved the agreement of the owner, who then received 10% of the assessed value of the land and the remaining 90% of the assessed value being credited to the scheme rating

district to partially offset scheme costs. Over the first 15 years infrastructural assets were developed to mitigate erosion damage, course change and flood hazard to Masterton. After this phase the scheme focused on maintenance works.

Waipoua River Scheme

The Waipoua River Management Scheme covers a length of 18km, stretching from the Mikimiki Bridge to the Ruamāhanga River confluence downstream.

The Waipoua River Scheme was originally established in 1954 to mitigate flooding and erosion hazards for rural land and the Masterton urban area. The scheme was designed to protect an area of about 770ha from flooding. The scheme consists of stopbanks, grade control weirs, vegetated buffers, protective willow plantings and rail-iron groynes.

The scheme is split into two parts; the rural reaches and the Masterton urban reach. GWRC is responsible for the implementation and maintenance of both components, however, the funding of the maintenance works within the Masterton urban area is split 50/50 between GWRC and Masterton District Council. There are three grade control weirs in the Masterton urban reach that maintain the water level in the river to ensure sufficient water supply to Queen Elizabeth Park. These weirs are within the GWRC list of assets.

Kopuaranga River Scheme

The Kopuaranga River Scheme covers a length of around 27km, from just downstream of Mauriceville to the confluence with the Ruamāhanga at Matapihi. It was established in 2007 in response to flood events during 2004 and 2005. Willows within and near the Kopuaranga River channel were impeding river flows, resulting in reduced channel capacity. The effect of this willow growth was more frequent flooding, particularly on properties in the lower sections of the Kopuaranga catchment. Following community consultation, a scheme was established to fund the selected removal of willows and the re-planting of native and exotic species in the lower catchment. In addition, an ongoing maintenance programme involving spraying or cutting willows is undertaken as required. Since the establishment of the scheme, progressive removal and re-planting of willows has been undertaken.

Whangaehu River Scheme

The Whangaehu River Scheme covers 9km of the river and is a relatively small scheme in terms of the scope of works carried out and expenditure. This scheme was established in 1995 in response to worsening flooding resulting from increased congestion of the river channel caused by willows and other debris. The scheme extends from the confluence with the Ruamāhanga River up to the Masterton-Castlepoint Road.

Taueru River Scheme

The Lower Taueru River Scheme covers 18km of the river and is similar in scope to the Whangaehu Scheme. This scheme was established in 1994 to reduce the incidence of flooding in this area due to excessive willow growth within the river channel. The scheme extends from the confluence with the Ruamāhanga River (just upstream from the Gladstone Road Bridge) up to the end of Te Kopi Road. The cause of the flooding (e.g. willow growth reducing the capacity of the river channel) and the resulting scheme works (e.g. original removal of willows and debris, followed by spraying to control re-growth) have many similarities with the Whangaehu River.

Cost of management work (2017) and key protected areas

RIVER	COST OF MANAGEMENT WORK	KEY PROTECTED AREAS
Ruamāhanga	Mt Bruce \$125k – typical annual maintenance cost	Mt Bruce (\$5k/km), Te Ore Ore (\$17k/km), and Gladstone areas (\$7k/km)
	\$1.5M – Flood Protection assets value Te Ore Ore \$150k – typical annual maintenance cost \$2.5M – Flood Protection asset value Gladstone	Average \$\$ spent per km is indicative of the relative levels of service between the three schemes (i.e. low, high, medium respectively)
	\$160k – typical annual maintenance cost \$3M – Flood Protection asset value	
Waingawa	\$179,000 – annual maintenance cost \$1.4M – Flood Protection asset values	Masterton water supply intake and the water supply pipeline
		The railway and state highway bridges The bank edge at the end of the Hood Aerodrome runway
		Local and regional utilities infrastructure
Waipoua	\$110,000 with around \$20,000 identified for the urban reach \$3,664,087 asset values	Urban Masterton and other public and private assets
Kopuaranga	\$23,000 – annual maintenance No Flood Protection assets here	The river management scheme covers 27km upstream from the confluence with the Ruamāhanga River
Whangaehu River	\$7000 – annual budget No Flood Protection assets here	Covers 9km upstream from the confluence with the Ruamāhanga River
Taueru River	\$5000 – annual budget No Flood Protection assets here	It extends for a length of 17.7km from the confluence with the Ruamāhanga

Appendix 4: Legislative and Policy/Principle Context

An outline of the legislation, policies and principles relevant to preparation of the Te Kauru Upper Ruamahanga FMP is set out below.

Legislation

There are four key statutes of particular relevance to floodplain management: the Resource Management Act 1991; the Local Government Act 2002; the Soil Conservation and Rivers Control Act 1941, and the Local Government (Rating) Act 2002.

Each of these performs a distinct and important role in managing flood risk, including the ability for a range of regulatory and non-regulatory measures to be introduced which enable central and local government to more effectively manage such risks (for example, structural measures such as stopbanks, policy and planning measures such as land use controls, and river management responses such as river management envelopes and riparian planting of buffers).

Resource Management Act (RMA)

Natural hazards are a relevant planning concern under the RMA, with the 'management of significant risks from natural hazards' recognised as a matter of national importance (s.6(h)).

To achieve this, regional and city/district councils assume specific natural hazard related functions under the Act, with regional councils responsible for controlling the 'use of land for the purpose of avoiding or mitigating natural hazards' (s. 30(1)(c)(iv)) and city/district councils responsible for controlling 'any actual or potential effects of the use, development, or protection of land for the purpose of avoiding or mitigating natural hazards' (s. 33(12)(b)(i)).

Functionally, regional councils play a lead role in hazard management, with allocation of responsibilities between agencies outlined in their regional policy statements (s.62(1) (i)).

These requirements, along with other relevant matters in Part 2 of the RMA, provide a regulatory context for regional and city/district councils to control land use to avoid or mitigate natural hazards, such as flooding. This is typically realised through objectives, policies and rules specifically developed for this purpose contained in respective regional and district plans (ss.67/68 and 75/76), and in considering and determining any associated resource consent applications (Part 6 and s.106).

Local Government Act (LGA)

Under the LGA regional and city/district councils are required to have particular regard to the contribution that the core service of 'avoidance or mitigation of natural hazards' makes to their communities (s.11A).

A key requirement under the Act is the preparation of long term plans (LTPs). These act as a vehicle for regional and city/district councils to outline their key activities (expenditure) over the following 10 year planning horizon. They also provide a basis for accountability through the identification and setting of required levels of service and performance measures in relation to groups of activities, such as flood protection (s.93).

As part of the LTP, councils are also required to prepare financial strategies including an indication of the 'expected capital expenditure on network infrastructure, flood protection and flood control works that is required to maintain existing levels of service' (s.101A(3)).

The LTP and associated asset management planning process enables councils to determine the level of natural hazard protection to be provided by their assets (in the case of flood protection works), or the level of event they are intended to withstand (in the case of network infrastructure).

Soil Conservation and Rivers Control Act (SCRCA)

While much of the original SCRCA has been repealed, it still empowers regional councils to undertake catchment works to promote soil conservation or minimise and prevent damage by floods and erosion (ss.10 and 133).

Although the Act provides a mandate to undertake works for the purposes of flood protection and erosion control, it does not compel or require regional councils to act on these matters. Furthermore, any proposed works (e.g. stopbanks) are subject to the requirements of the RMA if the activity is not permitted as of right or a resource consent is required under a relevant district or regional plan (s.10A).

The Local Government (Rating) Act 2002

The Local Government (Rating) Act 2002 replaced the Rating Powers Act 1988, but does refer to it within various sections

Under Section 23 of the Local Government (Rating) Act 2002 outlines the procedure for setting rates. Rates must be set in accordance with the relevant provisions of the long term plan including the funding impact statement for each financial year.

For public transport, river management, pest management and Wellington regional strategy rates, the Council bases its differential rating categories on those used by each of the territorial authorities in the Wellington Region. Differential rating categories for the Wairarapa river management schemes, Wairarapa catchment schemes and Wairarapa drainage schemes are based on areas identified on the approved classification registers held by the Council.

National Policy Statement for Freshwater Management (NPS-FM, 2014 (Amended 2017))

The NPS-FM is a regulatory instrument issued by the Government under the RMA that provides direction to local authorities on management of freshwater through establishment of:

- a framework that considers and recognises Te Mana o te Wai (the integrated and holistic well-being of the water) as an integral part of freshwater management; and
- a set of objectives and policies that direct water to be managed in an integrated and sustainable way, with provision
 made for economic growth within set water quality and quantity limits.

Particular provisions in the NPS-FM of relevance to floodplain management as are follows.

- Objective C1 and associated Policies C1 and C2 these relate to improving integrated management of freshwater
 and the use and development of land within a catchment. This, in turn, necessitates regional councils to review the
 way they manage land use impacts on water quality and quantity, including management of sediment input and
 land uses that alter water yield (Policy C1), and to recognise the relationship between management of land use,
 water and provision of all forms of infrastructure, including stopbanks (Policy C2).
- Objective CA1 and associated Policies CA1 and CA2 these relate to the identification of freshwater management
 units (FMUs) incorporating all freshwater bodies within a region, along with the establishment of a nationally
 consistent approach to setting relevant freshwater objectives for these units (the National Objectives Framework).

Ecosystem health and human health for recreation are compulsory values for consideration when developing FMU specific objectives. Aside from these, regional councils may also take into consideration a range of other values, where appropriate to their local/regional circumstances. Such values can include natural form and character (e.g. biophysical, ecological, geological, geomorphological, and morphological aspects), mahinga kai, wāhi tapu and water supply (Policy CA2(b) and Appendix 1).

Regional Policy Statement for the Wellington Region (RPS)

The RPS contains a specific topic on natural hazards, with river flooding identified as one of the three most significant natural hazards in the region. It also contains the following natural hazard-related objectives.

- Objective 19: The risks and consequences to people, communities, their businesses, property and infrastructure from natural hazards and climate change effects are reduced.
- Objective 20: Hazard mitigation measures, structural works and other activities do not increase the risk and consequences of natural hazard events.
- Objective 21: Communities are more resilient to natural hazards, including the impacts of climate change, and people are better prepared for the consequences of natural hazard events.

To achieve these objectives the RPS relies on four key policies: two that direct district and regional plans that apply in the region, and two that set out matters that need to be considered by councils when processing and determining a

resource consent/notice of requirement, or a change/variation or replacement to a plan. These policies are as follows.

- · Policy 15: Minimising the effects of earthworks and vegetation disturbance district and regional plans.
- Policy 29: Avoiding subdivision and inappropriate development in areas at high risk from natural hazards district and regional plans.
- Policy 51: Minimising the risks and consequences of natural hazards consideration.
- Policy 52: Minimising adverse effects of hazard mitigation measures consideration.

Regarding responsibility for policy implementation, the RPS states that these responsibilities are shared between the regional council and city/district councils (Policy 62), and identifies a range of regulatory and non-regulatory methods, including the following regulatory and non-regulatory methods.

Regulatory

- . Method 1: District plan implementation (city and district councils).
- Method 4: Resource consents, notices of requirement and when changing, varying or reviewing plans (GWRC and city and district councils).

Non-regulatory

- Method 14: Information about natural hazard and climate change effects (GWRC, city and district councils and Civil Defence Emergency Management Group).
- . Method 22: Information about areas at high risk from natural hazards (GWRC and city and district councils).
- Method 23: Information about natural features to protect property from natural hazards (GWRC and city and district councils).

Any Regional Plan or District Plan prepared under the RMA is required to put the RPS into practice. These plans help the respective regional and city/district councils to carry out their resource management functions, including managing natural hazards and their associated effects, and to develop ways to deal with the full range of floodplain management planning issues.

FMP Principles

The FMP approach adopted and implemented by GWRC is premised on a set of four core principles that reflect:

- The evolving nature of Council practice in preparing and implementing FMPs throughout the region and the corresponding lessons learnt; and
- The political and economic realities associated with any prospective change to its current approach to managing flood hazard risk (e.g. managed retreat vs building or upgrading flood protection structures).

The principles also reinforce and complement the objectives and policies in the RPS, as well as the Council's operational floodplain management guidelines.

The core principles are as follows.

· Avoid building in areas at high risk of flood hazard

Avoiding the construction of residential and other buildings vulnerable to flooding in undeveloped urban and rural areas (i.e. a 'greenfields' situation) exposed to a high level of flood hazard is the most effective way of managing flood risk in these locations in the long term. In areas subject to a lesser degree of flood hazard, activities and development should be appropriate to the circumstances and should not exacerbate flood risk.

Only consider new flood protection infrastructure where existing development is at risk

Where existing urban or rural land use and/or development (e.g. dwellings, irrigation infrastructure, dairy sheds) is subject to an unacceptable degree of flood risk the construction of new structural protection measures (e.g. stopbanks, elevating existing buildings) will be considered. This includes circumstances where, for instance, there is an elevated risk to human life or safety or where the impact on lifeline utilities or the local/regional economy is judged to be significant.

Establish standards of flood protection relative to the degree of risk

In designing and implementing structural and/or non-structural measures within areas subject to flood risk, the following standards are to be applied by GWRC and city/district councils subject to their regulatory processes.

- » Protection of all habitable buildings and urban areas
 - A minimum 1% AEP flood standard to floor levels for habitable buildings and new development within existing urban areas, along with provision of safe access
- » Stopbank protection
 - Where required to protect existing urban areas and associated land use, stopbanks will be constructed to achieve a minimum 1% AEP flood standard
 - Where required to protect rural areas and associated land use, stopbanks are generally constructed up to a 5% AEP flood standard to alleviate frequent or nuisance flood events
- » Plan for climate change in assessing the degree of flood hazard risk and in determining an appropriate response. In assessing flood hazard risk and determining appropriate structural and/or non-structural responses in areas subject to flood risk, GWRC will apply the following allowances for climate change predicted to occur over the next 100 years in the design criteria for its flood hazard investigations:
- Current allowances
 - > Increases in rainfall intensity 20%
 - > Sea level rise 0.8m

The manner in which these principles are applied to specific catchments is largely determined in discussion with individual communities during the process of preparing a FMP. This includes, for example, consideration of such matters as:

- What constitutes 'an unacceptable level of risk' to the local community and what are the structural and non-structural measures available to reduce exposure to these risks: and
- How estimates of potential flood damage are derived (e.g. current land use and potential future losses under existing development conditions vs increased development opportunities and economic growth resulting from the introduction of structural measures).

Appendix 5: Issues Summary

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)	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	METHOD	METHOD	METHOD	LIAISON	COMMEN
	Ruamāhanga	2	State Highway 2	SH2 runs close to a gorge section of the Ruamāhanga River and sits within the erosion study area. The risk of erosion here is considered low because of natural rock control. Further information on geology may clarify any risk.	Erosion	Infrastructure	Low	River management envelope	Code of Practice		3rd party asset owner liaison	
	Ruamāhanga	2	SH2 bridge	SH2 crosses the Ruamāhanga and the abutments sit within the erosion study area. This section of the river is well entrenched and gorge-like and risk to this structure is considered low.	Erosion	Infrastructure	Low	River management envelope	Code of Practice		3rd party asset owner liaison	
	Ruamāhanga	2	Scheme upstream boundary location	The upstream boundary of the Scheme sits below the gorge area of the river, it is recommended that this is reviewed in consultation with landowners in this area.	Erosion	Flood Protection	Low to Moderate	River management envelope				Scheme expansion unlikely
ļ	Ruamāhanga	2	House	A house at 2036A SH2 sits within the erosion study area extent, but outside the modelled 1%AEP flood area.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning	3rd party asset owner liaison	
;	Ruamāhanga	2	House	A house at 1986 SH2 sits within the erosion study area extent, but outside the modelled 1% AEP flood area.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning	3rd party asset owner liaison	
j	Ruamāhanga	2	House	A house at 1964 SH2 sits within the erosion study area extent, but outside the modelled 1% AEP event.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning	3rd party asset owner liaison	
,	Ruamāhanga	2	Private stock bridge	There is a stock bridge that crosses the river which sits within the erosion study area and potentially is at risk of damage from debris flows, bed level changes and flood events.	Flood & Erosion	Infrastructure	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		
3	Ruamāhanga	2	House	A habitable structure sits within the erosion study area.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		
)	Ruamāhanga	2	SH2	SH2 sits within the erosion study area extent, but is considered to be at low risk because of geology in area and distance from active channel.	Erosion	Infrastructure	Low to Moderate	River management envelope	Code of Practice		3rd party asset owner liaison	
10	Ruamāhanga	2	Channel alignment	No design channel exists for upstream of scheme boundary.	Erosion	Flood Protection	Low	River management envelope				
11	Ruamāhanga	2	Private bridge	A private bridge structure crossing the river with abutments is within the erosion study area. This may be susceptible to debris flows, erosion issues, and bed level changes.	Flood & Erosion	Infrastructure	Low to Moderate	River bed level monitoring	Emergency management planning			
12	Ruamāhanga	2	Dunvegan Forest Remnants RAP sites	Dunvegan Forest Remnants are within erosion study area and within the 1% AEP modelled flood extent.	Flood & Erosion	Environment	Low	River management envelope	Protection against deforestation in the upper catchment	Flood hazard maps		
13	Ruamāhanga	3	Site of regional significance	The Hidden Lakes area is a site of regional significance. It is within the erosion study area extents and current regional planning is unclear if there will be a requirement to protect this against possible future erosion.	Erosion	Cultural Value	Moderate	River management envelope	Code of Practice	Environmental strategy		
4	Ruamāhanga	3	Outbuildings	Possible farm ancillary buildings are within the erosion study area and within the 1% AEP flood area.	Flood & Erosion	Business	Low to Moderate	River management envelope	Flood hazard maps	Emergency management planning		
.5	Ruamāhanga	3	House	A house at 65 Fenemor Road is located within the erosion study area. It is situated outside the 1% AEP flood area.	Flood	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		
.6	Ruamāhanga	3	Houses	Houses near 1158 SH2 are within the erosion study area. The properties around these houses are within the 1% AEP flood area.	Flood & Erosion	House	Moderate	River management envelope	Flood hazard maps	Emergency management planning		
17	Ruamāhanga	3	House	A house at 1050 SH2 sits within erosion study area. The house is not within the 1% AEP flood area but areas of the surrounding property area affected.	Flood & Erosion	House	Low to Moderate	River management envelope	Flood hazard maps	Emergency management planning		
18	Ruamāhanga	3	Gravel extraction site	This location is a good gravel extraction point with good current access, and it is used and licensed by GWRC Flood Protection.	Land use	Flood Protection	Low	River bed level monitoring	Code of practice			

				SPONSES FOR EACH REACH REFER TO RESPON				PRIMARY COMMON	SECONDARY COMMON	TERTIARY COMMON	3RD PARTY ASSET OWNER	
D 19	RIVER Ruamāhanga	REACH 3	NAME Houses	ISSUE DESCRIPTION Houses at 8 Opaki Kaiparoro Road and 212 Opaki Kaiparoro Road are within the erosion study area.	Erosion	AT RISK House	RANK Low to Moderate	METHOD River management envelope	METHOD Code of Practice	METHOD Emergency management planning	LIAISON	COMMEN
20	Ruamāhanga	3	SH2	SH2 sits within the erosion study area but is considered to be at low risk because of the geology.	Erosion	Infrastructure	Low to Moderate	River management envelope	Emergency management planning		3rd party asset owner liaison	
21	Ruamāhanga	3	Railway line	The main north-south railway line sits within the erosion study area, the natural rock control in this area is currently protecting the line. The line is infrequently used.	Erosion	Infrastructure	Moderate	River management envelope	Code of Practice	Emergency management planning	3rd party asset owner liaison	
2	Ruamāhanga	3	Double bridges	The SH2 and rail bridges are susceptible to bed level changes. Current bed levels provide adequate freeboard for the bridge soffits, however there are concerns about scour around the piers. The bridge abutments are protected by natural rock controls.	Flood & Erosion	Infrastructure	Moderate	River bed level monitoring	Code of Practice	Emergency management planning	3rd party asset owner liaison	
23	Ruamāhanga	3	Houses	The houses in vicinity of the southern bridge abutment are within the erosion study area, however are likely to be protected by the natural rock controls around the SH2 and rail bridges.	Erosion	House	Low to Moderate	River management envelope	Emergency management planning			
24	Ruamāhanga	4	Opaki water race intake	This water race intake is reasonably stable and only requires occasional maintenance to ensure it operates.	Erosion	Infrastructure	Low to Moderate	River bed level monitoring	Code of Practice	Emergency management planning	3rd party asset owner liaison	
25	Ruamāhanga	4	Swimming hole	The double bridges swimming hole is very popular, but it is also a hazardous swimming location.	Land use	Recreation	Low to Moderate	Environmental strategy	Community Support Officer			
26	Ruamāhanga	4	Bluff Rangitumau Road	The road sits within the erosion study area but is likely to be of low risk due to natural rock control.	Erosion	Infrastructure	Low to Moderate	River management envelope	Emergency management planning			
27	Ruamāhanga	4	Stopbank	Stopbank within the buffer, needs to be moved to the outer extent of buffer and away from erosion pressures from river.	Flood & Erosion	Flood Protection	Low	River management envelope	Rural stopbank policy			
28	Ruamāhanga	4	Erosion control works	Erosion control works for Rathkeale stopbank are used to maintain the design fairway in this area.	Erosion	Flood Protection	Moderate	River management envelope			3rd party asset owner liaison	Major project response
29	Ruamāhanga	4	Stopbank	The Rathkeale stopbank is located in the erosion study area. It currently requires protection from bank erosion.	Erosion	Flood Protection	Moderate	River management envelope			3rd party asset owner liaison	Major project response
30	Ruamāhanga	4	Urupā	A historic urupā site which sits on the edge of a cliff above the Ruamāhanga River and is located within the erosion study area.	Erosion	Cultural	Moderate	River management envelope	Environmental strategy			
31	Ruamāhanga	4	House	A house at 143A Matapihi Road sits within the erosion study area, but it is outside the 1% AEP flood area.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		
32	Ruamāhanga	4	Rathkeale College buildings	Rathkeale College sheds are located within the erosion study area and the 1% AEP flood area.	Flood & Erosion	Business	Low to Moderate	Flood hazard maps	Emergency Management Planning	Community resilience	3rd party asset owner liaison	Major project response
33	Ruamāhanga	4	Rathkeale College sewage pond	The sewage treatment ponds for Rathkeale College are located within the erosion study area and are within the 1% AEP flood area.	Flood & Erosion	Business	Moderate	Flood hazard maps	Emergency Management Planning	Community resilience	3rd party asset owner liaison	Major project response
4	Ruamāhanga	4	Bed armouring	The river bed is becoming armoured (hard packed together) due to the addition of finer sediments falling onto it from the cliffs above.	Erosion	Flood Protection	Low to Moderate	River bed level monitoring	Isolated Works support			
5	Ruamāhanga	4	House	A house on 7 Matapihi Road is located within the erosion study area but outside the 1% AEP flood area.	Erosion	House	Low to Moderate	River management envelope	Emergency management planning			
36	Ruamāhanga	4	Houses	At 365 Black Rock Road,the house is located within the erosion study area and sits on the edge of the 1% AEP flood area.	Flood & Erosion	House	Low to Moderate	Flood hazard maps	River management envelope	Emergency management planning		
37	Ruamāhanga	4	Private water take	A private water intake for an irrigation system is located within erosion study area. No known issues.	Erosion	Infrastructure	Low to Moderate	River management envelope	Community resilience			
18	Ruamāhanga	4	Outbuilding	A farm storage or utility building is located within the erosion study area but outside the 1% AEP flood area.	Erosion	Business	Low to Moderate	River management envelope	Code of Practice			

RESPONSES SPEC	CIFIC TO INDIVIDUA	AL ISSUES - F	OR GENERAL RE	SPONSES FOR EACH REACH REFER TO RESPONS	SE SUMMA	RY						
ID	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	3RD PARTY ASSET OWNER LIAISON	COMMENT
39	Ruamāhanga	4	Road	Black Rock Road is within the erosion study area at this location, it has required erosion protection within the last decade.	Erosion	Infrastructure	Moderate	River management envelope	Code of Practice	Emergency management planning	3rd party asset owner liaison	
40	Ruamāhanga	4	Houses	147 to 240 Black Rock Road have houses which sit within the erosion study area. The houses on these properties sit outside the 1% AEP flood area.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		
41	Ruamāhanga	4	Water intake	The subsurface gallery intake consent application would be at risk of channel degrade.	Erosion	Infrastructure	Low	River bed level monitoring	Code of Practice			
42	Ruamāhanga	4	Private frost protection intake	The private water intake for frost protection system sits within the erosion study area.	Erosion	Infrastructure	Low	River management envelope	Code of Practice	Emergency management planning		
43	Ruamāhanga	4	Channel alignment	At XS245+50m - hard edge protection holds a narrow design channel alignment at this location, the river may naturally tend to a wider channel.	Erosion	Flood Protection	Low	River management envelope	Code of Practice			
44	Ruamāhanga	4	House	138 Gordon Street sits within the erosion study area, but is well set back from the river channel behind a high bank.	Erosion	House	Low	River management envelope	Emergency management planning			
45	Ruamāhanga	4	Henley Lake water intake	The channel alignment and bed levels in this area cause intake problems for water to Henley Lake.	Erosion	Infrastructure	High	River management envelope	River bed level monitoring		3rd party asset owner liaison	
46	Ruamāhanga	4	Te Ore Ore stopbank	The stopbank is believed to be of low standard of protection but several properties behind it are affected by the modelled 1% AEP flood area.	Flood	Flood Protection	Low to Moderate	Rural stopbank policy	Code of Practice	Flood hazard maps		
47	Ruamāhanga	4	Industrial yards	Sheds, machinery, possible contaminants are sitting within the erosion study area and the 1% AEP flood area.	Flood & Erosion	Environment	Low to Moderate	River management envelope	Flood hazard maps	Community resilience		
48	Ruamāhanga	4	Powerlines north of Te Ore Ore bridge	Sub-transmission lines are located north of the Te Ore Ore bridge and the pylons are located outside river bed but may be affected by the erosion study area.	Erosion	Infrastructure	Low	River management envelope	Emergency management planning		3rd party asset owner liaison	
49	Ruamāhanga	4	Te Ore Ore Bridge	This bridge is relatively new and therefore risk of scour issues is unlikely. It may be affected by changes to weir arrangements, and abutments sit within erosion study area.	Flood & Erosion	Infrastructure	Low	River bed level monitoring	River management envelope			
50	Ruamāhanga	4	Te Ore Ore weir	Ongoing effects of damaged rock and rail weirs across the river. It is visually unattractive and a safety concern for recreation users of the river.	Erosion	Recreation	High	Code of Practice	Environmental strategy			
51	Ruamāhanga	5	Henley Lake	Henley Lake Park area is being eroded and historically has been threatened by erosion. There is a current staged land retreat in progress to allow greater room for the river.	Erosion	Recreation	High	River management envelope	Code of Practice			
52	Ruamāhanga	5	Powerlines	Distribution lines cross the river, the pylons are located outside river bed but within the erosion study area.		Infrastructure	Low to Moderate	River management envelope	Emergency management planning		3rd party asset owner liaison	
53	Ruamāhanga	5	Narrow river channel	River flows regularly break out onto paddocks on the true left bank of the river, this alleviates some of the erosion and flood risks to River Road properties.	Flood & Erosion	Flood Protection	Low to Moderate	River management envelope	Code of Practice			
54	Ruamāhanga	5	Houses	Approximately 14 River Road properties are at risk of erosion from the Ruamāhanga River. They have historically been threatened in floods.	Flood & Erosion	House	High	River management envelope	Code of Practice	Emergency Management Planning		Major project response
55	Ruamāhanga	5	Cemetery	The cemetery sits within the erosion study area. It has historically suffered from erosion and light rock protection is in place to manage some of these effects.	Erosion	Infrastructure	Moderate	River management envelope	Code of Practice			
56	Ruamāhanga	5	Closed landfill	Potential erosion of contaminated material. This area has eroded previously, it is now protected with light rock and willows.	Erosion	Environment	Moderate	River management envelope	Code of Practice			
57	Ruamāhanga	5	Stopbank	A 10-20-year stopbank infested with trees has an increasing risk of failure which would affect the Wastewater Treatment Plant.	Flood & Erosion	Flood Protection	Moderate	Code of Practice	Rural stopbank policy			
58	Ruamāhanga	5	Channel alignment	The true left bank of the channel in this location is maintained by groynes on an alignment outside of the design fairway.	Erosion	Flood Protection	Low to Moderate	River management envelope	Code of Practice			

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D	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	ASSET OWNER LIAISON	COMMEN
i9	Ruamāhanga	5	Stopbank	The level of service of this stopbank is unclear from downstream of the closed landfill.	Flood	Flood Protection	Low to Moderate	Rural stopbank policy	Code of Practice	WETHOD	LIAISON	CONTINIEN
60	Ruamāhanga	5	WWTP irrigation beds	A proposed irrigation area is protected by a vulnerable ~2- year stopbank. These irrigation beds currently sit within the buffers and are within the erosion study area and 1% AEP flood area.	Flood & Erosion	Infrastructure	High	Recognition of buffers as a river management tool	Flood hazard maps		3rd party asset owner liaison	
1	Ruamāhanga	5	MDC Waste Water Treatment Plant	The Wastewater Treatment Plant sits within both the erosion study area and the 1% AEP flood area. There are some 1% AEP stopbanks protecting the asset however these are outflanked further upstream.	Flood & Erosion	Infrastructure	Moderate	Flood hazard maps	River management envelope	Emergency management planning	3rd party asset owner liaison	Major project response
2	Ruamāhanga	5	House	A house at 374A Lees Pakaraka Road sits within the erosion study area.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		
53	Ruamāhanga	5	Road	Lees Pakaraka Road sits within the erosion study area and on the edge of the 1% AEP flood area.	Flood & Erosion	Infrastructure	Moderate	River management envelope	Flood hazard maps	Emergency management planning	3rd party asset owner liaison	
64	Ruamāhanga	5	WWTP discharge point	The Wastewater Treatment Plant discharges treated water to the Ruamāhanga River.	Land use	Environment	High	River management envelope	Code of Practice		3rd party asset owner liaison	
65	Ruamāhanga	4	Channel alignment	Historically the channel was wider at this location than the current very narrow design channel alignments.	Erosion	Flood Protection	Low to Moderate	River management envelope	Historic channel lines			
66	Ruamāhanga	5	Three houses	Three houses in erosion study area are considered to be at lower risk than the road upstream due to high bank and cemented deposits. There is no history of erosion.	Erosion	House	Low	River management envelope	Code of Practice	Emergency management planning		
67	Ruamāhanga	5	Wardells Bridge	The river bed in the location of this bridge is observed to be a very stable site, with low risk of erosion or scour. The road to the north of the bridge is within by the 1% AEP flood area.	Flood & Erosion	Infrastructure	Moderate	Code of Practice	Flood hazard maps		3rd party asset owner liaison	
68	Ruamāhanga	6	Waingawa- Ruamāhanga confluence	Instability from Waingawa flows influences the Ruamāhanga at this location making it a very challenging area to manage and the river management lines are very difficult to achieve.	Erosion	Flood Protection	Low to Moderate	River management envelope	Code of Practice			
69	Ruamāhanga	6	Ruamāhanga river terrace RAP site	A RAP site is on the edge of the 1% AEP flood extent and within erosion study area.	Flood & Erosion	Environment	Low	River management envelope	Environmental strategy	Flood hazard maps		
70	Ruamāhanga	6	Channel alignment	The channel is naturally wider than the design channel alignment in this location.	Erosion	Flood Protection	Low	River management envelope	Code of Practice			
71	Ruamāhanga	6	Houses	There are several houses located in the erosion study area. They are located on reasonably firm material, on a high terrace which is unlikely to erode.	Erosion	House	Low	River management envelope				
72	Ruamāhanga	6	River alignment	This section of the river has proved to be a challenge to manage to the river management lines and pushes out towards the edge of its buffers on both banks.	Erosion	Flood Protection	Low	River management envelope	Code of Practice			
73	Ruamāhanga	6	Frost protection water intake	There is an erosion threat to a private water intake located within the erosion study area, the landowner has provided some protection.	Erosion	Infrastructure	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		
74	Ruamāhanga	6	River alignment	The river alignment in this location needs constant management and if alignment is not well managed, it spills extra water onto Te Whiti Flats, and the Te Whiti stopbank is at risk of overtopping.	Flood & Erosion	Flood Protection	Moderate	River management envelope	Code of practice			
75	Ruamāhanga	6	Fish habitat	This is a site for fish habitat.	Land use	Environment	Low	Land use controls	Environmental strategy			
76	Ruamāhanga	6	Dakins Road - public road	Erosion affecting the end section of Dakins 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.	Erosion	Infrastructure	Low to Moderate	River management envelope	Isolated Works support	Emergency management planning		
77	Ruamāhanga	6	Te Whiti Stopbank	The stopbank sits within the erosion study area and in places within the current buffers. There is a risk that it may erode and expose protected areas. It currently protects a known flooding area.	Flood & Erosion	Flood Protection	Moderate	River management envelope	Code of practice			

RESPUNSES SPE	CIFIC TO INDIVIDU	AL ISSUES - I	FOR GENERAL RE	SPONSES FOR EACH REACH REFER TO RESPONS	SE SUMMA	KY I	I	T		I	3RD PARTY	
D	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	ASSET OWNER LIAISON	COMMENT
78	Ruamāhanga	6	Channel alignment	Buffer widths upstream of the Taueru confluence require review.	Erosion	Flood Protection	Low	River management envelope				
79	Ruamāhanga	6	Fish passage	This is an important confluence between the Ruamāhanga and Taueru Rivers.	Land use	Environment	Low to Moderate	Environmental strategy				
80	Ruamāhanga	6	Gladstone complex	The Gladstone pub, sports fields and several houses sit within the erosion study area and are within the 1% AEP flood area. Despite these risks there is no recorded history of flooding or erosion.	Flood & Erosion	Business	Low to Moderate	Flood hazard maps	River management envelope	Emergency management planning		
1	Ruamāhanga	6	Gladstone Bridge	There are no known issues of scour or erosion at this bridge, however an exclusion zone applies to 100m upstream and downstream. Freeboard to soffit is ok and debris flow risk is ok.	Flood & Erosion	Infrastructure	Low to Moderate	Code of Practice				
32	Ruamāhanga	7	Stopbank	This stopbank protects farmland and is of very poor quality. It is overgrown with trees and believed to be susceptible to failure.	Flood & Erosion	Flood Protection	Low to Moderate	Rural stopbank policy				
33	Ruamāhanga	7	Ahiaruhe Stopbank	This stopbank protects farmland against small, more frequent, flood events. It is located within the erosion study area and close to the river. It is full of trees and has a high risk of failure.	Flood & Erosion	Flood Protection	Moderate	Rural stopbank policy				
34	Ruamāhanga	7	River access	An easement has been created to allow access to Carter Reserve. This site is not being promoted and there is a risk that disuse may lose future opportunities.	Land use	Recreation	Low	Care groups and clubs	Environmental strategy	Land use controls		
35	Ruamāhanga	7	Gravel extraction site	Ahiaruhe gravel extraction site	Land use	Flood Protection	Low	Code of Practice				
36	Ruamāhanga	7	Outbuildings	Farm or other utility buildings are located within the erosion study area and 1% AEP flood area.	Flood & Erosion	Business	Low to Moderate	Flood hazard maps	River management envelope			
37	Ruamāhanga	7	Channel alignment	The channel in this locations narrows at XS201 and widens out at XS198. This creates erosion issues upstream and downstream of this location.	Erosion	Flood Protection	Low to Moderate	River management envelope	Code of Practice			
38	Ruamāhanga	7	Channel alignment	Buffer width on true right bank of river is very narrow and on the true left of river is very wide. The currently managed alignment does not match design alignments.	Erosion	Flood Protection	Low	River management envelope				
39	Ruamāhanga	7	Channel alignment	The channel naturally widens in this area outside of the design channel alignment.	Erosion	Flood Protection	Low	River management envelope	Code of Practice			
90	Ruamāhanga	7	Outbuildings	There are outbuildings within the erosion study area and 1% AEP flood area.	Flood & Erosion	Business	Low to Moderate	Flood hazard maps	River management envelope			
91	Ruamāhanga	7	Kokotau Bridge	No known issues with this bridge, abutments sit within erosion study area and the road to north is within the 1% AEP flood area.	Flood & Erosion	Infrastructure	Low	Code of Practice	River bed level monitoring	Flood hazard maps		
92	Ruamāhanga	8	Stopbank	A small stopbank with a low protection level is within the erosion study area.	Flood & Erosion	Flood Protection	Low to Moderate	Rural stopbank policy				
93	Ruamāhanga	8	Channel alignment	The buffer strip in this area is very narrow and needs to be wider.	Erosion	Flood Protection	Low to Moderate	River management envelope				
94	Ruamāhanga	8	Channel alignment	The design channel alignment in this location is difficult to maintain and it has been recommended that the design lines may need to be reviewed.	Erosion	Flood Protection	Low to Moderate	River management envelope				
95	Ruamāhanga	8	Farm buildings	250 Taumata Road contains a number of structures at risk of erosion on the edge of a thin buffer, it is also within the 1% AEP flood area.	Flood & Erosion	Business	Low to Moderate	Flood hazard maps	River management envelope	Emergency management planning		
96	Ruamāhanga	8	House	A house on 142 Foreman-Jury Road is within the erosion study area and on the edge of the modelled 1% AEP flood area. Several buildings near the address are within the buffer.	Flood & Erosion	House	Low to Moderate	River management envelope	Flood hazard maps	Emergency management planning		

RESPONSES SP	ECIFIC TO INDIVIDU	AL ISSUES - I	FOR GENERAL RE	SPONSES FOR EACH REACH REFER TO RESPONS	SE SUMMA	RY					_	
ID	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	3RD PARTY ASSET OWNER LIAISON	COMMENT
97	Ruamāhanga	8	Taumata Lagoon	A potential fish habitat site is within the 1% AEP flood area.	Flood	Environment	Low to Moderate	Land use controls	Environmental strategy	Flood hazard maps		
99	Ruamāhanga	8	Kokotau to Waiohine scheme reach	There is little funding spend in this area. The landowners that contribute to the wider schemes have questions about value for money for them.	Flood & Erosion	Flood Protection	Low	Code of Practice	Community Support Officer			
100	Waipoua	10	Channel alignment	The channel alignment in this area is identified as being significantly outside the recommended design fairway.	Erosion	Flood Protection	Low to Moderate	River management envelope				Volume 3
101	Waipoua	10	Scheme upstream boundary expansion	The scheme has previously been longer, extending upstream into the Massey Farms property.	Flood & Erosion	Flood Protection	Moderate	River management envelope	Scheme decision making policy			Scheme expansion unlikely
102	Waipoua	10	Design lines	There are currently design lines in place for the Waipoua River upstream of the scheme boundary, however, they are not used for any purpose.	Erosion	Flood Protection	Low to Moderate	River management envelope				
103	Waipoua	10	Massey irrigation water intake	The intake for the irrigation system sits within the erosion study area.	Erosion	Infrastructure	Moderate	River management envelope	Code of Practice			
104	Waipoua	10	Massey farm sheds and bridge	Several farm buildings and an access bridge sit within the erosion study area.	Erosion	Business	Low to Moderate	River management envelope	Code of Practice			
105	Waipoua	11	Mikimiki bridge	There is observed ongoing bed degradation which affects the bridge, road and the water level recorder site. Work has been carried out in the past to tackle issues with scour.	Erosion	Infrastructure	Moderate	River bed level monitoring	Code of Practice		3rd party asset owner liaison	
106	Waipoua	11	Farm building	A farm outbuilding is located within the modelled 1%AEP flood area.	Flood	Business	Low	Flood hazard maps	Community resilience			
107	Waipoua	11	Channel alignment	The design fairway narrows at this location and may require revision - XS40+100m - 85m narrows to a 45m design width.	Erosion	Flood Protection	Low to Moderate	River management envelope				
108	Waipoua	11	Design lines	Current design lines have been identified as possibly too narrow.	Erosion	Flood Protection	Low to Moderate	River management envelope				
109	Waipoua	11	Farm outbuilding	A farm outbuilding is located with the modelled 1% AEP flood area and within the erosion study area.	Erosion & Flood	Business	Low	Flood hazard maps	Community resilience			
110	Waipoua	11	Bridge	A private bridge is located within this property. There are possible issues with the abutments creating an obstruction to flow and being susceptible to erosion.	Erosion	Infrastructure	Low	Code of Practice	Community resilience			
111	Waipoua	11	Telecom line	A private telco line which runs beneath the river bed that is potentially susceptible to damage by machinery or scour.	Erosion	Infrastructure	Low	River bed level monitoring	Code of Practice	Emergency management planning		
112	Waipoua	11	Water intake	A private water intake for Watson Lake is within the erosion study area.	Erosion	Infrastructure	Low to Moderate	River management envelope	Code of Practice			
113	Waipoua	12	Channel alignment	The buffer strip in this area has been identified as being too narrow and it is recommended that a wider buffer be established in accordance with the recommended design channel alignments.	Erosion	Flood Protection	Low to Moderate	River management envelope				
114	Waipoua	12	Private erosion structures	These erosion protection structures were privately constructed, but have from time to time been maintained by GWRC operations.	Erosion	Flood Protection	Low	Code of Practice	Isolated Works support			
115	Waipoua	12	Water intake	A private water intake for a lake on private property is situated within the erosion study area.	Erosion	Infrastructure	Low to Moderate	River management envelope	Code of Practice			
116	Waipoua	12	Channel alignment	The buffer planting on the true right bank has been reinforced with a rock line. This has made the buffer strip narrow in this area, however due to the protection a review of the appropriate buffer may be appropriate.	Erosion	Flood Protection	Low to Moderate	River management envelope	Code of Practice			Volume 3
117	Waipoua	12	Road	A section of Matahiwi Road is within erosion area and modelled to be 0.6m deep in a 1% AEP flood.	Erosion & Flood	Infrastructure	Low to Moderate	Flood hazard maps	River management envelope	Emergency management planning	3rd party asset owner liaison	

RESPONSES SE	ECIFIC TO INDIVIDU	JAL ISSUES -	FOR GENERAL RE	SPONSES FOR EACH REACH REFER TO RESPON:	SE SUMMA	RY						
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118	Waipoua	12	House	A house at 236 Matahiwi Road is situated within the erosion study area and the 1% AEP flood area.	Erosion & Flood	House	Low to Moderate	Flood hazard maps	River management envelope	Emergency management planning		
119	Waipoua	12	Houses	A number of properties on Matahiwi Road are modelled to be within the 1% AEP flood area.	Flood	House	Low to Moderate	Flood hazard maps	Flood forecasting and warning system	Emergency management planning		
120	Waipoua	12	Road	Road at risk of flooding during a modelled 1% AEP event to a depth of between 0.3m and 0.8m.	Flood	Infrastructure	Low to Moderate	Flood hazard maps	Flood forecasting and warning system	Emergency management planning		
121	Waipoua	12	Stopbank	The stopbank on the true left banks sits on the edge of the active channel and within the erosion study area. There has been past consideration of revision of the design lines in this location to relocate the active channel away from the structure.	Erosion	Flood Protection	Low to Moderate	Rural stopbank policy	River management envelope			
122	Waipoua	12	Low quality stopbank	This stopbank is very close to the river and at risk of erosion. It is affected by substantial tree growth making it vulnerable to storm damage and piping effects along root pathways.	Erosion	Flood Protection	Low to Moderate	Rural stopbank policy	Code of Practice			
123	Waipoua	12	Serpentine confluence	Aggradation in the area of the Serpentine Stream confluence with the Waipoua River increases the likelihood of flooding and blockage.	Flood	Flood Protection	Low to Moderate	River bed level monitoring	Code of Practice			
124	Waipoua	12	Serpentine stopbank	This stopbank is of concern because it partially protects a number of properties however the management objectives of the structure are unclear. It is very close to the river and within the erosion study area.	Erosion & Flood	Flood Protection	Moderate	Rural stopbank policy	Emergency management planning			
125	Waipoua	12	Houses	There are houses within erosion study area.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		
126	Waipoua	12	Bridge capacity	The Paierau Road Bridge is potentially creating additional flooding problems upstream.	Flood	Infrastructure	Low to Moderate	Flood forecasting and warning system			3rd party asset owner liaison	
127	Waipoua	12	Paierau Road	The stopbanks upstream of the Paierau Road Bridge overtop and flood the road frequently creating a hazard to life.	Flood	Infrastructure	Moderate	Flood forecasting and warning system	Emergency management planning	Community resilience	3rd party asset owner liaison	Major project response
128	Waipoua	12	Houses	Matahiwi Rd/Akura Road homes are at risk of flooding in a 1% AEP modelled flood event.	Flood	Infrastructure	Low to Moderate	Flood hazard maps	Flood forecasting and warning system	Emergency management planning		
129	Waipoua	12	Houses	There are houses within erosion study area.	Erosion	House	Moderate	River management envelope	Code of Practice	Emergency management planning		
130	Waipoua	12	Stopbank	The quality, standard of protection, alignments and purpose of the flood protection infrastructure in the area of the serpentine Stream confluence is variable and has been of concern for sometime.	Flood & Erosion	Flood Protection	Low to Moderate	Rural stopbank policy	Code of Practice			
131	Waipoua	12	Stopbank	The stopbank on the true right bank of the river gets close to the river channel and within the erosion study area at its downstream extent.	Flood & Erosion	Flood Protection	Low to Moderate	Rural stopbank policy	Code of Practice			
132	Waipoua	12	Akura Nursery	Akura Nursery floods from overland flow originating from upstream of Paierau Road Bridge.	Flood	Land use	Low	Flood forecasting and warning system	Emergency management planning	Community resilience		
133	Waipoua	12	Stopbank	The stopbank on the true left bank of the river is withinthe erosion study area and has required protection to reduce risk.	Flood & Erosion	Flood Protection	Low to Moderate	Rural stopbank policy	Code of Practice			
134	Waipoua	12	Houses	There are houses located within the 1% AEP flood area.	Flood	House	Low to Moderate	Flood hazard maps	Flood forecasting and warning system	Emergency management planning		
135	Waipoua	12	Golf course	The golf course is located in the modelled 1% AEP flood area and is also within the erosion study area.	Erosion & Flood	Land use	Low to Moderate	Flood hazard maps	River management envelope	Emergency management planning		

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D	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	ASSET OWNER LIAISON	COMMENT
.36	Waipoua	12	Narrowed channel	The river channel becomes more confined as it approaches	Flood	Land use	Low to Moderate	River management	WIETHOD	WIETHOD	LIAISON	COMMENT
				the railway bridge upstream of Masterton.				envelope				
137	Waipoua	13	Channel alignment	No design fairways have been created for the section of the Waipoua River which flows through Masterton. This creates management challenges due to a lack of guidance for river engineers.	Erosion	Flood Protection	Low to Moderate	River management envelope				Volume 3
139	Waipoua	13	Stopbank	The alignment of the stopbank puts it close to the active channel and within the erosion study area. The stopbank is modelled to overtop in a 1% AEP flood event. There are known low spots along its length which may have created flooding issues in paddocks.	Flood & Erosion	Flood Protection	Low to Moderate	Flood hazard maps				Volume 3
140	Waipoua	13	Bed control weirs	Structures which cross the channel to prevent channel degradation are susceptible to damage in high flow events and susceptible to erosion.	Erosion	Flood Protection	Moderate	Code of Practice	River bed level monitoring	River management envelope	3rd party asset owner liaison	Volume 3
141	Waipoua	13	Sewer lines	Sewer lines run down both banks of the Waipoua River along its length through Masterton. These are located on the river side of the stopbanks and within erosion study areas.	Erosion	Infrastructure	Low to Moderate	Code of Practice	River bed level monitoring	River management envelope	3rd party asset owner liaison	Volume 3
142	Waipoua	13	Bed control weirs	Structures which cross the channel to prevent channel degradation are susceptible to damage in high flow events and susceptible to erosion.	Erosion	Flood Protection	Moderate	Code of Practice	River bed level monitoring	River management envelope	3rd party asset owner liaison	Volume 3
143	Waipoua	13	Channel alignment	There is a mismatch between the fairways and the extents of the bed control weirs in the urban reach of the Waipoua River.	Erosion	Flood Protection	Low to Moderate	River management envelope	Code of Practice			Volume 3
144	Waipoua	13	Bed control weirs	Structures which cross the channel to prevent channel degradation are susceptible to damage in high flow events and susceptible to erosion.	Erosion	Flood Protection	Moderate	Code of Practice	River bed level monitoring	River management envelope	3rd party asset owner liaison	Volume 3
145	Waipoua	13	Irrigation water intake	The rugby ground's irrigation water intake is located within the erosion study area.	Erosion	Infrastructure	Low	Code of Practice	River bed level monitoring	River management envelope	3rd party asset owner liaison	Volume 3
146	Waipoua	13	Sewer siphon	The Landsdowne sewer siphon crosses the river and is at risk from flood damage and is within the erosion study area.	Flood & Erosion	Infrastructure	Low	Code of Practice	River bed level monitoring	River management envelope	3rd party asset owner liaison	Volume 3
147	Waipoua	13	Emergency sewer discharge point	An emergency sewer discharge point is located on the river bank.	Land use	Environment	Low to Moderate	Code of Practice	River bed level monitoring	River management envelope	3rd party asset owner liaison	Volume 3
148	Waipoua	13	Channel alignment	No design fairways have been created for the section of the Waipoua which flows through Masterton. This creates management challenges due to a lack of guidance for river engineers responsible for the scheme management.	Erosion	Flood Protection	Low to Moderate	River management envelope				Volume 3
149	Waipoua	13	Future flooding in Masterton	There are many properties in the future flood hazard area (1% AEP including climate change)	flood	House	High	Flood hazard maps				Major project response
150	Waingawa	15	MDC water supply intake	Part of the Masterton water supply network is located in the headwaters of the Waingawa River. In relatively stable gorge section.	Erosion	Infrastructure	High	Emergency management planning				
151	Waingawa	15	MDC water supply pipe bridge	There are problems with build-up of the river bed level, the risk of debris flow damage. This poses a risk to the water supply to Masterton.	Erosion	Infrastructure	High	River bed level monitoring	Emergency management planning			Major project response
152	Waingawa	15	MDC water supply pipeline	There is a currently managed erosion risk to the main water supply pipeline. It is located between the river bank and the road.	Erosion	Infrastructure	High	River management envelope	Code of Practice	Emergency management planning		Major project response
153	Waingawa	16	House	A house at 114 Waingawa Road is in the erosion study area and in 1% AEP flood area.	Erosion & Flood	Erosion & Flood	Moderate	Flood hazard maps	River management envelope	Emergency management planning		
154	Waingawa	16	Upper Waingawa Road	The upper Waingawa Road is modelled to be flooded to a depth of 0.9m in a 1% AEP flood.	Flood	Infrastructure	Moderate	Flood hazard maps	Flood forecasting and warning system	Emergency management planning		

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155	Waingawa	16	Farm buildings	A dairy shed and other outbuildings are in the erosion study area and flood risk area.	Erosion & Flood	Erosion & Flood	Low to Moderate	Flood hazard maps	River management envelope	Emergency management planning		
156	Waingawa	16	Taratahi Water Race intake	Bed degradation means achieving water intake level is difficult, river alignment is difficult to maintain with current alignment, it is necessary to balance between scour and aggradation to keep intake clear.	Erosion	Infrastructure	High	River bed level monitoring	Pool, riffle, run envelope	River management envelope		
157	Waingawa	16	MDC water supply pipeline	Bed degradation at Black Creek is creating a risk to the Masterton water supply pipeline. The pipeline also sits within the erosion study area at this location.	Erosion	Infrastructure	High	River bed level monitoring	River management envelope	Emergency management planning		Major project response
158	Waingawa	16	Waingawa River bush RAP sites	Waingawa River Bush RAP site is within the design channel buffer and close to the edge of the design channel alignment.	Erosion	Environment	Moderate	River management envelope	Environmental strategy			
159	Waingawa	16	Houses	Houses are located within the erosion study area.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		
160	Waingawa	16	MDC Water Treatment Plant - Main facility	Parts of the MDC Water Treatment Plant are within the erosion study area, the main plant is not affected by this.	Erosion	Infrastructure	Moderate	River management envelope	Code of Practice	Emergency management planning	3rd party asset owner liaison	
161	Waingawa	16	MDC Water Treatment Plant - Sludge area	The sludge treatment sections of the MDC Water Treatment Plant are located on the lower terraces within the erosion study area.	Erosion	Infrastructure	Low to Moderate	River management envelope	Code of Practice	Emergency management planning	3rd party asset owner liaison	
162	Waingawa	16	MDC water supply - Boost pump station	The boost pump station for the Masterton water supply is located within the 1%AEP flood area.	Flood	Infrastructure	High	Flood hazard maps	Flood forecasting and warning system	Emergency management planning		
163	Waingawa	16	House	There is a house in flood hazard area - the address is unclear.	Flood	House	Moderate	Flood hazard maps	Flood forecasting and warning system	Emergency management planning		
164	Waingawa	16	House	A house at 636D Norfolk Road sits within the erosion study area and Wairarapa Combined District Plan erosion area. It is not affected by the modelled 1% AEP flood area.	Erosion	House	Moderate	River management envelope	Code of Practice	Emergency management planning		
165	Waingawa	16	MDC water supply	An area designated for potential future water treatment that sits within the erosion study area and the 1% AEP flood area.	Flood	Infrastructure	Low	Land use controls	Code of Practice		3rd party asset owner liaison	
166	Waingawa	16	Historic river channel	An old river channel used to flow through this location, and an overflow path in the updated 1% AEP flood area. The old gravel river bed has been planted over and closed off with a stopbank.	Erosion	Flood Protection	Low to Moderate	Historic channel lines	Land use controls	Rural stopbank policy		
167	Waingawa	16	River alignment	Buffer zones are an issue at this location. There has been ongoing trouble managing the river to within the design lines. Erosion on true right bank is currently beyond the buffer extents.	Erosion	Flood Protection	Low to Moderate	River management envelope				
168	Waingawa	16	Tararua Drive stopbanks	The stopbanks in this location are of low level and crest height is monitored. It is recommended that the levels are confirmed (Tararua Drive - 3no. Low level banks).	Flood	Flood Protection	Moderate	Rural stopbank policy				
169	Waingawa	16	House	At 65 Totara Park Drive the house and outbuildings are in the erosion study area, they are not within the 1% AEP flood area.	Erosion	House	Moderate	River management envelope	Code of Practice			
170	Waingawa	16	Flap-gates in stopbank	Two flap-gates in Skeets stopbank create possible back flow routes. These are occasionally blocked open because of misunderstandings.	Flood	Flood Protection	Low to Moderate	Code of Practice				
171	Waingawa	16	Skeets stopbank	This stopbank protects against and overflow path which has historically connected the Waingawa River to the Waipoua River. It is currently maintained by GWRC Flood Protection but a failure could have flood consequences for Masterton.	Flood	Flood Protection	High	Code of Practice	River management envelope			
172	Waingawa	16	Buildings	There are several buildings which are part of 123 Upper Manaia Road and 161 Upper Manaia Road which sit with the erosion study area.	Erosion	House	Low to Moderate	River management envelope	Code of Practice	Emergency management planning		

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											3RD PARTY	
								PRIMARY	SECONDARY	TERTIARY	ASSET	
								COMMON	COMMON	COMMON	OWNER	
D	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	METHOD	METHOD	METHOD	LIAISON	COMMEN
.73	Waingawa	16	SLUR Site	A site at 81 Upper Manaia Road is registered on the SLUR	Erosion	Environment	Low	River management	Code of Practice	Emergency		
				database and sits within the erosion study area.				envelope		management planning		
.74	Waingawa	16	Distribution	Pylons just upstream of the rail bridge - distribution	Erosion	Infrastructure	Moderate	River management	Code of Practice	Emergency	3rd party asset	
.74	wanigawa	10	powerlines	network. One pole is currently situated in the river bed, the others are at risk of erosion on berms.	LIOSIOII	illiasti ucture	Widderate	envelope	code of Fractice	management planning	owner liaison	
175	Waingawa	16/17	Contractors yards	Contractors yards within the erosion study area and are within the 1% AEP flood area. Known erosion management	Erosion & Flood	Business	Low	Flood hazard maps	River management envelope	Emergency management		
				area.						planning		
176	Waingawa	16	Sub-transmission powerlines	Pylons just upstream of rail bridge - sub-transmission lines. Pylons sit on the edge of the erosion study area.	Erosion	Infrastructure	Low to Moderate	River management envelope	Code of Practice	Emergency management planning	3rd party asset owner liaison	
177	Waingawa	16	Rail bridge	Contractors used suithin the exector study even and eve	Erosion &	Infrastructure	Low to Moderate	River bed level	Code of Practice		2nd north cocot	
.77	Walligawa	10	Kall bridge	Contractors yards within the erosion study area and are within the 1% AEP flood area. Known erosion management area.	Flood	Imrastructure	Low to Moderate	monitoring	Code of Practice		3rd party asset owner liaison	
.78	Waingawa	16	Contractors yards	Contractors yards within the erosion study area and are	Erosion &	Business	Low to Moderate	Flood hazard maps	River management	Emergency		
.,,			,	within the 1% AEP flood area. Known erosion management area.	Flood				envelope	management planning		
179	Waingawa	16	Stopbank	This stopbank is believed to be a high failure risk.	Erosion &	Flood	High	River management	Emergency			Major project
					Flood	Protection		envelope	management planning			response
.80	Waingawa	16	Channel alignment	The buffer zones between the two bridges are very narrow, and have been recommended for review.	Erosion & Flood	Flood Protection	Low	River management envelope				
181	Waingawa	16	Channel alignment	The buffer zones between the two bridges are very narrow and have been recommended for review.	Erosion	Flood Protection	Moderate	River management envelope				
182	Waingawa	16	Sewer, water on road bridge	Key infrastructure is at low risk of being damaged by flood and debris flows attached to the road bridge.	Erosion & Flood	Infrastructure	Low to Moderate	Flood hazard maps	Emergency Management Planning		3rd party asset owner liaison	
183	Waingawa	16	Road bridge	Bed degradation is a managed problem in the area around the road bridge.	Erosion & Flood	Infrastructure	Moderate	River bed level monitoring	Code of Practice		3rd party asset owner liaison	
184	Waingawa	17	Pump station for sewer line	The pump station is located on the edge of the 1% AEP flood area, and within the erosion study area.	Erosion & Flood	Infrastructure	Moderate	Flood hazard maps	River management envelope	Emergency management planning	3rd party asset owner liaison	
185	Waingawa	17	Powerlines	Transmission network power line pylons are located within erosion study area, 200m downstream of SH2.	Erosion	Infrastructure	Low to Moderate	River management envelope	Code of Practice	Emergency Management Planning	3rd party asset owner liaison	
186	Waingawa	17	Contractors yards	Contractors yards within the erosion study area and are within the 1% AEP flood area. Known erosion management area.	Erosion & Flood	Business	Low to Moderate	Flood hazard maps	River management envelope	Emergency management planning		
187	Waingawa	17	Contractors yards	Contractors yards within the erosion study area and are within the 1% AEP flood area. Known erosion management area.	Erosion & Flood	Business	Low to Moderate	Flood hazard maps	River management envelope	Emergency management planning		
188	Waingawa	17	Powerlines	Distribution network power line pylons are located within erosion study area, 30m downstream of SH2.	Erosion	Infrastructure	Low	River management envelope	Code of Practice	Emergency Management Planning	3rd party asset owner liaison	
189	Waingawa	17	Land retirement agreements	There is ongoing work to manage buffers through land use change to planted willow buffers.	Land use	Flood Protection	Moderate	River management envelope	Mixed vegetation planting			
190	Waingawa	17	Illegal dumping	The good access and relatively secluded location make this site a popular location for illegal rubbish dumping.	Land use	Environment	Low	Environmental strategy	Community Support Officer	Care groups and clubs		
191	Waingawa	17	Recreation area	The good access to the end of Hughes Line makes it a popular area for recreation groups. There is interest in developing this access and area further from a number of interest groups.	Land use	Recreation	Low to Moderate	Community Support Officer	Care groups and clubs	Environmental strategy		
.92	Waingawa	17	Flight path	There is a controlled level for tree height for aircraft taking off from the Hood Aerodrome.	Land use	Flood Protection	Moderate	Code of Practice				Major project

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193	Waingawa	17	Aerodrome runway	The aerodrome runway is known to be affected by erosion and has been eroded in the recent past (2000), it is situated within the erosion study area.	Erosion	Infrastructure	High	River management envelope			3rd party asset owner liaison	Major project response
194	Waingawa	17	SLUR Site	Hood Aerodrome is a registered SLUR site which sits within the erosion study area.	Erosion	Environment	Low	Emergency management planning	Land use controls	Environmental strategy		
195	Waingawa	17	Private water intake	A private water intake is located within the erosion study area.	Erosion	Infrastructure	Low	River management envelope	Code of Practice			
196	Waingawa	17	Drag strip	The drag strip sits within the erosion study area and is within the 1% AEP flood area.	Erosion & Flood	Environment	Low to Moderate	River management envelope	Flood hazard maps			
197	Waingawa	17	Distribution powerlines	Pylons for a distribution network area located within the erosion study area on the true right bank and may be close to the erosion study area boundary on the true left bank.	Erosion	Infrastructure	Low	River management envelope	Emergency Management Planning	Community resilience	3rd party asset owner liaison	
198	Waingawa	17	Private water intake	A private water intake is located within the erosion study area.	Erosion	Infrastructure	Low to Moderate	River management envelope	Code of Practice			
199	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
200	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
201	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
202	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
203	Kopuaranga	Kopuaranga River	Culvert/road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
204	Kopuaranga	Kopuaranga River	Private road/culvert	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
205	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
206	Kopuaranga	Kopuaranga River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
207	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
208	Kopuaranga	Kopuaranga River	Private access/ culvert	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
209	Kopuaranga	Kopuaranga River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
210	Kopuaranga	Kopuaranga River	Road/bridge & graveyard	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
211	Kopuaranga	Kopuaranga River	Rail bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
212	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed

RESPONSES SPI	CIFIC TO INDIVIDU	AL ISSUES - I	OR GENERAL RE	SPONSES FOR EACH REACH REFER TO RESPON	SE SUMMA	RY						
ID	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	3RD PARTY ASSET OWNER LIAISON	COMMENT
213	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
214	Kopuaranga	Kopuaranga River	Rail	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
215	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
216	Kopuaranga	Kopuaranga River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
217	Kopuaranga	Kopuaranga River	Rail	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
218	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
219	Kopuaranga	Kopuaranga River	Private bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
220	Kopuaranga	Kopuaranga River	Woolshed	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
221	Kopuaranga	Kopuaranga River	House and buildings	Potential oxbow cut-off	Erosion	House	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
222	Kopuaranga	Kopuaranga River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
223	Kopuaranga	Kopuaranga River	Shed	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
224	Kopuaranga	Kopuaranga River	Rail	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
225	Kopuaranga	Kopuaranga River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
226	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
227	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
228	Kopuaranga	Kopuaranga River	Rail and private access	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
229	Kopuaranga	Kopuaranga River	Private bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
230	Kopuaranga	Kopuaranga River	Private access/ outbuildings	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed

RESPONSES SPEC	IFIC TO INDIVIDU	AL ISSUES - F	OR GENERAL RE	SPONSES FOR EACH REACH REFER TO RESPONS	SE SUMMA	RY				_	_	_
								PRIMARY	SECONDARY	TERTIARY	3RD PARTY ASSET	
								COMMON	COMMON	COMMON	OWNER	
ID	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	METHOD	METHOD	METHOD	LIAISON	COMMENT
231	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
232	Kopuaranga	Kopuaranga River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		Scheme expansion proposed
233	Kopuaranga	Kopuaranga River	Rail bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
234	Kopuaranga	Kopuaranga River	Mauriceville settlement	Within 1% AEP flood area and within the erosion study area.	Flood and Erosion	Houses	High	Flood hazard maps	Code of Practice	Isolated Works support		
235	Kopuaranga	Kopuaranga River	Private access	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
236	Kopuaranga	Kopuaranga River	Rail and road access	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
237	Kopuaranga	Kopuaranga River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
238	Kopuaranga	Kopuaranga River	Rail	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
239	Kopuaranga	Kopuaranga River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
240	Kopuaranga	Kopuaranga River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
241	Kopuaranga	Kopuaranga River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
242	Kopuaranga	Kopuaranga River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
243	Kopuaranga	Kopuaranga River	Rail bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
244	Kopuaranga	Kopuaranga River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
245	Kopuaranga	Kopuaranga River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
246	Kopuaranga	Kopuaranga River	Private access bridge (may be MDC maintained - Donovan's Road)	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
247	Kopuaranga	Kopuaranga River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
248	Kopuaranga	Kopuaranga River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		

RESPONSES SP	ECIFIC TO INDIVID	JAL ISSUES - I	OR GENERAL RE	SPONSES FOR EACH REACH REFER TO RESPO	NSE SUMMA	RY						
D	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	3RD PARTY ASSET OWNER LIAISON	COMMEN.
249	Kopuaranga	Kopuaranga River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
250	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
251	Whangaehu	Whangaehu River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
252	Whangaehu	Whangaehu River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		
253	Whangaehu	Whangaehu River	Road and private access	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
254	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
255	Whangaehu	Whangaehu River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
256	Whangaehu	Whangaehu River	House and buildings	Within erosion study area	Erosion	House	Low	Code of Practice	Emergency management planning	Isolated Works support		
257	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
258	Whangaehu	Whangaehu River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
259	Whangaehu	Whangaehu River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
260	Whangaehu	Whangaehu River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
261	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
262	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
263	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
264	Whangaehu	Whangaehu River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
265	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
266	Whangaehu	Whangaehu River	Private access	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		

RESPONSES SPE	CIFIC TO INDIVIDU	AL ISSUES - F	OR GENERAL RE	SPONSES FOR EACH REACH REFER TO RESPON	SE SUMMA	RY						
ID	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	3RD PARTY ASSET OWNER LIAISON	COMMENT
267	Whangaehu	Whangaehu River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
268	Whangaehu	Whangaehu River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		
269	Whangaehu	Whangaehu River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		
270	Whangaehu	Whangaehu River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
271	Whangaehu	Whangaehu River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		
272	Whangaehu	Whangaehu River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
273	Whangaehu	Whangaehu River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
274	Whangaehu	Whangaehu River	Access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
275	Whangaehu	Whangaehu River	Woolshed	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		
276	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
277	Whangaehu	Whangaehu River	Access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
278	Whangaehu	Whangaehu River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		
279	Whangaehu	Whangaehu River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
280	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
281	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
282	Whangaehu	Whangaehu River	House and buildings	Within erosion study area	Erosion	House	Low	Code of Practice	Emergency management planning	Isolated Works support		
283	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
284	Whangaehu	Whangaehu River	Road and bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		

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D	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	ASSET OWNER LIAISON	COMMEN
285	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
286	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
287	Whangaehu	Whangaehu River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
288	Whangaehu	Whangaehu River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		
289	Whangaehu	Whangaehu River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
290	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
291	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
292	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
293	Whangaehu	Whangaehu River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
294	Whangaehu	Whangaehu River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
295	Whangaehu	Whangaehu River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		
296	Whangaehu	Whangaehu River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
297	Whangaehu	Whangaehu River	Outbuildings	Within erosion study area	Erosion	Business	Low	Code of Practice	Emergency management planning	Isolated Works support		
298	Whangaehu	Whangaehu River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
299	Whangaehu	Whangaehu River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
300	Whangaehu	Whangaehu River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
301	Whangaehu	Whangaehu River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
302	Whangaehu	Whangaehu River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
303	Whangaehu	Whangaehu River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		

RESPONSES S	PECIFIC TO INDIVIDU	JAL ISSUES - I	FOR GENERAL RE	SPONSES FOR EACH REACH REFER TO RESPON	NSE SUMMA	RY						
ID	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	PRIMARY COMMON METHOD	SECONDARY COMMON METHOD	TERTIARY COMMON METHOD	3RD PARTY ASSET OWNER LIAISON	COMMENT
304	Whangaehu	Whangaehu River	Private access	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
305	Taueru	Taueru River	Road and bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
306	Taueru	Taueru River	House and buildings	Within erosion study area	Erosion	House	Low	Code of Practice	Emergency management planning	Isolated Works support		
307	Taueru	Taueru River	House and buildings	Within erosion study area	Erosion	House	Low	Code of Practice	Emergency management planning	Isolated Works support		
308	Taueru	Taueru River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
309	Taueru	Taueru River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
310	Taueru	Taueru River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
311	Taueru	Taueru River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
312	Taueru	Taueru River	Road	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
313	Taueru	Taueru River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
314	Taueru	Taueru River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
315	Taueru	Taueru River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
316	Taueru	Taueru River	Private access	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
317	Taueru	Taueru River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
318	Taueru	Taueru River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
319	Taueru	Taueru River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
320	Taueru	Taueru River	Stock bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
321	Taueru	Taueru River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		
322	Taueru	Taueru River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		

RESPONSES SPEC	RESPONSES SPECIFIC TO INDIVIDUAL ISSUES - FOR GENERAL RESPONSES FOR EACH REACH REFER TO RESPONSE SUMMARY											
											3RD PARTY	
								PRIMARY	SECONDARY	TERTIARY	ASSET	
								COMMON	COMMON	COMMON	OWNER	
ID	RIVER	REACH	NAME	ISSUE DESCRIPTION	THREAT	AT RISK	RANK	METHOD	METHOD	METHOD	LIAISON	COMMENT
323	Taueru	Taueru River	Private access bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice		Isolated Works support		
324	Taueru	Taueru River	Road bridge	Within erosion study area	Erosion	Infrastructure	Low	Code of Practice	Emergency management planning	Isolated Works support		

Appendix 6: Glossary

1% AEP FLOOD EVENT	A 1% Annual Exceedance Probability flood event has a one percent or one in 100 chance of being equalled or exceeded in any one year. On average, this is expected to occur once in 100 years, based on past flood records, though in reality it could happen at any time.
ACTIVE BED	The area of a river channel which is affected by the river processes of flows, sediment transport and the alteration of bed form during flood events. Outside of flood events, the active bed of a gravel bed river is normally only partially covered by flowing water (see Wetted channel).
AGGRADATION	Increase in the general level of the active bed through a build-up of bed material sediments. This may arise because a pulse of bed material has moved through a reach or due to changes in river processes affecting the transport of bed material.
AVULSION	Rapid abandonment of a river channel and the formation of a new river channel.
ANNUAL EXCEEDANCE PROBABILITY	The chance of a flood occurring in any given year. The probability is expressed as a percentage. For example, a large flood which may be calculated to have a 1% chance to occur in any one year is described as 1% AEP flood.
ASSET/FLOOD PROTECTION ASSET	A useful or valuable structure or material that is valued by Greater Wellington such as stopbanks, rock lining material, bridges, roads, debris fences etc.
BANK	A defined feature at the edge of an active bed, generally marked by a steep change in slope.
BEACH	A general term for areas of deposited bed material within the active bed that is relatively clear of vegetation, often lying between the low flow channel(s) and the banks.
BERM	An area of relatively low lying land within a waterway beyond the active bed, and generally from a bank landwards to a higher natural feature, or flood-containing stopbank. Berms generally have some form of vegetative cover. They are flooded relatively frequently and provide additional flood capacity, while accommodating erosion and active bed migration.
BOULDERFIELD	Land in which the area of unconsolidated bare boulders (> 200 mm diameter) exceeds the area covered by any one class of plant growth-form.
BUFFER /RIPARIAN PLANTED BUFFER	A defined area along the margin of the river that may be prone to erosion in order to guide priorities for river management purposes. Buffers planted with vegetation to control bank erosion are called riparian planting of buffers.
CATCHMENT	The land area draining through the main stream, as well as tributary streams, to a particular site. It relates to an area above a specific location.
CHANNEL / RIVER CHANNEL	A topographic feature that contains, or has contained, flowing water. The term can be used in a variety of ways depending on context. Channels can exist within the active bed of a river, or may refer to the entire active bed. See Wetted channel.
CODE OF PRACTICE	The Code of Practice is the document developed by GWRC that guides all river management activities undertaken by GWRC for the purposes of flood and erosion protection across the Wellington Region.
COMMON METHODS	These provide the suite of methods which are identified in this FMP in response to flood and erosion issues.
DEGRADATION	A decrease in the general level of the active bed through removal of bed material sediments. This may arise because a pulse of bed material has moved through a reach or due to changes in river processes affecting the transport of bed material.
DESIGN STANDARD	The standard of the flood management methods designed to contain a flood of a certain size (e.g. the height of river stopbanks).

DESIGNATION	This is an ability to reserve land under the district plan, either to note a hazard or to note the location of a structure to provide protection from that hazard. There are generally strict rules which control what may happen in these areas and they can be used to reserve land for construction in the future.
EMERGENCY	A situation that is the result of flood and causes or may cause loss of life or injury or illness or distress or in any way endangers the safety of the public or property.
EMERGENCY MANAGEMENT (CIVIL DEFENCE EMERGENCY MANAGEMENT)	The application of knowledge, measures, and practices for the safety of the public or property. Emergency management responses are designed to guard against, prevent, reduce, recover from, or overcome hazards that may be associated with an emergency. Emergency management includes, without limitation, the planning, organisation, co-ordination, and implementation of those measures, knowledge, and practices.
ENVIRONMENT STRATEGY	Sets the direction for the management and development of the Upper Ruamähanga rivers and their margins.
EROSION	The process of removal of material from a channel, banks or berms by the river flows.
FLOOD	Inundation of an area outside the active bed or banks, baseflow channel or channels, of a river due to runoff from a rainfall event or events.
FLOOD HAZARD MAP	A map showing flood hazard in terms of depth of inundation, flow velocities or combined hazard categories for events of different probability. The maps are produced based on computer modelling.
FLOODPLAIN	The low-lying, flat or gently sloping land adjacent to a river channel that is covered with water during floods.
FLOODPLAIN MANAGEMENT PLAN	Long term plan for sustainable management of flood and erosion risks. These plans detail the Regional Council's priorities for flood protection works for specific rivers in the region and set a vision for managing those rivers. The plans have a 40 year planning horizon with planned reviews every 10-15 years.
FLOOD STANDARD	The defined flood (volume, peak, shape, duration, timing) which a flood defence system and its associated facilities are designed to safely pass.
HABITAT	The place or type of site where an organism or population normally occurs.
HAZARD (FLOOD OR EROSION)	Flood or erosion occurrence the action of which can have a negative impact on human life, property, or other aspects of the environment.
INFRASTRUCTURE	Networks, links and arts of facility systems, e.g. transport infrastructure (roads, rail, parking), water system infrastructure (pipes, pumps and treatment works).
ISOLATED WORKS	Privately owned flood or erosion protection works that are constructed outside areas where GWRC manages community flood protection schemes.
KAITIAKITANGA	Guardian or steward or to have guardianship or stewardship.
LIFELINES	Utilities that provide services essential for the ongoing functioning of a community during and following an emergency. They include utility services - telecommunications, gas, electricity and water; and transportation network - road, rail, port and airport services.
	Other essential services include hospitals and medical centres, and emergency services, such as the police, ambulance and fire services.
MEANDERING RIVER	A river with a curved channel as opposed to a braided river with multiple channels in the river bed. In planform a meandering river has a wave form, where a meander refers to a single bend. Meanders are moving due to river flows, sediment transport and associated scour and deposition of the channel and banks.
MITIGATION	For this plan, the act of moderating or reducing the effects of the flood or erosion hazard or flood protection works.

MAURI	The life essence present in things as a result of their being imbued with that character.
NON-STRUCTURAL RESPONSES	Non-structural responses or measures keep people away from flood waters and help the community cope when flooding occurs. They include planning and policy responses (policies and rules in district plans), voluntary actions (information and advice to help people to make their own decisions), emergency management responses, and other.
OPERATIONAL MANAGEMENT PLAN (OMP)	Operational Management Plans are developed by GWRC for specific rivers to provide detailed guidance on the implementation of an FMP at a reach by reach scale. The OMP identifies the management objectives and reach specific values that must be considered in the selection of the most appropriate river management methods to be used for each reach.
	Overflow paths (also known as flow paths) include areas in the river corridor and on the adjacent floodplain where a large volume of water could flow during a major event. They are often areas of land which lead fast-flowing water away from the river corridor and over the floodplain.
OVERFLOW PATH	The depth and speed of flood waters are such that development could sustain major damage, and there may be danger to life. The rise of flood water may be rapid. Evacuation of people and their possessions would be dangerous and difficult, and social disruption and financial loss could be high. A blocked overflow path could potentially cause a significant redistribution of flood flows to other areas of the floodplain. Due to water depths and velocities, overflow paths are generally unsuitable for development, unless adequate flood avoidance and/or mitigation provisions are made.
	Ponding areas are those areas where flood waters would pond either during or after a major flood event.
PONDING AREA	Water speed is slow in ponds, but water levels could rise rapidly. Evacuation of people and their possessions may be difficult, especially on foot, and may need to be by boat. There could be danger to life. Social disruption may be high. Generally, ponding areas are unsuitable for development, unless adequate avoidance and mitigation provisions are made.
POOL, RIFFLE, RUN	These are the areas in the river channel characterised by diverse mix of flows and depths. 'Pool' is an area of low flow channel where depth is relatively greater and velocity of the flow is lower than in the surrounding parts of the river. 'Riffle' is an area of the low flow channel that is shallow and steep with higher flow velocities and unbroken standing waves over the bed material. 'Run' is an area of the low flow channel with relatively fast consistent flow and shallow depths. Runs form downstream of riffles or between pools.'
RESIDUAL RISK	The risk of flooding that exists despite the protection provided by flood protection structures. In other words, it is the additional or "leftover" risk due to possible breaching and overtopping of structures such as stopbanks.
RIPARIAN	The interface between land and a river or stream.
RISK (FLOOD OR EROSION)	The combination of the likelihood and the consequences of a hazard.
RIVER	A continually or intermittently flowing body of fresh water; includes a stream and modified watercourse; but does not include any artificial watercourse.
RIVER BED	The RMA defines a river bed as 'The space of land which the waters of the river cover at its fullest flow without overtopping its banks'. Often the horizontal extent of a river bed defined thus corresponds to the extent of the active bed.
RIVER BED LEVEL ENVELOPE	A management term referring to an area between defined limits within which the measured height of the river bed is allowed to vary, with a minimum of management intervention.

RIVER CORRIDOR	River corridor includes land immediately next to the river channel. It is the minimum area able to contain a major flood and allow the water to pass safely downstream. The extents are identified based on modelled depth and velocities of 1% AEP flood event. The depth and speed of flood waters in the river corridor are such that they represent a potential danger to people and structures.
RIVER MANAGEMENT ENVELOPE	A management term referring to an area between defined limits within which the outer edge of the design channel is allowed to migrate into the buffer under different flow conditions, with a minimum of management intervention.
SELECTED LAND USE REGISTER (SLUR)	Sites that are registered in GWRC's Selected Land Use Register (SLUR) are known (or suspected) to have been involved (historically or currently) in the use, storage or disposed of hazardous substances and as a consequence may contain residues of these substances.
SERVICE	As in utility service, is a system and its network infrastructure that supply a community need.
STONEFIELD / GRAVELFIELD	Land in which the area of unconsolidated bare stones (20-200 mm diam.) and/or gravel (2-20 mm diam.) exceeds the area covered by any one class of plant growth form. The appropriate name is given depending on whether stones or gravel form the greater area of ground surface.
STOPBANKS	Banks aligned beside the river to prevent floodwater flowing into floodplain areas. They are also known as flood defences.
STRUCTURAL RESPONSES	Structures or other physical works designed to keep flood waters away from existing development. Stopbanks and floodwalls are obvious examples of structural responses.
	As defined by Section 5 of the Resource Management Act:
SUSTAINABLE	Managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while:
MANAGEMENT	Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
	Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and avoiding, remedying, or mitigating any adverse effects of activities on the environment.
RIPAIRAN PLANTED BUFFER	Buffers planted with vegetation to control bank erosion.
WETTED CHANNEL	The area within the active bed currently containing flowing water.

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Report 19.254

Date 17 June 2019 File CCAB-8-2306

Committee Council

Author Rachel Pawson, Senior Policy Advisor

Update on the implementation programme for the National Policy Statement for Freshwater Management

1. Purpose

To seek revision of the Council's staged implementation Programme for the National Policy Statement for Freshwater Management 2014 (Amended 2017) (NPS-FM).

2. Background

The NPS-FM includes a requirement that its provisions must be implemented by December 2025 and the same NPS-FM policy requires the Council to formally adopt a staged programme of implementation to show how the Council will meet this date.

The NPS-FM progressive implementation programme (the Programme) adopted by the Council, has the following key elements:

- Region-wide regulatory provisions in the proposed Natural Resources Plan (the Plan) that implement the NPS-FM.
- Catchment-specific provisions developed using collaborative processes for each catchment in the region by whaitua committees that implement the NPS-FM. Once each whaitua committee has completed its task, recommended catchment specific provisions will be included in whaitua chapters of the Plan.
- Non-regulatory proposals (including recommendations from whaitua committees) that will be implemented (funded) through the Council's Long Term Plan.
- A requirement for regional targets and national targets to contribute to improved swimming conditions in water bodies (as per amendments 2017).

Five whaitua (areas) are identified in the Programme: the Wairarapa Coast, Ruamāhanga River, Wellington/Hutt, Te Awarua-o-Porirua, and Kāpiti. Whaitua committees will prepare Whaitua Implementation Programmes (WIPs) that include recommendations to the Council on plan changes/variations to give effect to the NPS-FM in full.

The hearings on the Plan have finished and the Council decision on submissions is due to be released on 31 July 2019. Submitters will have an opportunity to appeal the Council decision. The Plan will become operative as the appeals on each section are resolved.

3. Revised timing and actions

The Council publicly notified a Progressive Implementation Programme in 2018. Work has continued on the Programme over the last year. There are a number of changes proposed to the Programme which are explained below.

Te Awarua-o-Porirua WIP was completed in April 2019. The completion of this WIP was slightly later than the expected 2018 date. This was due to the complex nature of the urban and rural issues the Committee grappled with whilst developing the recommendations.

Te Whanganui-a-Tara Whaitua Committee was established in December 2018 and is planning to produce a final WIP in 2021. This is slightly later than the 2018 Progressive Implementation Programme anticipated which indicated that the final WIP would be completed in 2020. The extended timeframe is partly due to the flow on effect from the additional time required to prepare the Te Awarua Porirua WIP. It will also allow for the Te Whanganui-a-Tara Whaitua Committee to consider all the relevant issues and provide time for Council officers to draft the final WIP.

In the 2018 Progressive Implementation Programme the start dates for the Kāpiti Whaitua and Wairarapa Coast Whaitua were 2019 and 2020, respectively. It is proposed to delay the start of each of these Whaitua by a year. This is also a flow on effect from previous Whaitua and the realisation that the Council can only resource one Whaitua at a time rather than the originally anticipated two Whaitua. Therefore, it is recommended to delay the start of the Kāpiti Whaitua until 2020 when Te Whanganui-a-tara Whaitua is nearing completion. The Wairarapa Coast Whaitua is proposed to be delayed until 2021 to reduce the overlap between Whaitua. The approaches to these Whaitua will be quite different from the previous Whaitua potentially enabling a faster process.

Additionally, although the Kāpiti Whaitua start date has been delayed by a year. Work will begin to develop a Waikanae ki uta ki tai catchment management programme in 2019. This provides an opportunity to make progress on restoring restoring the River to a 'healthy functioning state'. Key initial work-streams and milestones for Waikanae ki uta ki tai include:

- Vision and values
- Issues list

- Decision-making process
- Status quo stocktake and assessment
- Science/monitoring framework
- Programme plan.

In the 2018 Progressive Implementation Programme the planned date for notifying a plan change associated with the Ruamāhanga Whaitua Implementation Programme was 2019. This has been moved to 2020 as it is intended to do a plan change that includes both the Ruamāhanga and Te Awarua-o-Porirua Whaitua Implementation Programmes.

Officers considered the new Resource Management Act collaborative planning track but decided against it due to convoluted process and high legal risk.

The full version of the revised Programme is given in **Attachment 1** with the above suggested changes. The changes proposed are considered appropriate and will enable the Whaitua Committee to undertake their role and responsibilities in a realistic timeframe and enable Council staff to adequately resources the Programme.

A new requirement from the 2017 amendments is that every regional council needs to improve water quality in specified rivers and lakes and to contribute to a national target for suitability of those waterbodies for primary contact. Both draft and final targets need to be available to the public.

The Ministry for the Environment modeled existing conditions and the expected improvement in waterbodies with the committed works in the region from regional plan requirements and non-regulatory programs. Of particular note is that there is no modelling in these targets of works which can be anticipated through further consenting processes in the Plan, whaitua process and infrastructure improvements.

As required first draft targets and now final targets have been provided to the public on the website by December 2018. The final targets report for the website is presented at **Attachment 2**.

4. Communication

The role of whaitua committees has already been widely communicated as part of the ongoing process for establishing and operating the existing whaitua committees. The Ruamāhanga and Te Awarua-o-Porirua Whaitua Committees have produced final Whaitua Implementation Plans. Te Wanganui-a-tara Whaitua Committee has been established and has web-pages with information on their responsibilities, what they are doing, and how people can be involved.

The revised NPS Programme of implementation and the draft targets will be posted on the Council's web-page with links to current whaitua committee web-pages. As work starts with additional whaitua similar engagement and communication will occur.

5. Consideration of climate change

The matters requiring decision in this report have been considered by officers in accordance with the process set out in the GWRC Climate Change Consideration Guide.

Officers have considered the impacts of climate change in relation to the matter for mitigation and adaptation assessment. Officers recommend that consideration of climate change is being assessed as part of the modelling and development of the WIPs.

6. The decision-making process and significance

Officers recognise that the matters referenced in this report may have a high degree of importance to affected or interested parties.

The matters requiring decision in this report have been considered by officers against the requirements of Part 6 of the Local Government Act 2002 (the Act). Part 6 sets out the obligations of local authorities in relation to the making of decisions.

6.1 Significance of the decision

Part 6 of the Local Government Act 2002 (the Act) requires Greater Wellington Regional Council to consider the significance of the decision. The term 'significance' has a statutory definition set out in the Act.

Officers have considered the significance of the matter, taking the Council's significance and engagement policy and decision-making guidelines into account. Officers recommend that the matter be considered to have low significance.

The Report updates a programme of work which has already been approved by Council. The Report fulfils the reporting requirement of the NPS-FM.

Officers do not consider that a formal record outlining consideration of the decision-making process is required in this instance.

6.2 Engagement

Changes to the NPS-FM Programme are minor and for information. The targets for swimming are available on the website. The engagement approach being followed for these matters is set out in this report and attachments.

7. Recommendations

That the Council

- 1. **Receives** the report.
- 2. Notes the content of the report.
- 3. Adopts the revised Programme of time-limited stages in Attachment 1 for implementation of the National Policy Statement for Freshwater Management 2014 (amended 2017).

Attachment 1: Programme of time-limited stages for implementation of the National Policy Statement for Freshwater Management 2014 (NPS-FM) and progress to June 2019

Attachment 2: Wellington Region Final Regional Swimming Targets (31 December 2018)

Report prepared by: Report approved by: Report approved by:

Rachel Pawson Matthew Hickman Alistair Cross Senior Policy Advisor **Environmental Policy** General Manager

Manager **Environment Management**

Attachment 1 to Report 19.254

Programme of time-limited stages for implementation of the National Policy Statement for Freshwater Management 2014 (amended 2017) (NPS-FM) and progress to April 2019

Pursuant to Policy E1 of the National Policy Statement for Freshwater Management 2014 (amended 2017), the Wellington Regional Council gives public notice of the following staged Programme for implementation and the progress to April 2019.

	Planning and engagement	Collaborative process for developing catchment specific management approaches	Implementation progress to April 2019
2013	Release a Working Document for Discussion for comment and	Identify five whaitua for the region.	A Working Document for Discussion was publicly released in August 2013.
	discussion.		The five whaitua for the region were identified in June 2013. The purpose, role, membership, and timing of whaitua committees were also reported to the Council at the same time.
			Members of the Whaitua Committee were appointed in December 2013.
2014	Release a draft Natural Resources Plan for comment and discussion.	Establish the process for collaboration with communities in Ruamāhanga Whaitua and Te Awarua-o-Porirua Whaitua in the region.	Following consultation with stakeholders on a Working Document for Discussion, a draft Natural Resources Plan for the Wellington Region was released in September 2014.
			The Ruamāhanga Whiatua Committee held its first meeting in February 2014.
			The process for establishing the Te Awarua-o-Porirua Whaitua Committee was reported to the Council in July 2014. Members of the Committee were appointed in December 2014.
2015	Notify Proposed Natural Resources Plan for the		The Proposed Natural Resources Plan for the Wellington Region

	Planning and engagement	Collaborative process for developing catchment specific management approaches	Implementation progress to April 2019
	Wellington Region.		was publicly notified on 31 July 2015. The Te Awarua-o-Porirua Whaitua Committee first met in February 2015.
2018	Provide draft swimming targets to the public by 31 March. Finalise regional swimming targets to the public by 31 December	Whaitua Implementation Programme (WIP) completed for Ruamāhanga Whaitua Establish whaitua committee and start collaboration with communities in Wellington Harbour /Hutt Valley Whaitua WIP completed for Te Awarua-o-Porirua Whaitua.	Draft swimming targets report was available on website 31 March and the final report was made public on 31 December 2018. The Ruamāhanga Whaitua Implementation Programme was released and accepted by the Council on 16 August 2018. Te Awarua-o-Porirua Whaitua Committee work to finalise recommendations and draft the Whaitua Implementation Programme. Te Whanganui-a-tara Whaitua Committee was established in November 2018.
2019	Work towards notifying a regional plan change in response to the Ruamāhanga Whaitua and Te Awarua-o-Porirua WIPs.	Te Wanganui-a-tara Whaitua working towards a WIP. Development of a Waikanae ki uta ki tai catchment management programme.	The final Te Awarua-o-Porirua Whaitua Implementation Programme was released and accepted by the Council on 10 April 2019. Te Whanganui-a-tara Whaitua Committee first met in February 2019 and is working towards a WIP.
2020	Notify Regional Plan changes in response to	Te Wanganui-a-Tara Whaitua finalising	Not applicable

	Planning and engagement	Collaborative process for developing catchment specific management approaches	Implementation progress to April 2019
	completed WIPs and to identify scheduled rivers and lakes and primary contact sites (as per Policy A5) for Ruamāhanga Whaitua and Te Awarua-o-Porirua Whaitua. LTP provides funding for implementation of non-regulatory methods in response to the WIPs completed Ruamāhanga Whaitua and Te Awarua-o-Porirua Whaitua.	recommendations and starting to draft the WIP. Establish process for collaboration with communities in Kāpiti Whaitua.	
2021	Notify Regional Plan change in response to WIP completed for Te Whanganui-a-Tara Whaitua. LTP provides funding for implementation of non-regulatory methods in response to WIP completed for Te Whanganui-a-Tara Whaitua.	WIP completed for Te Whanganui-a-Tara Whaitua in early 2021. Kāpiti Whaitua working towards a WIP. Establish a process for Wairarapa Coast Whaitua.	Not applicable
2022		Kāpiti and Wairarapa Coast Whaitua working towards a WIP.	Not applicable
2023	Notify Regional Plan change in response to WIP completed for Kāpiti Whaitua. LTP provides funding for implementation of non-regulatory methods in response to WIP completed for Kāpiti Whaitua.	WIP complete for Kāpiti Whaitua. WIP completed for Wairarapa Coast Whaitua.	Not applicable
2024	Notify Regional Plan change in response to WIP		Not applicable

Planning and engagement	Collaborative process for developing catchment specific management approaches	Implementation progress to April 2019
completed for Wairarapa Coast Whaitua.		
LTP provides funding for implementation of non-regulatory methods in response to WIP completed for Wairarapa Coast Whaitua		

Attachment 2 to Report 19.254

Regional Swimming Targets for the Wellington Region

The National Policy Statement for Freshwater Management (as amended in August 2017) directs all regional councils (including unitary authorities) to set regional targets to improve the quality of fresh water so they are suitable for primary contact more often. The information contained in this document meets this requirement. "Primary contact" includes swimming, and means people's contact with fresh water that involves immersion in the water. Being suitable for primary contact more often includes improvements in water quality from one state to another (for example, orange to yellow, yellow to green, or green to blue).

All regional councils have worked together to use the best information available to identify:

- The improvements that will be made to water quality in rivers and lakes in the Wellington region under programmes that are planned or underway
- When the anticipated water quality improvements will be achieved
- The likely costs of all interventions, and where these costs will fall.

A report on these theoretical improvements and costs, presented region by region, is available <u>here</u>. The assumptions and limitations of the modelling approaches taken are described in the report.

Regional context and focus

The overall swimmable state of the Wellington region's rivers is currently 65% swimmable (that is, 65% of rivers that are fourth order or larger are in the blue, green or yellow category in terms of $E.\ coli$). Fourth order describes a river which has been formed by the joining of progressively larger rivers and streams from its origin. For lakes with perimeters greater than 1,500 metres, 75% are in the blue, green or yellow category in terms of cyanobacteria based on the status quo.

The regional priorities for the Wellington region are to continue to implement the proposed Natural Resources Plan, including excluding stock from waterbodies, protection of significant wetlands, ensuring stormwater is appropriately managed, working with partners to reduce sewage overflows and working with industry to implement good management practice for water use and waste storage/disposal and in rural land management.

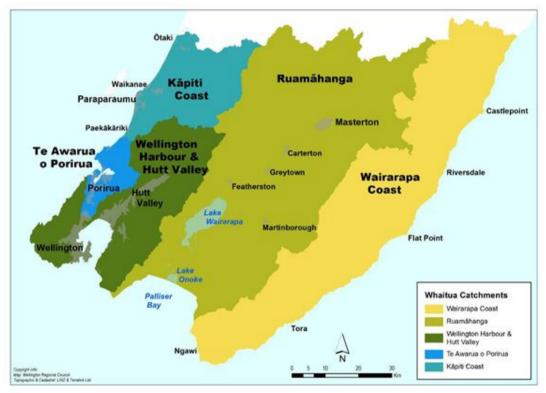
Over the next seven years, we will be introducing environmental limits for both water quantity and water quality. This will affect everyone in the region, urban and rural areas alike. These limits are being delivered via <u>Greater Wellington's Whaitua programme</u> and the swimming targets will be updated to reflect the limits proposed by the community. The Wellington Region has been split into five whaitua (catchments) with a committee in each making decisions on the future of land and water management in that whaitua, including to deliver recommendations on the implementation of the NPS-FM policy CA2 to set freshwater objectives for all freshwater management units.

The following whaitua committees have been established:

- <u>Ruamāhanga Whaitua</u> established 2013, completed 2018. Whaitua Implementation Plan 2018 is here
- <u>Te Awarua-o-Porirua Whaitua</u> established December 2014 and due to be completed early 2019
- <u>Te Whanganui-a-Tara</u> established December 2017, committee selected 2018 and first meeting early 2019.

The following two committees to be established are:

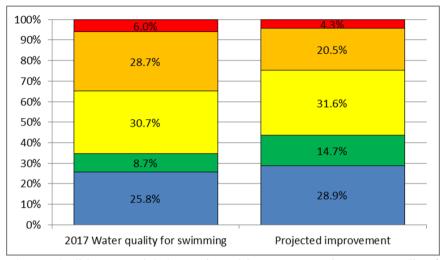
- Kāpiti Coast Whaitua
- Wairarapa Coast Whaitua.



An important aspect to note is that the actions that will result from the limits set by the whaitua programme are not currently included in the regional targets.

Regional targets – 75% of rivers and lakes swimmable

The primary contact targets for the Wellington region, based on modelling of programmes underway (excluding the Whaitua programme), are for 75% of rivers that are fourth order or larger to be in the blue, green or yellow category in terms of *E. coli*, by 2030 (shown in the graph below).



The work did not model the projected improvement in water quality for swimming in lakes, but the current state is that 75% of lakes in the Wellington Region are in the blue green or yellow category, based on E coli and toxic algae counts.

Regional process from here

The modelling undertaken shows that we can, with our planned and committed actions over the years, reach a target of 75% swimmable rivers for the region by 2030. This shows that the rules in the proposed Natural Resources Plan do improve rivers for swimming. We can anticipate our whaitua process will improve swimming quality further.

We are assessing how the programmes and projects which are underway, and the new initiatives planned for the future, can further improve the ability of the region to meet the swimming targets. There will be the opportunity to refine where we want the improvements to happen through the whaitua process.

- The proposed Natural Resources Plan has time bound rules for excluding stock from many rural waterways and the Council supports this work with an assisted funding programme and riparian planting in addition to the anticipated national stock exclusion regulations.
- Improvements to our urban infrastructure networks and especially for stormwater discharges will be required through consent processes. These improvements are an expensive undertaking and the costs have not been fully accounted for in the model. To improve urban waterways and the eventual coastal water quality the community will need to recognise and support the funding requirements.
- Municipal wastewater discharges to freshwater are to be improved in quality and increasingly discharged to land over time. Again the community will need to recognise and support the funding requirements.
- Toxic algae in our rivers are a health hazard which affects the public use of waterways. We will continue to research the dynamics of these algal growth and potential mitigation.

31 December 2018



Report 19.277

Date 18 June 2019 File CCAB-8-2329

Committee Council

Author Francis Ryan, Manager Democratic Services

Policy on elected members' allowances and expenses

1. Purpose

For the Council to adopt a new policy on elected members' allowances and expenses.

2. Background

The Remuneration Authority (the Authority) has advised Greater Wellington Regional Council that as a result of its review of the allowances payable to elected members it has maintained allowances for vehicle mileage, travel time and communications, and is introducing a childcare allowance from 2019/20.

The payment of any or all allowances is at the discretion of each local authority. GWRC provides for elected member allowances though the Policy on Elected Members' Allowances and Expenses adopted by Council.

It is standard practice to review the Policy on Elected Members' Allowances and Expenses to provide for any new or changed allowances introduced by the Authority.

3. Proposed amendment to the current policy

One change is required to the current policy to align it with the Authority's decisions:

Childcare allowance

From 2019/20 the Authority has introduced a childcare allowance for members who have responsibility for caring for children under the age of 14 years. The allowance is a contribution towards expenses incurred by a member for provision of childcare while the member is engaged on local authority business. The allowance is capped at a maximum of \$6,000 per annum, per child.

The childcare allowance is only payable if –

- (a) The member is a parent or guardian of the child, or is a person who usually has responsibility for the day-to-day care of the child (other than on a temporary basis); and
- (b) the child is under 14 years of age; and
- (c) the childcare is provided by a person who
 - (i) is not a family member of the member; and
 - (ii) does not ordinarily reside with the member; and
- (d) the member provides evidence satisfactory to the local authority of the amount paid for childcare.

Inland Revenue has determined that the payment of the childcare allowance will be subject to Withholding Tax deduction at the time of payment.

A draft policy, including provision for the childcare allowance at section 3.7, is attached as **Attachment 1**. Officers have also reviewed the overall policy, and consider that it remains fit-for-purpose.

4. Communication

No external communication is required.

5. The decision-making process and significance

Officers recognise that the matters referenced in this report may have a high degree of importance to affected or interested parties.

The matter requiring decision in this report has been considered by officers against the requirements of Part 6 of the Local Government Act 2002 (the Act). Part 6 sets out the obligations of local authorities in relation to the making of decisions.

5.1 Significance of the decision

Part 6 requires Greater Wellington to consider the significance of the decision. The term 'significance' has a statutory definition set out in the Act.

Officers have considered the significance of the matter, taking the Council's significance policy and decision-making guidelines into account. Officers recommend that the matter be considered to have low significance.

Officers do not consider that a formal record outlining consideration of the decision-making process is required in this instance.

6. Engagement

Engagement on this matter is unnecessary.

7. Recommendations

That the Council:

- 1. Receives the report.
- 2. Notes the content of the report.
- 3. Adopts the Policy on Elected Members' Allowances and Expenses 2019.

Report prepared by: Report approved by:

Francis Ryan Luke Troy

Manager, Democratic General Manager, Strategy

Services

Attachment 1: Draft Policy on Elected Members' Allowances and Expenses 2019

Attachment 1 to Report 19.277

Policy on Elected Members' Allowances and Expenses 2019 – Greater Wellington Regional Council

(As adopted by Council on ...)

1. Introduction

In addition to determining the remuneration of elected members, the Remuneration Authority (the Authority) is required to determine the allowances' framework for elected members.

The payment of any or all allowances is at the discretion of each local authority. Greater Wellington Regional Council provides for elected member allowances though the Policy on Elected Members' Allowances and Expenses adopted by Council

This policy should be read in conjunction with the Council's Sensitive Expenditure Policy (Elected Members).

2. Commencement

The provisions of this policy take effect from 1 July 2019.

3. Policy on allowances and expenses

3.1 Parking

Elected members will be provided with parking spaces at, or close to, the Council's Wellington offices for their use when on council business.

Elected members who incur parking charges when on Council business at other locations are entitled to reimbursement of the actual cost.

3.2 Use of public transport

Elected members who travel by public transport in relation to Council business are entitled to reimbursement of the actual cost. Evidence of the cost incurred should be provided.

3.3 Chair's vehicle

The Chair of the Council will be eligible to be provided with a vehicle. If the Chair elects to have the vehicle available for private use, a deduction will be made from their salary as determined by the Authority.

3.4 Mileage allowance

Subject to the interpretation and exceptions listed below, elected members, excluding the Chair if provided with a vehicle, are entitled to a mileage allowance when using their own vehicle for Council business.

Eligibility for mileage allowance commences from the member's primary place of residence until the conclusion of their Council business travel.

Mileage will be paid at the maximum rate per kilometre as set out in the current Remuneration Authority determination.

Interpretation

With respect to mileage allowances and reimbursement of public transport costs, the term "Council business" includes attendance at the following:

- Official meetings of the Council and any committee and subcommittee of Council
- Council workshops
- Meetings and workshops of advisory groups established by Council
- Meetings and workshops of external bodies to which the elected member has been appointed by Council
- Statutory hearings
- Meetings of Council-owned companies
- An external event or meeting where there has been:
 - a resolution of Council or a committee, or
 - an authorisation by the Council Chair, or
 - with respect to the member of a committee, an authorisation by the Chairperson of that committee
- Visits to, and tours of, facilities, or sites, or works, for which the Council is responsible for, or has involvement in, or which will be the subject of business to come before the Council or any committee
- Seminars and training courses where the elected member's attendance has been authorised
- Constituency meetings
- Discussions with committee chairpersons or Council officers
- Consultation with Mayors, territorial authority committee chairpersons, or elected members
- Official briefings.

Mileage may include travel to and from the member's primary place of residence, if the travel is:

- (a) in the member's own vehicle; and
- (b) on Council business as outlined above; and
- (c) by the most direct route reasonable in the circumstances.

"Council business" does not include events where the primary focus is on social activity.

Exceptions

- If Greater Wellington Regional Council is providing transport, and an elected member chooses, for personal reasons, to travel separately, they will not be entitled to a mileage allowance.
- Where an elected member chooses, for personal reasons, to travel by private motor vehicle to a conference or seminar outside of the Wellington region, they will be entitled to a mileage payment no more than the cheapest equivalent air fares available for the day(s) of travel, where such fares are less than the mileage allowance at ordinary rates

3.5 Communications allowance

It is expected that elected members have their own communications and computer equipment and that these items are available for elected members to use for their Council related business.

Elected members having such items available for Council business are eligible to receive a communications allowance. The rate payable will be the maximum rate determined by the Authority. The rate will be divided into annual allowances for each eligible item made available by the member for Council business purposes:

- Personal computer, tablet, or laptop, including any related docking station
- Printer
- Mobile phone
- Mobile calls
- Internet connection.

An elected member may be issued with a standard specification Greater Wellington Regional Council mobile tablet device for use on Council business. The use of loaned equipment by an elected member is subject to the following conditions:

- The loaned equipment is provided for Council business purposes
- The loaned equipment remains Greater Wellington Regional Council's property at all times and must be returned when requested.

Greater Wellington Regional Council will provide a mobile phone for the Chair and cover all expenses associated with the use of that phone on Council business. The phone remains the property of the Council, and the communication allowance payable to the Chair will be reduced as outlined above to reflect the provision of the phone.

3.6 Travel time allowance

Elected members are entitled to a travel time allowance in relation to travel undertaken in relation to Council business. The rate payable will be the maximum rate determined by the Authority.

3.7 Childcare allowance

An elected member who is responsible for one or more children under 14 years of age may claim a childcare allowance for each eligible child up to the annual maximum limit set by the Authority.

The childcare allowance is only payable if –

- (a) The member is a parent or guardian of the child, or is a person who usually has responsibility for the day-to-day care of the child (other than on a temporary basis); and
- (b) the child is aged under 14 years of age; and
- (c) the childcare is provided by a person who
 - (i) is not a family member of the member¹; and
 - (ii) does not ordinarily reside with the member; and
- (d) the member provides evidence satisfactory to Greater Wellington Regional Council of the amount paid for childcare.

Payment of the allowance will be made on submission of a childcare allowance claim from the member. The claim must set out the actual costs incurred and paid by the member, and must include a receipted invoice or other appropriate record of payment for the childcare services provided.

3.8 Travel from additional place of residence

Where an elected member has an additional place of residence (e.g. a holiday home) and they are travelling from that additional place of residence, and that travel involves a distance and/or duration greater than they would travel if they were travelling from their primary place of residence, then they will only be eligible to claim for the mileage and travel time that would have been incurred from their primary place of residence. The primary place of residence will usually be determined by the elected member's address recorded on the Electoral Roll.

3.9 Conferences, courses, seminars, etc.

Elected members authorised to attend a conference, course, seminar, etc., will have attendance fees, travel, accommodation, and meals paid for. Unless otherwise agreed by the Chief Executive, all travel and accommodation will be booked through Democratic Services.

Core training will be organised by Democratic Services. Elected member attendance at one-off events in New Zealand will be subject to approval by the Council Chair;

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¹ "family member of the member" means –

⁽a) a spouse, civil union partner, or de facto partner

⁽b) a relative, that is, another person connected with the member within 2 degrees of relationship, whether by blood relationship or by adoption.

in the case of attendance by the Chair the approval will be by the Chief Executive and Chief Financial Officer.

Overseas conference attendance is to be approved by Council, consistent with the Council's Sensitive Expenditure Policy (Elected Members).

3.10 Clothing

Elected members may be supplied with jackets and coats bearing the Council's branding. These remain Council property at all times.

3.11 Stationery

Stationery is available on request for use on Council business.

3.12 Councillors' Lounge

Elected members are entitled to use the Councillors' Lounge in the Council's Wellington office for Council business purposes.

3.13 Travel insurance

Travel insurance will be provided for overseas travel on Council business.

3.14 Personal accident insurance

Greater Wellington Regional Council's personal accident insurance includes cover for the death or bodily injury of an elected member. Any payment received as a result of a claim made under this cover in respect of an elected member is payable to the Council, and will be utilised for Council purposes only, e.g. as a contribution to the costs of running an extraordinary election. No payment will be made to the elected member who is the subject of the claim.

3.15 Payment

Where applicable, allowances will be paid fortnightly.

Claims for expenses should be made fortnightly on the forms provided, no later than three months after the date the mileage or expense was incurred, and should include all relevant receipts.

Payment will be made by direct credit.



Report 19.274

Date 18 June 2019 File CCAB-8-2337

Committee Council

Author Fiona Standen, Kaitohutohu/Advisor, Democratic Services

Report on the Regional Transport Committee meeting, 18 June 2019

1. Purpose

To inform the Council of the Regional Transport Committee meeting of 18 June 2019.

2. Public participation

Ken McAdam, Chair of the Pauatahanui Residents' Association, spoke to Item 7 on the agenda NZTA update. He advised the Committee about the concerns the residents have with SH58, particularly around the intersections between SH58 and Flightys and Moonshine Roads. The Residents' Association is concerned that the Transmission Gully end of the proposed upgrades does not have the consents, funding or land acquisition completed, with the lack of resourcing meaning that this part of the upgrade will not be completed after Transmission Gully is open. The Residents' Association believes that people will die if SH58 safety improvements are not completed and that decisions around funding for NZTA have delayed the commencement of the work to make the improvements. He asked that interim safety solutions such as drive over roundabouts be considered.

Geordie Cassin, Chair, AA Wellington District Council and Alex Gray, Vice Chair, AA Wellington District Council, spoke to Item 7 on the agenda NZTA update; they advised the committee that delaying safety upgrades on SH58 is completely unacceptable to the AA Wellington. They reiterated many of the points made by Ken McAdam, and expressed concern that there is no confirmed funding for the bulk of the work required beyond what is being referred to as 'stage one' of the project. They advised that not delivering the safety improvements as planned will see millions of trips being made each year on SH58 where people are exposed to avoidable risk. They believe an additional slip lane is required.

3. Reports

3.1 Emerging transport issues in Horowhenua District and Collaboration opportunities in the Wellington Region (oral item)

Cynthia Ward, Principal Policy Advisor, Horowhenua District Council updated the committee on Integrated Transport Planning: Emergent transport issues and opportunities for collaboration with Wellington Regional Council. She updated the committee on the Horowhenua Integrated Transport Strategy (HITS) project, discussed the importance of the Capital Connection and the reasons why the committee need to 'Mind the Gap' in Horowhenua, to keep Wellington moving. The Ōtaki to north of Levin project was discussed in detail and the issues created by its delay, such as safety, a lack of resilience, the impacts for the Wellington Earthquake Response, and also the impacts that are caused to freight traffic by not having this road. It was agreed that a joint workshop be held between the Regional Transport Committees for the Wellington Region and Manawatu-Wanganui region to discuss issues of joint interest.

4. Report on RLTP 2021 Scope & timeframes

The report outlined the proposed scope for the RLTP 2021.

5. NZTA Update (oral)

Mark Owen, Regional Performance Manager, provided an update to the Committee. NZTA has been working through prioritisation of funding for the programmes and projects that best align to the Government Policy Statement priorities. Due to the large increases in construction costs for new projects but also for projects that are currently underway, NZTA are experiencing the highest ever pressure on their funding allocations.

In May and June NZTA is meeting with local government partners to discuss National Land Transport Plan funding for their region, the Wellington Region meeting is on 28 June. NZTA is aiming to be more up front and transparent. Currently they are undertaking a review of the Investment Decision Making Framework.

NZTA is also currently working to improve their Business Case Approach to help streamline decision making. Small projects under \$1m, i.e. about 55% of all council capital improvements, as well as core programmes such as public transport and road maintenance and operations that are supported by a Regional Land Transport Plan or an Activity Management Plan will not require further business cases. They are retraining staff so they can work with the new process.

Road safety remains the number one priority. NZTA is trialling enhanced incident response with a new response vehicle and two trucks positioned at the Ngauranga Gorge Interchange. This will be able to deal with small breakdowns and minor crashes on the state highway.

6. Let's Get Wellington Moving update (oral)

Luke Troy, General Manager, Strategy, advised that reports will go to the respective councils, (Wellington City Council on 26 June 2019 and Greater Wellington Regional Council on 25 June 2019) for their endorsement. The next phase of the programme will be detailed business cases and investigations. It is also intended to setup the delivery vehicle for Let's Get Wellington Moving, which is intended to be a more formalised collaboration of the three partners. This will require a formal agreement. An interim Programme Director is being appointed—they will be responsible for the establishment of the Delivery Vehicle.

The Early Delivery programme will be progressed as fast as possible over the coming months and years and is focussed on public transport, walking and cycling priorities, including bus priority along the Golden Mile and Thorndon Quay/Hutt Road. Speeds in the central city are also being reviewed.

The focus for the coming year is on resolving some of the critical parts of the LGWM programme, including the configuration of the Basin Reserve, the integration of walking and cycling improvements, the mass transit route and mode, the overall planning and sequencing of the programme, the allocation of road space within the second Mt Victoria tunnel and the investigation of the demand management and pricing tools.

7. The decision-making process and significance

No decision is being sought in this report.

7.1 **Engagement**

Engagement on this matter is unnecessary.

8. Recommendations

That the Council:

- Receives the report.
- *Notes* the content of the report.

Report approved by: Report prepared by: Report approved by:

Fiona Standen Cr Barbara Donaldson Luke Trov Kaitohutohu/Advisor. Kaiwhakahere Matua/General Chair, Regional Transport **Democratic Services**

Manager, Strategy

Committee



 Report
 19.273

 Date
 19 June 2019

 File
 CCAB-8-2323

Committee Council

Author Lucas Stevenson, Kaitohutohu/Advisor, Democratic Services

Report on the Wellington Regional Strategy Committee meeting of 18 June 2019

1. Purpose

To inform Council of the Wellington Regional Strategy Committee meeting of 18 June 2019.

2. Reports

2.1 WREDA final statement of intent 2019-2022

Lance Walker, Chief Executive, Wellington Regional Economic Development Agency (WREDA), spoke to the report. As noted in their draft Statement of Intent (SOI), WREDA proposed to change a few of their key performance indicators (KPIs) to improve the line of sight between their actions and the outcomes being measured, Some of the measures are still in developed and for those KPIs there are currently no targets in the final SOI. Officers will work with WREDA over the coming months to ensure that the measures and associated targets are appropriate.

2.2 WREDA Third Quarter report 2018-19

Lance Walker, Chief Executive, Wellington Regional Economic Development Agency (WREDA), spoke to the report.

The report summarises the economic development and activity of the region in the third quarter.

Mr Walker spoke to the continued activity of the business partnership programme, with 700 businesses across the region now involved.

The cruise ship season saw a record number of 110 ships come to Wellington. This is expected to rise to 120 next season.

2.2.1 Events and Experience

There was a strong events summer. Guest nights and visitor spend was up on previous years.

Venues hosted 29 events with 54 performances, which were attended by 75,475 people.

The Eminem concert had 46,474 in attendance, with 55% of attendees coming from outside of the Wellington Region.

Homegrown was attended by a record of 20,000 fans.

Due to the events in Christchurch, CubaDupa shifted events indoors.

There were 65 conferences and business events held, including the International Lesbian, Gay, Bisexual, Trans and Intersex Association (ILGA) World Conference, with 500 attending this, and 500 attending the Count Financial International Conference.

2.2.2 Marketing and Communication

A number of visitor campaigns, including The Wellington Effect, designed to attract visitors to Wellington in winter, and the Australia Autumn campaign, which targeted independent female professionals.

Air NZ ran a five day Australian sale, with 1,148 bookings.

A total of 198,000 visited the Terracotta Warriors exhibition by the close of the exhibition in late April.

2.2.3 Regional Development, Destination and Attraction

Shopify's head of recruitment was hosted for 3 weeks and they are on track to create in excess of 110 jobs, located across the region.

Development of the regional workforce framework is underway with the final report and action plan due in June.

The Summer of Biz and Summer of Tech placed 182 people into internships this summer, of which 110 were offered a permanent position in their host company.

Creative HQ hosted 89 start-up ventures.

Year to date revenue is ahead by \$1.7m due to additional shareholder funding (Decade of Culture, WCC), additional government funding,

Total revenue for the year is forecast to be \$30.7m, ahead of the budgeted \$28.7m.

3. Consideration of climate change

The matters addressed in this report are of a procedural nature, and there is no need to conduct a climate change assessment.

4. The decision-making process and significance

No decision is being sought in this report.

4.1 Engagement

Engagement on this matter is unnecessary.

5. Recommendations

That the Council:

- 1. **Receives** the report.
- 2. Notes the content of the report.

Report prepared by: Report approved by: Report approved by:

Lucas StevensonLuke TroyKaitohutohu/Advisor,Kaiwhakahere Matua/GeneralDemocratic ServicesManager, Strategy

Cr Roger BlakeleyDeputy Chair, Wellington
Regional Strategy Committee



Report 19.56

Date 17 June 2019 File CCAB-8-2325

Committee Council

Author Graeme Burnett, Senior Health, Safety & Wellbeing Advisor

Mike Ward, Senior Health, Safety & Wellbeing Advisor Rachael Meikle, Health, Safety & Wellbeing Advisor

Health, Safety and Wellbeing update

1. Purpose

To inform Council on the health, safety and wellbeing performance of the organisation and associated activities.

2. Background

During the period from 1 May 2019 to 31 May 2019, a total of 71 health, safety and wellbeing-related events were recorded in 'Keeping Everyone Safe at Work (KESAW)'. Of these events, 60 related directly to activities of our staff. The other 11 related to reported events that did not involve GWRC controlled work or activity*.

The following table is a breakdown of the events by outcome.

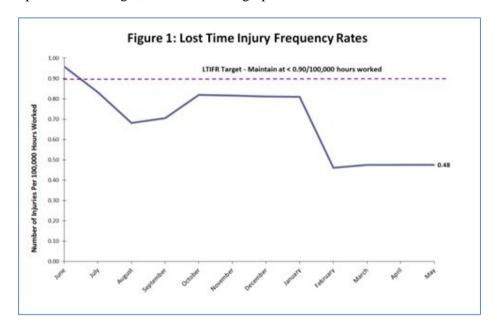
Event type	May 2019	YTD (from July 2018)
Total Events Reported	71	669
Fatalities	0	0
Lost Time Injuries (LTI)	0	4
Medical Treatment Injuries (MTI)	3	14
First Aid/Pain & Discomfort	17	119
Property damage	12	74
Near miss & hazard id reports	39	391
Other (not involving GW*)	11	91

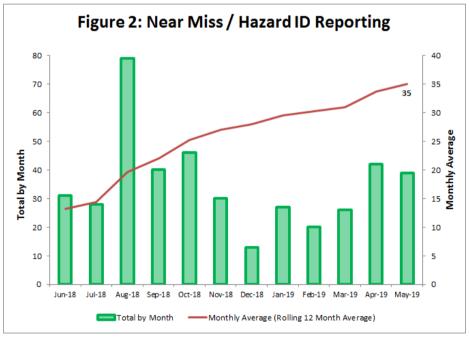


^{*}Note: These are reported events that did not involve GWRC controlled work or activity – e.g. public in parks, contractors or other third party/license holder activity on our land. GWRC has either been involved in the response to the event or expressed direct interest in the investigation finding of the involved parties.

There were no Lost Time Injuries (LTIs) reported in May.

The Lost Time Injury Frequency Rate has remained at 0.48 LTIs for every 100,000 hours worked. This performance measure remains well below the 0.90 performance target, as shown in the graph below.





The level of Near Miss/Hazard reporting has continued to strengthen. This can be seen in the further increase in the rolling monthly average of "Near Miss/Hazard" (red line) in Figure 2 above.

3. New Health, Safety & Wellbeing Manager and Secondment Role

Julie Barber, the new Health, Safety & Wellbeing Manager has started with the HS&W Team on the 17 June 2019. The team has also been boosted with Jeena Thoms, who has also started with the team in a secondment role as a Health, Safety & Wellbeing Coordinator. They bring the team back up to full capacity and will allow us to push ahead with key HS&W Strategic Roadmap activities

4. Pause 4 Safety – all staff organisational wide workshops.

A final 'Pause 4 Safety' workshop is being arranged for 28 June 2019. This is for staff who missed the original series of workshops or have recently started with GWRC.

5. Good Yarn Workshop

The initial in-house delivery of the 'Good Yarn' workshop was successfully run during May with 10 staff members completing the workshop.

This workshop is designed to make it easier for people to talk about mental health at work – though the skills participants learn may not only benefit their interaction at work, but also with their whanau and in their community too.

Those participating provided positive feedback on the workshop, including;

- "Good Yarn shows how important that we build our understanding of mental health & how we can respond positively".
- "Very good & thought provoking"

Further 'Good Yarn' workshops are planned for delivery in other locations across Q1 & 2 of 2019/20.

6. Communication

No external communication is proposed as an outcome of the consideration of this report.

7. Consideration of climate change

The matters addressed in this report have been considered by officers in accordance with the process set out in the GWRC Climate Change Consideration Guide.

7.1 Mitigation assessment

Mitigation assessments are concerned with the effect of the matter on the climate (i.e. the greenhouse gas emissions generated or removed from the atmosphere as a consequence of the matter) and the actions taken to reduce, neutralise or enhance that effect.

Officers have considered the effect of the matter on the climate. Officers consider that the matters will have no effect.

Officers note that the matter does not affect the Council's interests in the Emissions Trading Scheme (ETS) and/or the Permanent Forest Sink Initiative (PFSI)

7.2 Adaptation assessment

Adaptation assessments relate to the impacts of climate change (e.g. sea level rise or an increase in extreme weather events), and the actions taken to address or avoid those impacts.

Officers have considered the impacts of climate change in relation to these matters. Officers recommend that climate change has no bearing on these matters.

8. The decision-making process and significance

No decision is sought under this report.

8.1 Engagement

Engagement on this matter is unnecessary.

9. Recommendations

That Council:

- 1. Receives the report.
- 2. Notes the content of the report.

Report prepared by: Report prepared by: Report prepared by:

Graeme Burnett Mike Ward Rachael Meikle

Senior Health, Safety & Senior Health, Safety & Health, Safety & Wellbeing Advisor Advisor

Report approved by:

Nigel Corry

General Manager, People and

Customer