Flood Protection and Control Group

Te Rōpū Kaupare me te Whakahaere Waipuke

Flood Protection and Control Group

Flood Protection and Control Group of Activities

Rivers and Drainage Schemes Activity

What we do

The Rivers and Drainage Scheme Activity involves ownership, management and maintenance for the five major and 37 minor rivers and drainage schemes that the Regional Council manages. The Activity also comprises the non-scheme programme, which includes the Kopeopeo Canal Remediation Project.

Our river and drainage scheme responsibilities include providing flood protection stop banks, flood pump stations, floodgates and erosion control structures and constructing flood ways. We also carry out regular maintenance of structures, stream clearing and lake level monitoring and management of Lakes Rotorua and Rotoiti.

The Rivers and Drainage Activity is required to develop and maintain a current asset management plan which sets out the long-term maintenance and management of the river and drainage schemes' assets. More information is detailed in the 2014/15 Rivers and Drainage Asset Management Plan (available on request from the Regional Council).

The sub-activities that make up this Activity are:

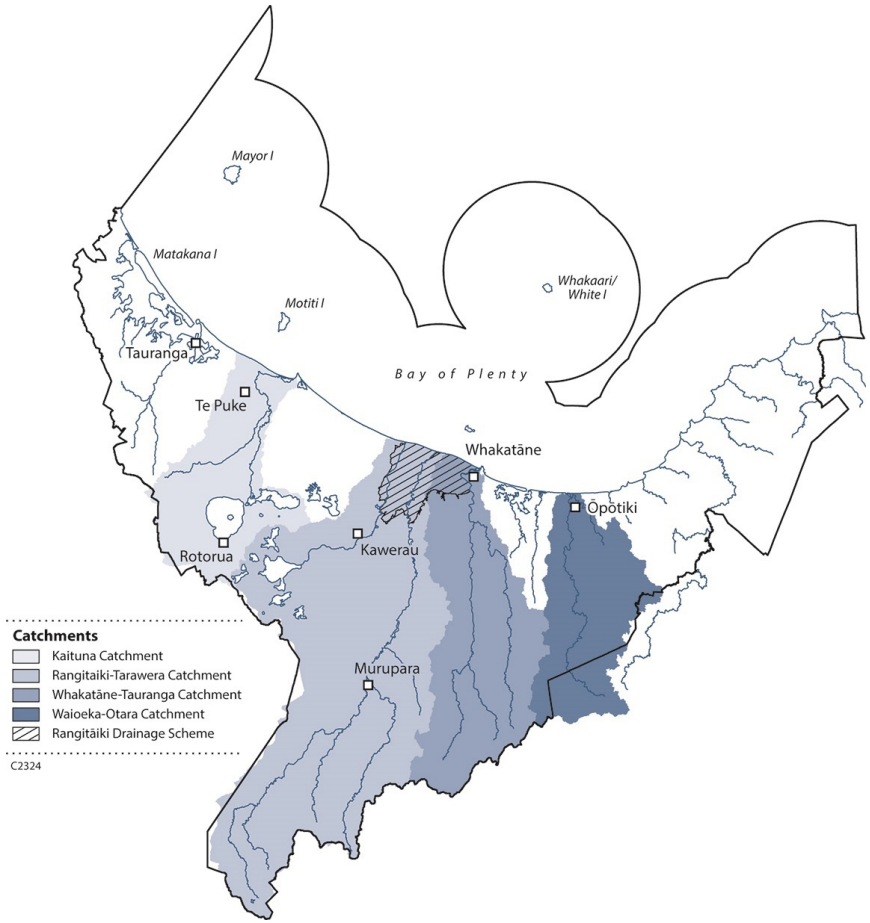
- Kaituna Catchment Control Scheme;
- Rangitaiki-Tarawera Rivers Scheme;
- Whakatāne-Tauranga Rivers Scheme
- Waioeka-Otara Rivers Scheme;
- Rangitaiki Drainage Scheme;
- Minor Rivers and Drainage Schemes; and
- Non-Scheme Works (including Kopeopeo Canal Remediation Project).

Why we do this activity

We do this activity to:

- Protect productive agricultural land and important infrastructure (such as roading networks, hospitals, sewage treatment facilities, water supplies and other utilities) and urban areas (including Whakatāne, Ōpōtiki, Edgecumbe and Rotorua) from flooding;
- Provide security, and reduce risk, to existing economic and social developments from flooding;
- Protect productive soils from stream and river erosion;
- Protect natural, physical and cultural heritage sites (including several marae) from the adverse effects of flooding and erosion;
- Provide drainage and pumping to low lying properties within scheme areas for flood protection; and
- Manage water level control structures in Lakes Rotorua and Rotoiti.

Bay of Plenty Regional Council's five major rivers and drainage schemes



The Rivers and Drainage Schemes Activity is guided by the Soil Conservation and Rivers Control Act 1941, the Local Government Act 2002, the Land and Drainage Act 1908, Rangitāiki Land Drainage Act 1956, Resource Management Act 1991, and the Local Government (Rating) Act 2002.

Key challenges

The key challenges we face in the next 10 years are:

- Managing the impact of long-term climate change trends, including sea-level rise, storm surge and increased frequency and intensity of extreme rainfall events. This has significantly increased the cost of programmed capital works, as modelling has shown climate change requires higher stopbanks to retain the same level of service.
- Keeping the current levels of service for flood protection affordable given the relatively small number of ratepayers in scheme catchments.
- Managing the schemes' high level of internal debt resulting from recent flood events and previous renewals works.
- Accounting for relatively rapid settlement of stopbanks constructed across the low-lying peat basins, requiring expensive stopbank top-up works.
- Addressing the loss of channel capacity in some waterways due to excess sediment runoff from contributing catchments.
- Managing the effects of extreme geotechnical issues and on-going investigations at sites where risk to the stopbanks have been identified.
- Working with dam operators and owners to maximise the potential for storage of floodwater during extreme flood events and minimise the impacts of riverbank erosion.
- Managing conflicting drainage needs between major land uses within the scheme catchment (for example, dairying and kiwifruit have different drainage needs).
- Advocating for stormwater effects from urban development to existing scheme drainage.

- Achieving on-going collaboration with scheme liaison groups and iwi/hapū groups relating to joint management of rivers, resulting from Treaty of Waitangi Settlements.
- Accounting for the large areas of Crown estate that are a significant contributor of rainfall runoff but provide no contribution toward on-going operating costs on the schemes.
- Managing expectations of lifestyle block owners moving into rural areas seeking an urban standard of stormwater drainage when the drainage network has been developed for rural land uses.
- Managing the extremely low-lying nature of many areas of the Rangitāiki Plains where land levels are lower than mean sea-level.

Where we want to be

			Target			
Levels of service	**Key performance indicators**	**Result at 2013/14**	**Year One 2015/16**	**Year Two 2016/17**	**Year Three 2017/18**	**Year Four to Year Ten 2018/19 to 2024/25**
Provide flood protection and drainage in scheme areas to mitigate the effect of flooding.	Number of failures of flood protection system below specified design standards.	0	0	0	0	0
Flood protection and control works are renewed and maintained.	Percentage of maintenance, flood repairs and renewals completed in accordance with the Rivers and Drainage Asset Management Plan. (Note: or approved changes to the work programme).	New measure	90%	90%	90%	90%

What we are going to do

Each year we will:

- Undertake maintenance, renewals, and capital projects over the following programmes
- Provide river and stream management advisory services to landowners across the Region
- Undertake gravel management operations including resource consent renewals and allocating extractions to commercial operators
- Undertake Asset Management Plan updates including revaluations
- Manage activities associated with Floodway and Drainage Bylaws
- Provide flood warning and flood response activities to scheme stakeholders

Year One 2015/16 - Key Projects

- Kopeopeo Canal Remediation
- Rangitāiki Floodway Widening
- Rangitāiki Drainage culvert renewals

Year Two 2016/17 - Key Projects

- Kopeopeo Canal Remediation
- Rangitāiki Floodway Widening
- Rangitāiki Drainage culvert renewals

Year Three 2017/18 - Key Projects

- Rangitaiki Floodway Widening
- Rangitāiki Drainage culvert renewals
- Ford Road Pumpstation renewal
- Whakatāne River Stopbank renewals (Stage 1)

Significant negative effects of the activity

This activity may affect well-being by:

- Reducing aquatic habitats through establishing river edge erosion protection works and stopbanks.
- Increasing pressure on the downstream stopbank system by containing floodwaters within the stopbank system.
- Potentially lowering the value of properties once flood risks are determined and communicated.
- Historically this activity has had significant negative effects on wetlands and some areas of cultural significance through very significant drainage improvements and lowering of ground water table levels.

Risks

The risks that threaten our expected future are:

- Flood events become more frequent and damaging to the point where excessive repair costs prevent funding of on-going routine maintenance works.
- Flood events of greater magnitude than the design standard for the scheme cause overtopping of stopbanks and widespread inundation behind the flood banks.
- An over-design extreme event creates a serious risk to life by impounding floodwater behind the stopbanks.
- The increase in frequency and intensity of flood events means the schemes are unable to afford the current levels of flood protection.
- The community may underestimate the residual risk involved in flood protection systems, and the on-gong potential for overtopping of stopbanks during an over-design flood event and/or failure of the stopbanks during a flood event.
- The ability to carry out routine maintenance of the river system may not be permitted by landowners in the middle and upper reaches.

How we will fund the activity

River Schemes: 20 percent from general funds, 80 percent from targeted rates.

Rangitāiki Drainage Scheme: 100 percent from targeted rates.

Minor River and Drainage Schemes:

- Ōpōtiki Minor River and Drainage Schemes: 20 percent from general funds, 80 percent from targeted rates;
- Minor Drainage Schemes 100 percent from targeted rates.

Engineering Advice and Non-scheme Works: 100 percent from general funds.

Capital expenditure across the river and drainage schemes will be funded from reserves.

Scheme overviews

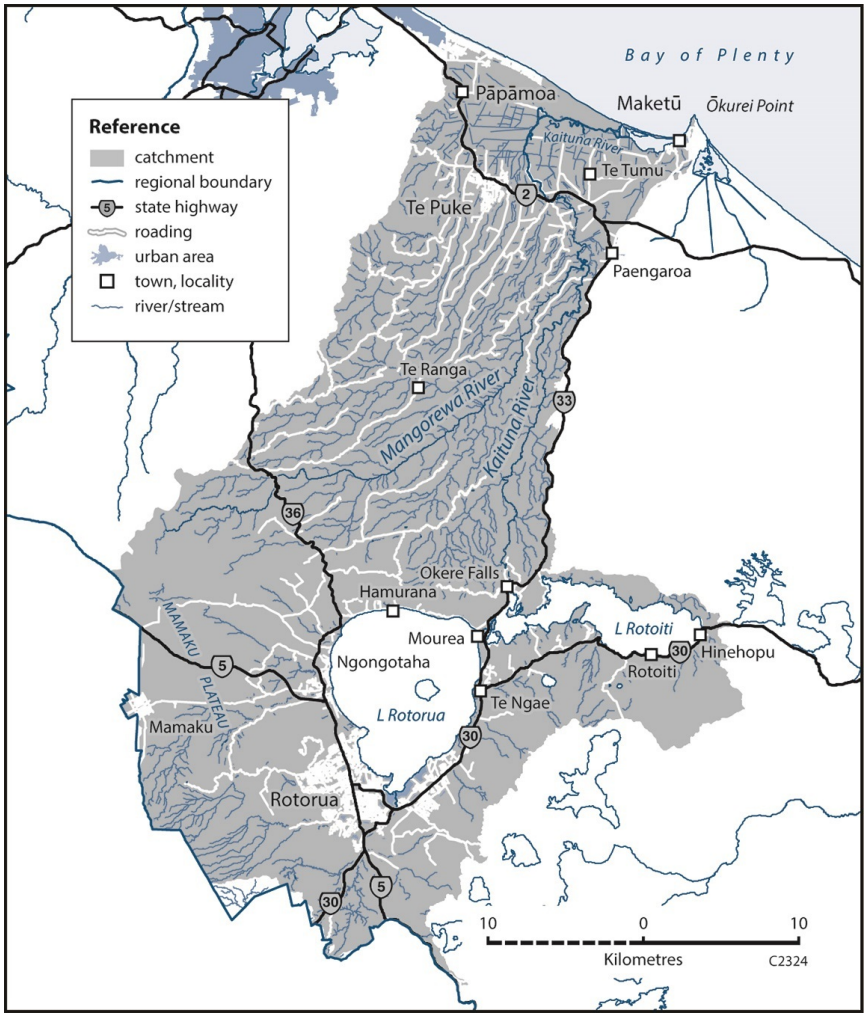
Kaituna Catchment Control Scheme

The Kaituna Catchment Control Scheme encompasses the Kaituna River, Lake Rotorua and Lake Rotoiti catchments. The scheme consists of two discrete areas divided at Okere: Upper Kaituna (Lakes Rotorua, Rotoiti and tributaries) and Lower Kaituna (the Kaituna River, tributary streams, canals and drainage network).

The scheme provides flood protection, drainage and conservation of soil resources within the scheme's catchment area as well as lake level control for Lakes Rotorua and Rotoiti.

The scheme boundaries and location are shown in the map below.

Kaituna Catchment Control Scheme



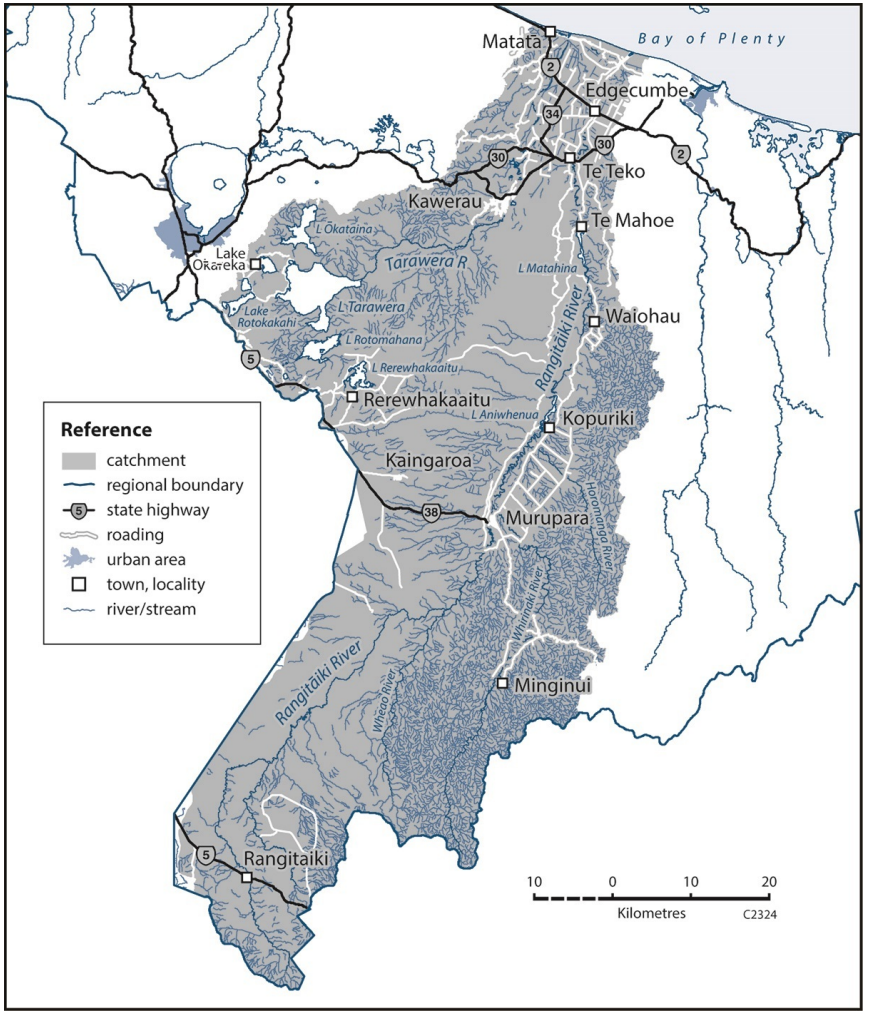
Rangitāiki-Tarawera Rivers Scheme

The Rangitāiki-Tarawera Rivers Scheme includes the two adjoining catchments of the Rangitāiki River and the Tarawera River.

The scheme provides flood protection, channel edge stability and some drainage and flood pumping to the township of Edgecumbe and the arable Rangitāiki Plains, Galatea and Waiohau Plains.

The Rangitāiki-Tarawera Rivers Scheme boundaries and location are shown in the map below.

Rangitāiki-Tarawera Rivers Scheme



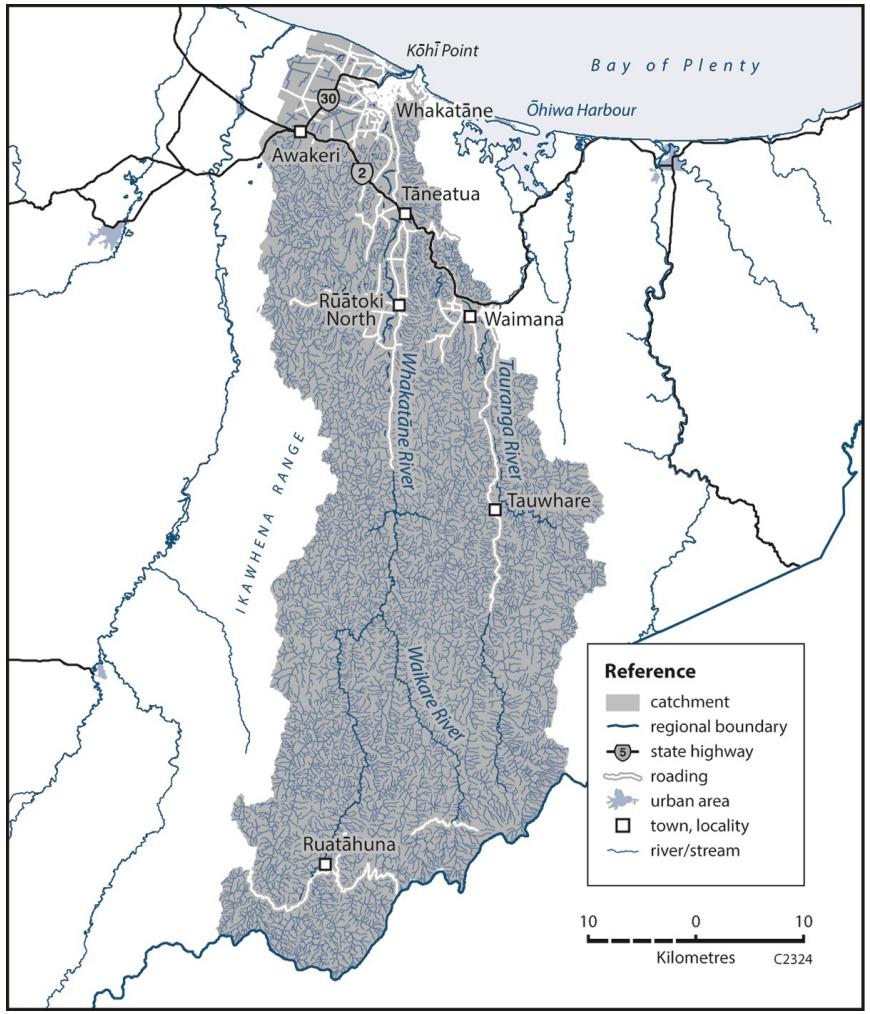
Whakatāne-Tauranga Rivers Scheme [1]

The Whakatāne-Tauranga Rivers Scheme comprises the Whakatāne River Catchment and includes the Tauranga River. The scheme provides flood protection, channel edge stability, some drainage and flood pumping within the Catchment including the town of Whakatāne.

Note that within the urban area of Whakatāne, flood protection works are managed by Whakatāne District Council.

The Whakatāne-Tauranga Rivers Scheme boundaries and location are shown in the map below.

Whakatāne-Tauranga Rivers Scheme



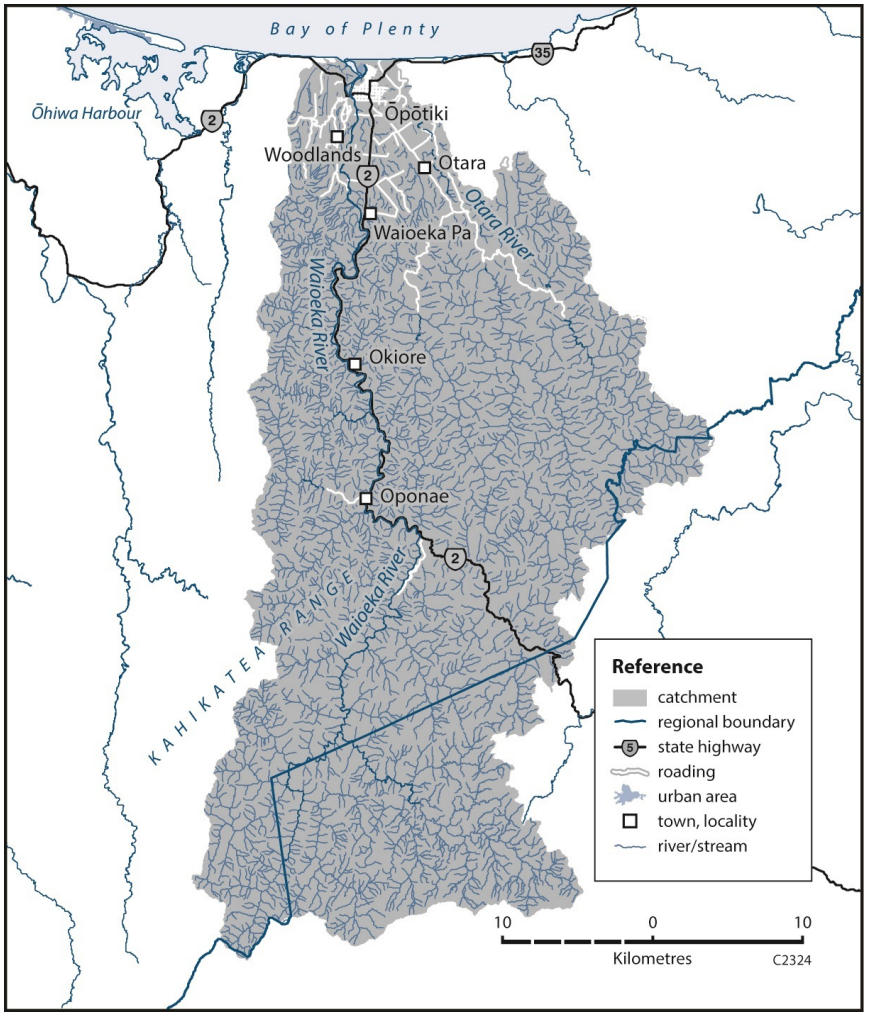
1 *Tauranga River is now the official geographic name for the river formerly known as the Waimana. The name change was part of the Tūhoe Deed of Settlement signed between Tūhoe and the Crown on 4 June 2013, and took effect on 25 August 2014.*

Waioeka-Otara Rivers Scheme

The Waioeka-Otara Rivers Scheme encompasses the Waioeka and Otara Rivers including their confluence at Opotiki. The scheme provides flood protection, channel edge stability and some drainage and flood pumping within the catchment area including the town of Opotiki. Flood protection (and some drainage works) to the land adjoining Mill Stream and its tributaries is also provided by this scheme.

The Waioeka-Otara Rivers Scheme boundaries and location are shown in the map below.

Waioeka-Otara Rivers Scheme



Rangitāiki Drainage Scheme

The Rangitāiki Drainage Scheme provides gravity drainage to much of the Rangitāiki Plains, an area of approximately 29,000 hectares between Matata, Whakatāne and Kawerau.

The Plains are predominantly dairying land with small areas of wetland reserve and urban development.

The Rangitāiki Drainage Scheme boundaries and location are shown in the map below.

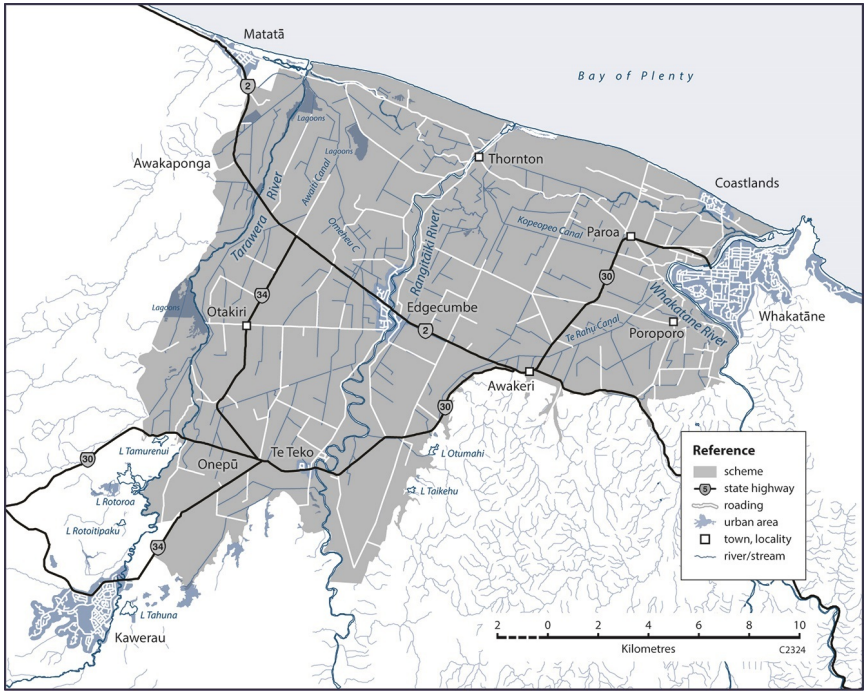
Minor Rivers and Drainage

There are also another 37 minor rivers and drainage schemes that are spread throughout the Bay of Plenty. The minor rivers schemes involve flood protection assets which are established on the same basis as the major river schemes that provide immediate protection for landowners and wider community benefits.

The minor drainage schemes consist of various pumping stations and drainage networks on private land that benefit the immediate landowners.

The minor schemes are not part of the Rivers and Drainage Asset Management Plan since Council does not own these assets. However, Council does manage these schemes. Each scheme has the discretion to use Council or other entities to manage their schemes.

Rangitāiki Drainage Scheme



Rivers and Drainage Schemes Activity Financial Statement

Annual Plan 2014/15 $000		2015/16 $000	2016/17 $000	2017/18 $000	2018/19 $000	2019/20 $000	2020/21 $000	2021/22 $000	2022/23 $000	2023/24 $000	2024/25 $000
	Activity operating revenue										
8,463	Targeted rates	8,697	8,868	9,543	10,060	10,340	10,724	11,012	11,432	11,960	11,788
161	External interest income	234	308	352	446	432	428	536	601	670	587
864	Operating grants and subsidies	2,620	60	60	73	60	60	60	73	60	60
84	Other revenue	159	163	167	172	176	181	187	193	199	206
11	Fees and charges	11	11	11	12	12	12	13	13	14	14
9,583	**Total activity operating revenue**	**11,722**	**9,411**	**10,134**	**10,762**	**11,020**	**11,405**	**11,807**	**12,312**	**12,903**	**12,655**
	Operating expenditure by sub activity										
1,805	Kaituna Catchment Control Scheme	2,053	2,095	2,183	2,303	3,162	2,460	2,507	2,599	2,647	4,324
2,317	Rangitaiki-Tarawera Rivers Scheme	2,410	2,655	3,064	3,339	4,044	3,474	3,476	3,703	3,845	5,197
1,625	Whakatane-Tauranga Rivers Scheme	1,590	1,668	1,721	1,772	2,485	1,794	1,787	1,783	1,813	3,248
951	Waioeka-Otara Rivers Scheme	941	986	1,018	1,034	1,610	1,071	1,081	1,138	1,233	2,363
799	Rangitaiki Drainage Schemes	769	812	815	788	907	847	884	933	971	1,210
775	Minor Rivers and Drainage Schemes	747	759	772	786	801	817	835	853	874	896
502	Non-scheme Works	747	862	902	929	950	960	970	976	1,017	1,053
8,773	**Total operating expenditure**	**9,257**	**9,837**	**10,475**	**10,951**	**13,959**	**11,423**	**11,539**	**11,986**	**12,400**	**18,291**
(810)	**Net deficit to fund**	**(2,464)**	**426**	**342**	**189**	**2,939**	**18**	**(267)**	**(326)**	**(503)**	**5,636**
	Funding required										
516	General rates	(30)	916	1,020	1,076	1,151	1,255	1,353	1,399	1,545	1,588
892	Investment income allocated	(54)	1,526	1,568	1,549	1,559	1,625	1,739	1,778	1,991	2,033
(2,219)	(Increase) decrease in reserves	(2,381)	(2,016)	(2,246)	(2,435)	229	(2,862)	(3,360)	(3,502)	(4,040)	2,015
(810)	**Total funding required**	**(2,464)**	**426**	**342**	**189**	**2,939**	**18**	**(267)**	**(326)**	**(503)**	**5,636**

Annual Plan 2014/15 $000	Capital expenditure by sub activity	2015/16 $000	2016/17 $000	2017/18 $000	2018/19 $000	2019/20 $000	2020/21 $000	2021/22 $000	2022/23 $000	2023/24 $000	2024/25 $000
	Kaituna Catchment Control Scheme										
0	Kaituna River Desilting	0	0	0	162	166	0	0	0	0	0
0	Utuhina Stopbanks	0	51	74	54	698	570	0	0	0	0
0	Climate Change Upgrades- Kaituna	0	0	0	0	0	114	117	242	125	2,464
0	Pump Station Electrical Upgrade- Kaituna	0	0	42	86	0	23	112	0	0	0
0	Pump Replacements- Kaituna	0	0	0	0	465	0	0	206	0	0
0	Kaituna Mole Sheetpile Replacement	0	0	263	0	0	0	0	0	0	0
0	Kaituna Canal and Stopbanks	100	102	0	0	0	0	0	0	0	0
0	Ford Road Pump Station Replacement	0	128	2,311	0	0	0	0	0	0	0
70	Okere Control Gates - lifting mechanism	0	0	0	0	0	0	0	0	0	0
70		**100**	**282**	**2,689**	**302**	**1,329**	**707**	**229**	**448**	**125**	**2,464**
	Rangitaiki-Tarawera Rivers Scheme										
0	ORC Pump Electronics	0	0	0	0	0	0	0	36	0	0
0	Stopbanks Renewals following capacity	0	0	0	0	0	0	706	727	751	0
0	Stopbanks Downstream Edgecumbe	0	72	74	162	89	1,313	0	0	0	0
126	Rangitaiki Left Stopbank: Te Teko School	0	0	0	0	0	0	0	0	0	0
126	Rangitaiki spillway control structure	0	0	0	0	1,287	0	0	0	0	0
2,391	Rangitaiki Floodway widening	0	0	0	0	0	0	0	0	0	0
0	Rangitaiki Floodway widening Stage 3	2,054	0	0	0	0	0	0	0	0	0
0	Rangitaiki Floodway widening Stage 4	0	3,211	0	0	0	0	0	0	0	0
0	Rangitaiki Floodway widening Stage 5	0	0	4,478	0	0	0	0	0	0	0
0	Rangitaiki Floodway widening Stage 6	0	0	0	3,323	0	0	0	0	0	0
2,643		**2,054**	**3,282**	**4,552**	**3,485**	**1,376**	**1,313**	**706**	**763**	**751**	**0**
	Whakatane-Tauranga Rivers Scheme										
0	Quay Street Stormwater Improvements	270	0	0	0	0	0	0	0	0	0
0	Culvert Renewals	0	0	0	162	0	0	0	0	0	0
0	Stopbank (Canals following capacity	0	0	0	0	0	0	0	48	714	0
378	Whakatane stopbanks - stage 1	50	52	337	377	0	0	0	55	0	0
378		**320**	**52**	**337**	**539**	**0**	**0**	**0**	**103**	**714**	**0**

Annual Plan 2014/15 $000	Capital expenditure by sub activity	2015/16 $000	2016/17 $000	2017/18 $000	2018/19 $000	2019/20 $000	2020/21 $000	2021/22 $000	2022/23 $000	2023/24 $000	2024/25 $000
	Waioeka-Otara Rivers Scheme										
0	Duke Street Pump: Electronic Renewal	0	0	0	0	22	0	0	0	0	0
0	Duke Street Pumps	0	0	0	0	138	0	0	0	0	0
0	Stopbanks Renewals following capacity	0	0	53	54	55	57	59	927	0	0
0	Climate Change Mitigation	0	0	53	54	55	57	59	1,030	0	0
0		**0**	**0**	**105**	**108**	**271**	**114**	**117**	**1,957**	**0**	**0**
	Rangitaiki Drainage Schemes										
125	Rangitaiki Drainage Multiple Floodgates	205	205	263	275	122	205	247	230	132	136
125		**205**	**205**	**263**	**275**	**122**	**205**	**247**	**230**	**132**	**136**
	River Works										
1,777	Kope Canal Remediation Capital	5,241	123	126	156	133	137	141	176	150	156
1,777		**5,241**	**123**	**126**	**156**	**133**	**137**	**141**	**176**	**150**	**156**
4,994	**Total capital expenditure**	**7,920**	**3,944**	**8,071**	**4,864**	**3,231**	**2,475**	**1,440**	**3,678**	**1,872**	**2,755**
	Other capital funding applied										
(4,994)	Increase (decrease) in reserves	(7,920)	(3,944)	(8,071)	(4,864)	(3,231)	(2,475)	(1,440)	(3,678)	(1,872)	(2,755)
0	**Total capital funding applied**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Sources of capital funding										
0	**Total sources of capital funding**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Regional Flood Risk Coordination Activity

What we do

The Regional Flood Risk Coordination Activity provides leadership, management, information and advice on flood related issues. This helps to manage flood risks and flood hazards in the Bay of Plenty. Some key types of information we provide to the schemes and external stakeholders include:

- Flood forecasting
- Flood event management
- Floodplain management strategies
- Floodplain modelling
- Surveying of river schemes
- Gravel management
- Flood mitigation using integrated catchment management principles
- River Scheme Sustainability
- Regional Flood Risk Management

Why we do this activity

We do this activity to:

- Protect productive agricultural land and important infrastructure (such as roading networks, hospitals, sewage treatment facilities, water supplies and other utilities) and urban areas (including Whakatāne, Ōpōtiki, Edgecumbe and Rotorua) from flooding to agreed level of service.
- Provides security and reduced risk from flooding to existing economic and social developments.
- Protects productive soils from stream and river erosion.

The Regional Flood Risk Coordination Activity is guided by the Soil Conservation and Rivers Control Act 1941, Local Government Act 2002, Resource Management Act 1991, Asset Management Plans and Floodplain Strategies.

Key challenges

The key challenges we face in the next 10 years are:

- Gaining acceptance and willingness from communities to implement an integrated catchment and floodplain management approach for managing flood risks. This means less reliance on structural measures (stopbanks and river drainage works) and more focus on managing catchments and floodplains.
- Communicating residual flood risk to the community.
- Keeping current levels of service for flood protection affordable, given the relatively small number of ratepayers in scheme catchments.
- Managing the effects of geotechnical issues and on-going investigations at sites where risk to the stopbanks have been identified.

- Managing conflicting drainage needs between major land uses within the scheme catchment (for example, dairying and kiwifruit have different drainage needs).
- Managing the extremely low-lying areas of the Rangitāiki Plains, where land levels are lower than mean sea-level.

Where we want to be

Levels of service	Key performance indicators	Result at 2013/14	Target			
			Year One 2015/16	Year Two 2016/17	Year Three 2017/18	Year Four to Year Ten 2018/19 to 2024/25
Community receives timely warning of potential flooding, allowing them to take actions to avoid the hazard.	Percentage of flood warnings at pre-determined levels are given in accordance with the flood warning manual.	100%	90%	90%	90%	90%

What we are going to do

Each year we will undertake the following:

- Flood forecasting
- Flood management (includes flood management systems, flood room functionality and flood warning manual)
- Floodplain management strategies
- Floodplain modelling
- River surveys
- Engineering surveys
- Gravel monitoring
- Gravel management
- Integrated Catchment Management to manage flood risk.
- Specialist engineering assessments (such as geotechnical)

Year One 2015/16 - Key Projects

- River Scheme Sustainability projects coordinated within Integrated Catchment Management
- Continue Regional Flood Risk Management Framework (RFRMF)

Year Two 2016/17- Key Projects

- River Scheme Sustainability projects coordinated within Integrated Catchment Management
- Continue Regional Flood Risk Management Framework (RFRMF)

Year Three 2017/18 - Key Projects

- River Scheme Sustainability (RSS)
- Regional Flood Risk Management Framework (RFRMF)

Years Four to Ten 2018/19 - 2024/25 - Key Projects

- River Scheme Sustainability (RSS)

Significant negative effects of the activity

The Regional Flood Risk Coordination activity may have the following negative effects:

- Reducing aquatic habitats through establishing river edge erosion protection works and stopbanks.
- Increasing pressure on the downstream stopbank system by containing floodwaters within the stopbank system.
- Potentially lowering the value of properties once flood risks are determined and communicated.
- Properties may carry high insurance excess or become uninsurable for flooding.

Risks

The risks that threaten our expected future or are:

- Flood events of greater magnitude than the design standard for the scheme cause overtopping of stopbanks and widespread inundation behind the flood banks.
- An over-design extreme event creates a serious risk to life by impounding floodwater behind the stopbanks.
- The community may underestimate the residual risk of flood protection systems, and on-going potential for overtopping of stopbanks during an over-design flood event and/or failure of the stopbanks during a flood event.
- Schemes may become unaffordable with the need to continue to meet design standards with climate change effects.
- Geotechnical uncertainty may increase costs of flood mitigation to meet agreed levels of service.

How we will fund the activity

Operating funding is 92 percent general funds; 8 percent other revenue.

Regional Flood Risk Coordination Activity Financial Statement

Annual Plan 2014/15 $000		2015/16 $000	2016/17 $000	2017/18 $000	2018/19 $000	2019/20 $000	2020/21 $000	2021/22 $000	2022/23 $000	2023/24 $000	2024/25 $000
	Activity operating revenue										
0	Other revenue	108	110	113	116	119	123	127	131	135	140
108	Fees and charges	0	0	0	0	0	0	0	0	0	0
108	**Total activity operating revenue**	**108**	**110**	**113**	**116**	**119**	**123**	**127**	**131**	**135**	**140**
	Operating expenditure by sub activity										
1,038	Regional Flood Risk Coordination	1,275	1,423	1,443	1,451	1,571	1,455	1,450	1,507	1,527	1,503
1,038	**Total operating expenditure**	**1,275**	**1,423**	**1,443**	**1,451**	**1,571**	**1,455**	**1,450**	**1,507**	**1,527**	**1,503**
930	**Net deficit to fund**	**1,167**	**1,313**	**1,330**	**1,335**	**1,451**	**1,332**	**1,323**	**1,377**	**1,392**	**1,363**
	Funding required										
341	General rates	419	457	484	493	557	537	556	584	612	617
589	Investment income allocated	761	762	744	710	755	696	715	741	789	790
0	(Increase) decrease in reserves	(13)	94	102	131	139	100	52	52	(10)	(44)
930	**Total funding required**	**1,167**	**1,313**	**1,330**	**1,335**	**1,451**	**1,332**	**1,323**	**1,377**	**1,392**	**1,363**

Flood Protection and Control Group Financial Statement

Annual Plan 2014/15 $000		2015/16 $000	2016/17 $000	2017/18 $000	2018/19 $000	2019/20 $000	2020/21 $000	2021/22 $000	2022/23 $000	2023/24 $000	2024/25 $000
	Activity operating revenue										
8,463	Targeted rates	8,697	8,868	9,543	10,060	10,340	10,724	11,012	11,432	11,960	11,788
161	External interest income	234	308	352	446	432	428	536	601	670	587
864	Operating grants and subsidies	2,620	60	60	73	60	60	60	73	60	60
84	Other revenue	267	273	280	288	296	304	313	323	334	346
119	Fees and charges	11	11	11	12	12	12	13	13	14	14
9,691	**Total activity operating revenue**	**11,830**	**9,521**	**10,247**	**10,878**	**11,139**	**11,528**	**11,934**	**12,443**	**13,038**	**12,795**
	Operating expenditure by activity										
8,773	Rivers & Drainage Schemes	9,257	9,837	10,475	10,951	13,959	11,423	11,539	11,986	12,400	18,291
1,038	Regional Flood Risk Coordination	1,275	1,423	1,443	1,451	1,571	1,455	1,450	1,507	1,527	1,503
9,811	**Total operating expenditure**	**10,533**	**11,260**	**11,918**	**12,402**	**15,530**	**12,878**	**12,989**	**13,494**	**13,926**	**19,794**
120	**Net deficit to fund**	**(1,297)**	**1,739**	**1,672**	**1,524**	**4,390**	**1,350**	**1,056**	**1,051**	**888**	**6,999**
	Funding required										
857	General rates	389	1,373	1,504	1,569	1,708	1,792	1,909	1,983	2,158	2,205
1,482	Investment income allocated	707	2,288	2,311	2,259	2,313	2,321	2,454	2,519	2,780	2,823
(2,219)	(Increase) decrease in reserves	(2,394)	(1,922)	(2,144)	(2,304)	369	(2,762)	(3,307)	(3,451)	(4,049)	1,971
120	**Total funding required**	**(1,297)**	**1,739**	**1,672**	**1,524**	**4,390**	**1,350**	**1,056**	**1,051**	**888**	**6,999**

Annual Plan 2014/15 $000		2015/16 $000	2016/17 $000	2017/18 $000	2018/19 $000	2019/20 $000	2020/21 $000	2021/22 $000	2022/23 $000	2023/24 $000	2024/25 $000
	Capital expenditure by activity										
4,994	Rivers & Drainage Schemes	7,920	3,944	8,071	4,864	3,231	2,475	1,440	3,678	1,872	2,755
4,994	**Total capital expenditure**	**7,920**	**3,944**	**8,071**	**4,864**	**3,231**	**2,475**	**1,440**	**3,678**	**1,872**	**2,755**
	Other capital funding applied										
(4,994)	Increase (decrease) in reserves	(7,920)	(3,944)	(8,071)	(4,864)	(3,231)	(2,475)	(1,440)	(3,678)	(1,872)	(2,755)
0	**Total capital funding applied**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Sources of capital funding										
0	**Total sources of capital funding**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**