

Flood Control



What we do

The Flood Control group includes the following activities:

- Rivers Asset Management
- Flood Control Schemes
- Land Drainage Schemes
- Wainui Beach Fore-dune Protection
- River Channel Maintenance.

Rivers Asset Management

Under s.35 of the Resource Management Act 1991, Council has a duty to gather information, monitor and keep records as it relates to the state of the whole or any part of the environment of its region or district. And under s.126(a) of the Soil Conservation and Rivers Control Act 1941, Council shall minimise and prevent damage within its district by floods and erosion.

This is achieved by monitoring changes to river/stream channels and the coast which could affect the community and providing advice on preventative maintenance for river/stream channel integrity. The activity also includes advocating on behalf of flood control, coastal and land erosion protection, land drainage and fore-dune protection to stakeholders. River monitoring also provides flood warnings to the community for specified rivers in a timely and effective manner.

Flood Control Schemes

To protect land, buildings and infrastructure from flooding, Council administers and maintains two flood control schemes, one river improvement scheme and one river erosion protection scheme within its district:

- Waipaoa River Flood Control Scheme (WRFCS)
- Te Karaka Flood Control Scheme (TKFCS)
- Turanganui-Taruheru Rivers Scheme (TTRS)
- Protection of Ruatoria scheme.

Together these schemes include 47km of river channel, 67.3km of stopbanks, 740 hectares of floodway land.

Land Drainage Schemes

Council constructs, administers and maintains a network of open drains across private farmland to provide land drainage that allows the effective subsurface drainage of the Poverty Bay flats within specific areas (generally land drainage schemes). A total network of 330km of drains is maintained spanning 14 drainage districts. Council undertakes this work due to landowner requests via legislation.

Wainui Beach Fore-dune Protection

To maintain the existing fore-dune protection infrastructure in the defined area along Wainui Beach. To provide new fore-dune protection infrastructure in alignment with the Wainui Beach Management Strategy (WBMS).

The WBMS is the result of a Council initiative to facilitate the development of a management strategy through partnership with the community. Council identified the need for this approach in July 2000 due to a number of unresolved issues at Wainui Beach. Issues of beach fore-dune erosion and property protection, Environment Court appeals, increased beach and dune/reserve usage and the growing beachfront community at Wainui.

River Channel Maintenance

To provide essential river channel maintenance and infrastructure works for identified rivers to protect land, properties and roads from erosion. A total of 206km of rivers and streams is maintained within the district. Council undertakes this work due to landowner requests via legislation.

Asset Summary Table (from June 2014 Valuation)

	Units	Flood Control Schemes		Taruheru River Scheme		Land Drainage and River Schemes		Wainui Fore-dune Protection and Waipaoa Protection Works	
		Qty	RC (\$)	Qty	RC	Qty	RC	Qty	RC
Stopbank	km	67.3	25,516,496	0	N/A	81.2	910,881	N/A	0
Culverts	km	3.9	286,567	?	106,299	0	N/A	N/A	0
Maintained Channel	km	36.8	N/A	12.6	683,409	536	10,415,097	N/A	0
Pump Stations	No.	N/A	0	N/A	0	4	763,823	N/A	0
Other (rock, bridges, gabions, diversion, beach structures, cuts etc.)	N/A	N/A	17,545,337	N/A	2,768,392	N/A	3,242,122	N/A	1,407,600
Sub Total			\$43,348,400		\$3,558,100		\$14,568,100		\$1,407,600
Total									\$62,882,200 million

Why we do it

To provide and manage the protection of people and their properties including land from flooding, river erosion, and coastal erosion in identified areas.

To maintain the land drainage, rivers and streams and coastal protection assets to their design standard utilising the most cost effective, long-term asset management options.

This activity contributes to the following Community Outcomes

- Tairāwhiti Taonga
- Tairāwhiti Tangata

Where are we now

The Flood Control activity has been working on a number of operational projects with Hawkes Bay Regional Council (via a shared services agreement) to condition and risk assess our key assets such as the WRFCFS, city revetments and pump stations. This work has allowed us to produce a robust capital works programme for the next ten years.

Current key projects:

- A new section of river revetments has been constructed below the Cenotaph with works to continue around the marina and below Peel Street Bridge.
- Continuing the protection of Ruatoria project.
- Taruheru flood capacity investigation ongoing.
- Completed two year WRFCFS asset condition and risk assessment with significant proposal to improve the resilience of the scheme.
- Beginning implementation of the recently updated WBMS with projects in this LTP.

- Completed Gisborne city revetments: risk and condition assessment with projects added to the LTP.
- Review of Stopbank Monitoring & Sandbagging Manual under way. Floodwarning Manual to follow.
- Waikanae Creek preliminary modelling completed with some further work required to determine appropriate waterway areas.
- Completed rural pump station risk and condition assessments with ongoing upgrade to Church Road and further work added to the LTP.

Challenges and Opportunities

Future challenges and opportunities facing the activity:

- Demographics: The demographics for Tairāwhiti identifies a static and ageing population. The historic trend of the rural townships is an incremental declining population.
- Households: The number of households in the Gisborne district is projected to increase by 2,400 or 14% between 2006 and 2031. This will have implications on infill changes in run-off characteristics within the district.
- Climate Change: In particular sea level rise which will have particular implications on coastal communities. Council's approach with regard to the asset management of existing and future infrastructure located in these areas needs to be clarified.
- Waterways: The draft Freshwater Plan is expected to be notified later in 2015. Incorporated within this document is a requirement to move toward Integrated Catchment Management Plans by 2020.

What are our plans for the next ten years?

What have we been doing?	What will we do in years 1-10?
<ul style="list-style-type: none"> • Completed the Waipaoa River Flood Control Scheme Asset Condition and Risk Assessment. • Undertook electrical, civil and mechanical assessments of 25+ year old pump station assets in conjunction with the capital replacement projects. • Continued with feasibility study to investigate widening the Taruheru River channel to increase capacity and improve river performance. • Replaced failing river revetments as part of the Turanganui River revetment renewals. 	<p>Years 1-3</p> <ul style="list-style-type: none"> • Commence investigations and design into the upgrade of the resilience of the WRFCFS to a Cyclone "Bola". • Year 3 commence construction of WRFCFS upgrade. • Replace failing timber revetments on the Taruheru River near the Marina car park. • Complete investigation to widen the Taruheru River channel to increase capacity and improve river drainage. • Implement recommendations from reviewed Wainui Beach Management Strategy (groyne/rock revetment). • Undertake replacements of 25+ year old pump stations electrical and mechanical components in conjunction with pump stations capital upgrades.

What have we been doing?	What will we do in years 1-10?
<ul style="list-style-type: none"> Repaired the Patutahi Loop Drain outlet into Whakaaahu Stream. This project was intended for 2012/13 but through discussion with affected landowners it was decided to postpone indefinitely as the sealed outlet is performing well. Undertook a design investigation for Tansley Road to determine the best approach for replacement of wooden retaining walls. 	<ul style="list-style-type: none"> Repair/renewal of failing Armco piped through Te Karaka stopbank. Council has budgeted to assess a proposal for a flat water kayaking facility, i.e. a Weir, on the Taruheru. Council will examine any potential impacts of the Weir on the stability and hydrology on the river. <p>Years 1-10</p> <ul style="list-style-type: none"> Continue with construction of WRFCs upgrade. Progress any Taruheru River channel widening recommendations arising from investigation work. Continue with pump station upgrades. Continue with Wainui Beach Management Strategy implementation.
<p>We will achieve these plans by:</p> <p>Effective activity management planning and reporting, developing a professional framework for staff and a communications plan for the activity.</p>	

Levels of Service and Performance Measures

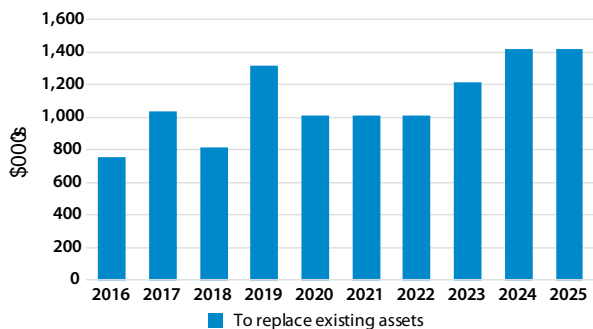
Level of Service	Performance measure	Results 2013/14	Target Years 1-3	Target Years 4-10
We monitor drainage of rivers and streams to minimise flood risk and coastal erosion to ensure communities are safe and prepared.	System adequacy and maintenance The major flood protection and control works that are maintained, repaired and renewed to the key standard defined in the Councils Flood Control activity management plan. The standard is that 25% of flood control stopbank length is inspected annually and maintained to a 1 in 100-year protection standard. (Mandatory Measure)	Achieved	Achieve	Achieve

Forecast Activity Cost Statement

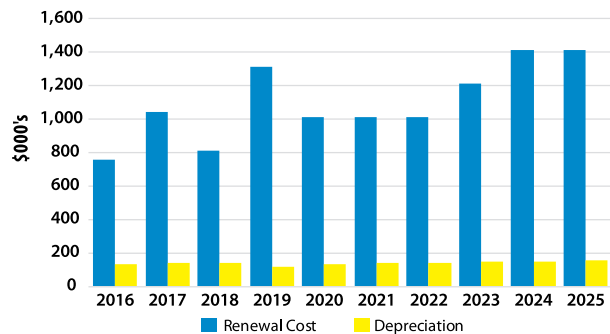
OPERATING REVENUE AND EXPENDITURE (\$000)	Budget 2015/16	Budget 2016/17	Budget 2017/18	Budget 2018/19	Budget 2019/20	Budget 2020/21	Budget 2021/22	Budget 2022/23	Budget 2023/24	Budget 2024/25
Operating Non Exchange Revenue	0	0	0	0	0	0	0	0	0	0
Operating Exchange Revenue	175	179	184	189	194	200	206	213	220	228
Operating Expenditure	1,726	1,916	1,747	1,806	1,847	1,842	1,956	1,950	2,032	2,233
Net Cost of Service	1,551	1,737	1,563	1,617	1,653	1,642	1,750	1,737	1,812	2,005

CAPITAL EXPENDITURE (\$000)	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
- to replace existing assets	757	1,038	811	1,313	1,011	1,012	1,012	1,213	1,413	1,414
Capital Projects	757	1,038	811	1,313	1,011	1,012	1,012	1,213	1,413	1,414

Total Capital Projects



Depreciation v renewal capital assets



Capital Expenditure 2015-2025

Description	LOS	Total Cost	2015/16 \$000s	2016/17 \$000s	2017/18 \$000s	2018/19 \$000s	2019/20 \$000s	2020/21 \$000s	2021/22 \$000s	2022/23 \$000s	2023/24 \$000s	2024/25 \$000s
Waipaoa River Flood Control Scheme	MAINTAIN	9,772	410	679	800	883	1,000	1,000	1,000	1,200	1,400	1,400
Tansley Road Drain - Replace Failing Retaining Walls	MAINTAIN	419	0	0	0	419	0	0	0	0	0	0
Taruheru River Channel and Revetments	MAINTAIN	364	171	193	0	0	0	0	0	0	0	0
Wainui Beach Management Strategy	MAINTAIN	247	91	156	0	0	0	0	0	0	0	0
Ruatoria Flood Protection - Provide a means of halting/slowing down erosion	MAINTAIN	117	10	10	11	11	11	12	12	13	13	14
Onepoto Bay Wooden Stormwater Flumes Renewal	MAINTAIN	75	75	0	0	0	0	0	0	0	0	0
Totals:		10,994	757	1,038	811	1,313	1,011	1,012	1,012	1,213	1,413	1,414