

West Coast Regional Council 30 Year Infrastructure Strategy

1. Introduction

Council owns a wide range of assets, including land, buildings and motor vehicles. Infrastructure assets held by council are flood and drainage scheme assets and these are operated and maintained by council. Their book value is approximately \$54.062 million at 30 June 2014, representing approximately 70% of the value of total assets held by Council.

This strategy focuses on our infrastructure assets, which are made up primarily of hundreds of kilometres of floodbanks, drains, erosion works (eg groynes) and other infrastructure associated with the river erosion, drainage and flood protection schemes.

Flood protection and drainage assets are grouped into "Rating Districts". The majority of our Rating Districts have infrastructure in place, and we want to ensure that the infrastructure will provide to their communities the agreed levels of service.

Council administers 26 Rating Districts which range from very large schemes protecting major towns to very small schemes providing for the maintenance of drainage or a creek opening.

The purpose of this strategy is to identify how we will manage our infrastructure assets over the next 30 years through to 2045. We have made many assumptions in determining our strategic direction for the 30 year period and these are also discussed in this strategy.

2. Geographical context

Approximately 85% of the region is administered by the Department of Conservation, with the remaining 15% comprising farmland, forestry and urban areas. The region is long with the population sparsely spread throughout, with 3 main centres Hokitika, Greymouth and Westport. Like most of the country the main towns and other centres are located near to flood and other hazards. The majority of Rating Districts were formed to reduce the impact of the local flood hazard, to levels agreed amongst the local community. The continued safe occupation and use of these areas is important to the wellbeing of its communities, and so continued protection from flooding is important. Our flood protection schemes aim to protect people and property from flooding, and/or to attempt to minimise river or sea erosion. Our 2 drainage schemes assist maintaining the productive capability of the land on an ongoing basis.

We manage 26 flood and drainage schemes, protecting both the urban and rural sectors within the West Coast Region. Those schemes are as follows:

- Okuru (seawall, preventing sea erosion)
- Canavans Knob (in abeyance)
- Coal Creek (river flood protection)
- Franz Josef (river flood protection)
- Greymouth (river flood protection – structures owned by the District Council))
- Hokitika (seawall, preventing sea erosion)
- Hokitika southside (river erosion protection)
- Inchbonnie (river flood and erosion protection)
- Kaniere (river erosion protection)
- Karamea (river flood protection and erosion protection)
- Kongahu (land drainage scheme)
- Kowhitirangi (river flood and erosion protection)
- Lower Waiho (river flood and erosion protection)
- Matanui (creek clearance and erosion protection)
- Mokihinui (river and flood protection and sacrificial coastal bund)
- Nelson Creek (river flood protection)
- Punakaiki (seawall, preventing sea erosion)
- Raft Creek (land drainage scheme)

- Redjacks Creek (river flood and erosion protection)
- Taramakau (river flood and erosion protection)
- Vine Creek (creek clearance, erosion protection and stopbanking)
- Waitangitaona (river flood and erosion protection)
- Wanganui (river flood and erosion protection)
- Whataroa (river erosion protection)
- 12 mile (private coastal works inspection only - no council owned infrastructure)
- Saltwater Creek / New River (coastal rivermouth opening only - no infrastructure)

3. Capital Expenditure

The following are drivers for capital investment in our flood and drainage schemes:

- The need to replace existing assets that are no longer fit for purpose;
- The need for an increase in the level of service that the schemes currently provide;
- A new flood or drainage scheme.

3.1 Replacing assets

All assets are appropriately maintained, however, some assets will still need to be renewed / replaced at the end of their useful lives. The types of assets that have a programme of renewal / replacement include culverts, pipes and other structures which have a finite life.

The renewals/replacement programme for each of the schemes is based on the assumptions that:

- there will be no deferred maintenance during the 30 year period.
- there will be no events (flood, earthquake etc.) of a magnitude that will damage the assets.

3.2 Increasing the levels of service

We define levels of service as the level of protection our flood and drainage schemes provide. These may be expressed in terms of the return period of a flood, e.g., the 1 in 100 year flood, or in other terms. Council may decide to increase the level of service if the community desires a greater level of flood protection or drainage than is currently being provided, and has decided that it is affordable.

The current levels of service provided by council for all flood and drainage schemes are stated in the recently updated Asset Management Plans for each Rating District, and in this Long Term Plan on pages 40-42. Council consults regularly with each Rating District community which allows feedback on these levels of service.

We cannot predict if or when major floods or earthquake events may occur, or whether they might result in damage to scheme assets. The capital level of service programmes for each of the schemes in this strategy do not include such events taking place. However, the likelihood of such an event occurring during the 30 year period is reasonably high. Council does have a catastrophe fund in place for use to help to restore damaged infrastructure in tandem with the central government National Disaster Recovery Plan.

3.3 New need or demand

It is likely that new schemes may be developed in areas where currently no council flood or erosion protection services are provided. Council is likely to undertake several investigations to determine the feasibility of proposed new schemes during the 30 year period, where there is a demand for possible new schemes. Over the past ten years new schemes established include Punakaiki seawall in 2005, Mokihinui scheme, Whataroa river scheme, Saltwater Creek/New River scheme and Hokitika Seawall scheme.

In addition to the new schemes there were also major capital upgrades in existing schemes, such as the Inchbonnie capital works and Greymouth floodwalls upgrade in 2009, and the more recent Franz Josef capital works.

The capital estimates in the Long Term Plan assume that there will be no new schemes developed over the 30 year period. This is because it cannot be predicted at this time if, or where, these

schemes may be needed, or their cost, or the appetite of communities to fund them (see section 7 for possible known future capital works).

Maintenance costs over the coming thirty year period are expected to track approximately the same upward trend as the first ten years, as in figure 1 below, assuming no demand for new schemes.

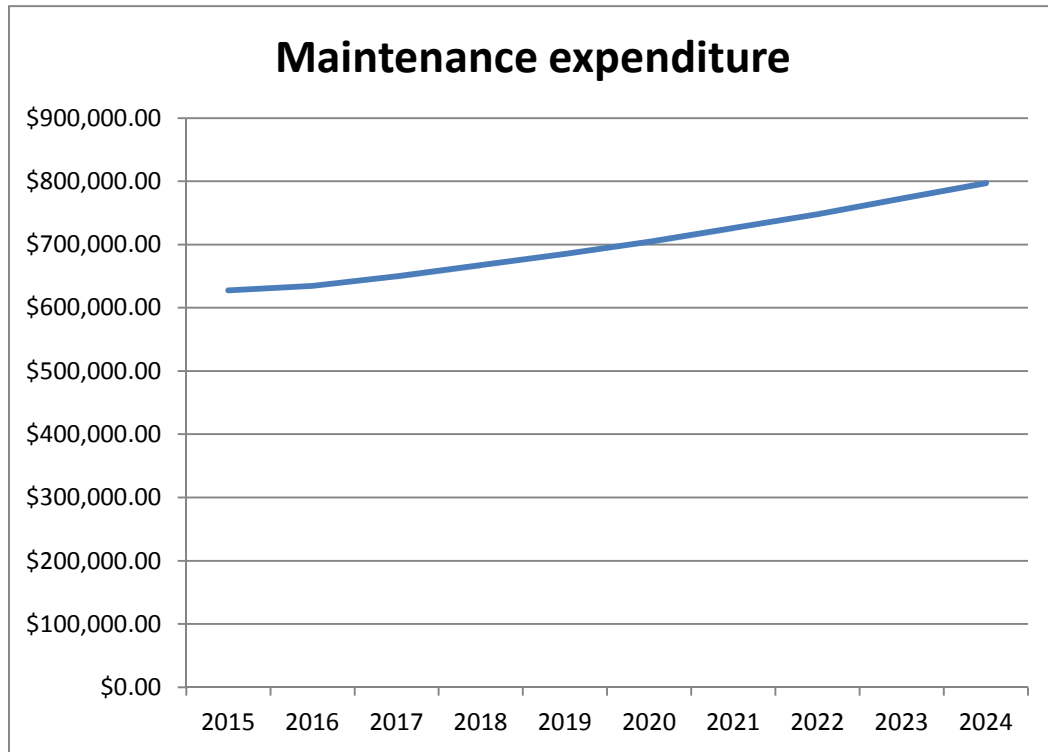


Figure 1: Budgeted maintenance expenditure for flood and erosion protection schemes that Council is responsible for.

In terms of new capital items in the coming thirty years, this is almost a complete unknown at this stage. The Westport flood protection working group is currently developing a flood protection plan for the town. No detailed plans or costings are yet available for this project, however. The working group are currently refining the options available. Consultation with contributing ratepayers will occur once this information is available.

4 Operational Expenditure

Operational expenditure covers the maintenance and operation works associated with each scheme and includes depreciation and the day to day running costs.

Council has operational and maintenance plans in place, and these set out the maintenance requirements of each type of asset. See the asset management plans on Council’s website at www.wcrc.govt.nz.

5 Our Priorities

Council’s priorities for our future flood and drainage scheme activities include the following:

- Providing and maintaining agreed levels of flood and erosion protection to our communities;
- Communicating the hazard risk to communities where recommended levels of service are not being achieved, or there is a high likelihood of failure;
- Continuing to refine our asset management plans for each scheme.

These priorities will assist our future planning and decision making processes

6 Other Assumptions

We do not expect significant population growth, so there won't be any significant increase in the demand on our flood protection and drainage scheme assets as a result. The most likely area of population growth is Franz Josef, but that is uncertain at present. The assets are not directly impacted by the population levels within the scheme areas, more so by the location of the new development in relation to river or sea hazards. Existing seafront communities (eg. Neil's Beach) are looking at the feasibility of sea protection works and these investigations are likely to continue to be needed over the thirty year period.

7 Significant Issues and Uncertainties

There is no planned capital expenditure for the next 30 years at the time that this strategy was written. The only planned capital upgrade is the Greymouth floodwall stage 2 upgrade, which would bring the current floodwall height up to protect against a one in 150 year event. This was planned to occur once the current loans are paid off (in 2030). No detailed plans or costings have been completed for this project yet, and it would only proceed if it were supported by the majority of contributing ratepayers who return their postal opinion survey.

Over the last 10 years, Council spent nearly \$6 million on new capital items, and another \$7.5 million in operating expenditure maintaining existing flood protection, river control and land drainage assets. The major capital items included the construction costs of: the Punakaiki Seawall (2005); Inchbonnie scheme upgrade (2009); Greymouth Floodwall upgrade (2009); Franz Josef stopbanks (2011); and Hokitika Seawall (2013).

Westport Issues

The Council has commenced work with a flood working group for the Buller River, this work is in the initial scoping stage and no plans are in place to undertake any flood protection works. Community consultation would occur prior to the formation of a Rating District. The issue with the Buller River and Westport is that there is currently no stopbanking in place, and a 1 in 50 year flood in the Buller River would be expected to cause significant flooding in the town

Franz Josef Issues

Flood modelling analysis of the Waiho River indicates that the north stopbank which protects the main town can contain a theoretical 1 in 100 year return period flood. This modelling work highlighted a potential gap between the two stopbanks on the northside where water could back up during a large flood event, and this is being addressed through planned construction works.

The southside stopbank is not capable of containing a theoretical 1 in 10 year flood. This side of the river is seriously vulnerable due to the severe aggradation of gravel in the river and the impracticalities of providing higher levels of protection. The Council is notifying in the Long Term Plan to remove the properties on the south bank of the Waiho River from the Franz Josef rating district.

In 2011 Council commissioned an independent report on how to best manage the Waiho River and its flood protection assets. Due to further aggradation, In 2014 Council commissioned more work looking into the rate of aggradation in the Waiho River. The work indicated that on average the aggradation was occurring at 0.2m per year since 1940, the report highlighted that in some areas surveyed aggradation has been more rapid in the order of 1-2m in a single year. Work is ongoing on identifying possible solutions.