



# Taramakau Rating District 2021-2024 Asset Management Plan



West Coast Regional Council

388 Main South Road  
Greymouth  
7805

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## **1.0 Purpose of this Document**

The purpose of this document is to summarise the management philosophy that is applied to the Taramakau Rating District including the infrastructure assets and services. This approach ensures that acceptable levels of service are provided in the most cost-effective manner and contribute to the achievement of the community outcomes identified in the West Coast Regional Council's Long-Term-Plan (LTP).

This AMP defines the objectives and performance standards of the Taramakau Rating District for which the West Coast Regional Council bears the maintenance responsibility, including providing a basis upon which the effectiveness can be measured. The key purposes of this AMP are to:

- Provide a history of the Taramakau scheme.
- Convey the long-term strategy for the management of the Taramakau Rating District.
- Provide a tool to assist with management assets in a cost effective and sustainable manner.
- Manage the environmental, service delivery and financial risks of asset failure.
- Demonstrate that the service potential of the rivers and drainage assets is being maintained.

## **2.0 Asset Management Objectives**

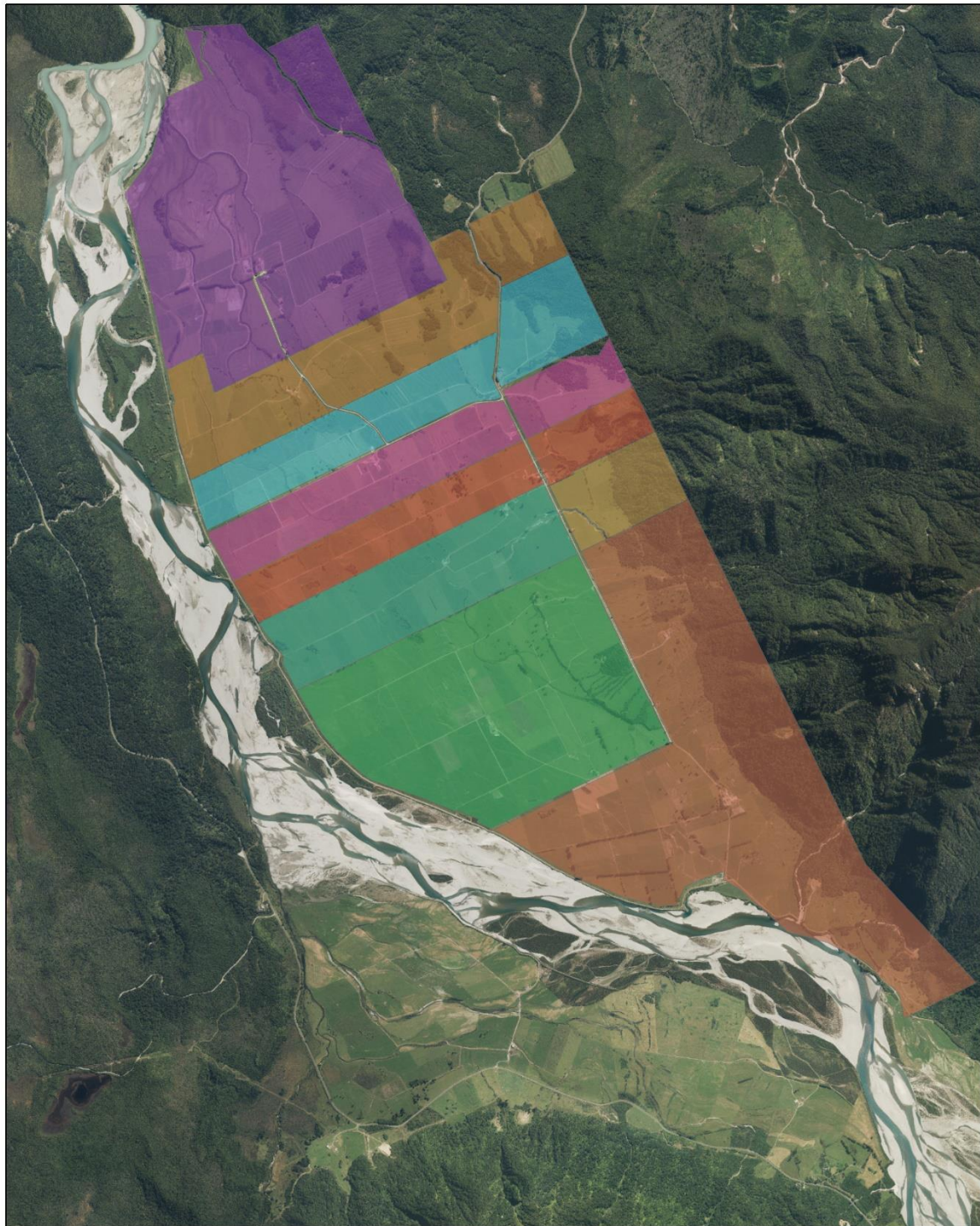
West Coast Regional Council recognises that the Taramakau Asset Management Plan is the fundamental driver of drainage and infrastructure for the scheme. This AMP has been developed in accordance with the Local Government Act 2002, with the first AMP completed in 2003 with three yearly updates or earlier where information indicates a significant change from what is stated in the current AMP.

In order to fulfil the outcomes, vision, goals and objectives of these assets, the West Coast Regional Council have adopted a systematic approach to the long-term management of its assets and services on the Taramakau Rating District by preparing this AMP.

West Coast Regional Council is committed to best appropriate practice asset management in order to achieve the following key objectives:

- Meet the service expectations of the Taramakau community.
- Ensure maintenance activities achieve efficient results with optimal benefits.
- Demonstrate Council's approach to managing risk and meeting growth requirements towards a sustainable future.
- Comply with all statutory requirements.

### 3.0 Taramakau Rating District



<p><b>THE WEST COAST REGIONAL COUNCIL</b></p>	<p><b>Taramakau Rating District Asset Management Map Taramakau, Grey District</b></p>	<p><b>Legend</b></p> <p>SRA</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #008000; border: 1px solid black; margin-right: 5px;"></span> Taramakau A</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #008080; border: 1px solid black; margin-right: 5px;"></span> Taramakau B</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FF8C00; border: 1px solid black; margin-right: 5px;"></span> Taramakau C</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Taramakau D</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFD700; border: 1px solid black; margin-right: 5px;"></span> Taramakau E</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FF69B4; border: 1px solid black; margin-right: 5px;"></span> Taramakau F</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FF0000; border: 1px solid black; margin-right: 5px;"></span> Taramakau G</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #D2B48C; border: 1px solid black; margin-right: 5px;"></span> Taramakau H</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFD700; border: 1px solid black; margin-right: 5px;"></span> Taramakau I</li> </ul>	<p>0 375 750 1,500 Metres</p> <p>Date created: 15/09/2021, 0927 Author: james.bell Scale at A3: 1:25,000</p> <p>Sourced from Land Information New Zealand data. Crown copyright reserved. Aerial imagery from &lt;date&gt;.</p> <p>Coordinate System:</p>
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### 4.0 Taramakau Rating District Background

The Taramakau Settlement was opened after World War II in 1949. There were 9 settlers on dairy farms contributing to works and each of these farms had a river frontage and suffered serious erosion prior to the construction of the groyne (stone-basket strongpoint) built in mid-1940 (Langridge's hook groyne). A total of 2,640 tonnes of rock riprap was placed in 1949. The strongpoint however, was still in a dangerous state. Floods in June and October 1949 further damaged the groyne. An estimate of \$5,130 was proposed for the supply of 2,400 tonnes of rock.

The total area protected was 1,500 hectares with a capital value of \$27,730.

In May 1950 a stopbank (50 metres in length) built behind the strongpoint was destroyed. This bank prevented flood overflows from taking an old course along the settlement frontage.

In 1952 an estimate was prepared to repair 1 downstream farm frontage (A length of 200 lineal metres).

A report completed on 21 January 1955 indicated works involved 24,647m<sup>3</sup> on stopbanking, and 2,300 tonnes of rock were required to protect the uppermost areas of the district.

Widespread flooding on 26 and 27 December 1958 caused extensive damage and required a reappraisal of bank heights in the Taramakau area.

In 1960 NZ Soil Conservation and River Controls Council was approached to fund works (i.e. 1,000 tonnes of rock) to top up the main groyne.

The Taramakau Settlement Separate Rating area was first proposed by the Westland Catchment Board on 10 April 1962. The first rates were struck on 22 July 1962. The rates were based on an area basis.

In October 1968, the bottom property (Shaw) underwent erosion. A proposal to build a rail and willow retard 1,080 metres long was estimated to cost \$6,400.

On 16 August 1972 a report was sent to the Commissioner of Works. This report outlined an overall protection scheme for the Taramakau River between Pugh's Hook and the bottom gorge. This scheme had been discussed with all farmers on both the left and right banks. The agreement, in principal included stopbanking, hook groynes, and riprap protection. The estimated total cost of the overall scheme was \$284,000.

The first works proposed involved 5,000 tonnes of rock rip rap, 10,300<sup>3</sup> of stopbanking and opening up a new quarry.

On 22 May 1972, the Taramakau River was in danger of breaking through the bank. Urgent repairs were carried out – (\$16,000). At a meeting of farmers and Westland Catchment Board representatives it was resolved to produce an overall scheme proposal as soon as possible.

In February 1977, 2700 tonnes of rock was utilised on the top section of the stopbank (Langridge/Gluyas). This was placed as rip rap.

In 1977 a revised scheme covering 12.2 kilometres from the Pugh and McGrath Hook at Turiwhate to the bottom of the Taramakau Settlement was estimated at \$360,000. The scheme was designed to provide flood protection for a 50-year return period flood. The flood design discharge was 4,400

cumecs. The stopbanks were designed to have a freeboard of 0.900 metre above the design flood level.

The proposed works included:

- i. 7.3 kilometres of stopbanking on the right bank – 250,000m<sup>3</sup>
- ii. 5 new rock retards
- iii. rock rip rap along both banks

In 1978, 3,297 tonnes of rock was utilised on Langridge’s and Templeton’s properties.

In 1980, 1,540 tonnes was placed in the same area.

On 24 December 1981 the NZ Soil Conservation and Rivers Control Council approved funding for the Taramakau River Scheme at an estimated cost of \$846,000 with a 70% subsidy rate. Work had to commence by December 1983. The Scheme work was carried out over a 10-year period.

A classification was presented to ratepayers on 17 February 1983 and adopted by the Westland Catchment Board on 28 May 1984.

On 20 August 1985 the major works on the Taramakau Scheme were completed. This major contract involved 120,400m<sup>3</sup> of stopbanking, and 21,126 tonnes of rock (total cost \$255,740).

The Westland Catchment Board purchased Milson’s Island from Colin Stewart on 5 June 1985 for \$380.00. This was gazetted on 17 April 1986. This land was purchased to allow the small overflow diversion to be constructed through the property.

At the ratepayers’ request, a new classification was promulgated and adopted by the West Coast Regional Council on 18 May 1993.

It is an area-based maintenance and capital rating district.

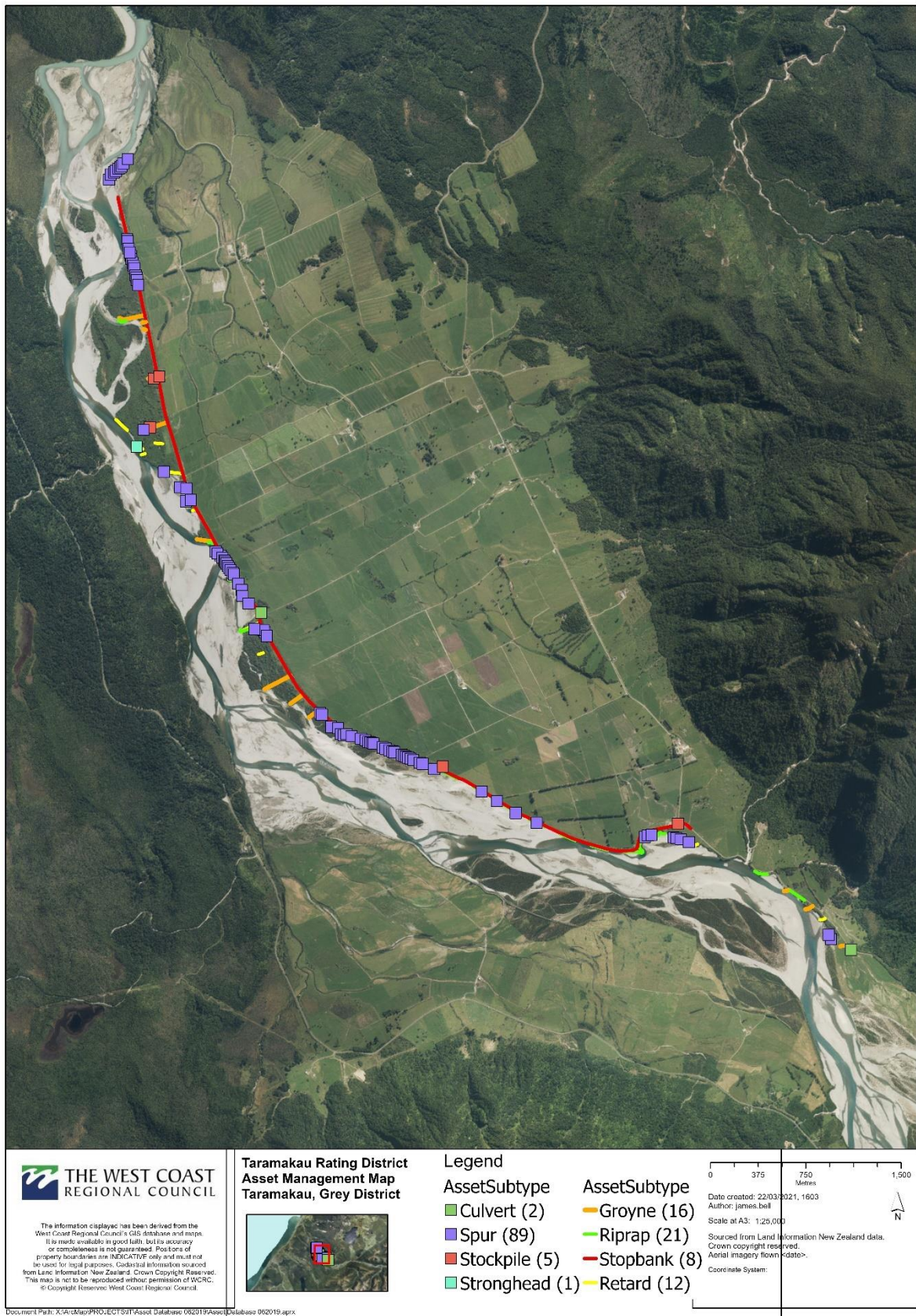
## 5.0 Description of Assets

Asset	Quantity	Unit	Rate
Rock	198,572	Tonne	\$20.00
Rubble	6,645		\$20.00
Stockpiled rock	3841		\$18.00
Fill	512,222	m <sup>3</sup>	\$10.39
Bridges	20,000	\$	\$1.05
Culverts	26,260	\$	\$1.07
Excavation	6000	M3	\$2.60
<b>Asset Value</b>			<b>\$9,560,162.78</b>
<i>Contingencies</i>			<i>\$956,016.28</i>
<i>Resource Consents</i>			<i>\$210,323.58</i>
<i>Emergency Works Conditions</i>			<i>\$956,016.28</i>
<b>Asset Value</b>			<b>\$11,682,518.92</b>

## 5.1 Physical Assets

Asset Type	# Of Assets	Asset Components	Quantity	Rate	Value	Total Value
Culvert	4	Culvert	\$22,260.00	\$1.07	\$23,818.20	\$25,018.20
		Rock	60T	\$20.00	\$1,200.00	
Spur	101	Rock	34076T	\$20.00	\$682,520.00	\$682,520.00
Stockpile	6	Rock	3841T	\$18.00	\$69,138.00	\$69,138.00
Stronghead	1	Rock	500T	\$20.00	\$10,000.00	\$10,000.00
Drain	1	Excavation	6000m <sup>3</sup>	\$2.60	\$15,600.00	\$15,600.00
<b>Bridge</b>	1	Bridge	\$20,000.00	\$1.05	\$21,000.00	\$31,000.00
		Rock	500T	\$20.00	\$10,000.00	
<b>Access Road</b>	1	Access Road	\$4,000.00	\$1.07	\$4,280.00	\$4,280.00
Groyne	16	Rock	34158T	\$20.00	\$683,160.00	<b>\$1,383,970.70</b>
		Fill	46130m <sup>3</sup>	\$10.39	\$666,310.70	
		Rubble	1725T	\$20.00	\$34,500.00	
Riprap	29	Rock	100976T	\$20.00	\$2,019,520.00	<b>\$2,146,316.10</b>
		Fill	9990m <sup>3</sup>	\$10.39	\$103,796.10	
		Rubble	1150T	\$20.00	\$23,000.00	
Stopbank	11	Fill	415002m <sup>3</sup>	\$10.39	\$4,311,870.78	<b>\$4,375,870.78</b>
		Rock	1200T	\$20.00	\$24,000.00	
		Rubble	2000m <sup>3</sup>	\$20.00	\$40,000.00	
Retard	17	Rock	27052T	\$20.00	\$541,040.00	<b>\$816,449.00</b>
		Rubble	1770T	\$20.00	\$35,400.00	
		Fill	23100m <sup>3</sup>	\$10.39	\$240,009.00	
<b>Total</b>						<b>\$9,560,162.78</b>

## 5.2 Asset Map



**Note: Not all assets have been added to the asset map due to having no spatial data to represent them.**



## 6.0 Existing Standard

Cross-section and flood flow analysis undertaken for the Taramakau scheme indicates that approximately 70% of the main stopbanks are not capable of containing 4,100 cumecs, which is the 2008 estimate of the 1 in 50-year return period flood with 900mm freeboard. The rating district has accepted that there is a need to increase the level of protection and are considering raising its height in the medium to long term.

### 6.1 Service Level

The Levels of Service represented in this AMP are described and aligned with community values including affordability, quality, safety, community engagement, reliability, and sustainability. The scheme structures will be maintained to the dimensions that they were originally constructed.

Councils in New Zealand will generally adopt one of three methods for determining the level of service provided by a scheme:

- Agreeing on a scope of physical works with the community without reference to a target capacity or return period (low risk schemes)
- Providing physical works with a level of performance provided in terms of a target capacity (medium risk schemes)
- Providing physical works with a level of performance in terms of a target return period (high risk schemes)

Each of the three methods for determining the level of service may be suitable for a given scheme, provided that communities understand event likelihood, scheme and property vulnerability, potential consequences, and residual risk.

Where council staff have recommended physical works or analysis that did not proceed due to community resistance to cost, then councils are only able to track their service delivery through measures around maintenance works programmes or a general description of channel condition.

The objective of the Taramakau Rating District is to reduce bank erosion and flooding along the upper and lower sectors of the Taramakau River Scheme.

Cross-section and flood flow analysis undertaken for the Taramakau scheme indicates that approximately 70% of the main stopbanks are not capable of containing 4,100 cumecs, which is the 2008 estimate of the 1 in 50-year return period flood with 900mm freeboard. The rating district has accepted that there is a need to increase the level of protection afforded by the stopbank and are considering raising its height in the medium to long term.

### 6.2 Maintenance Programme

An annual maintenance report is prepared each year in consultation with the Taramakau Rating District to adoption by the Council for inclusion in its annual budgets.

In preparing the annual maintenance report the following will be considered:

- An inspection to identify works requiring immediate repair.

- Works anticipated as being required given a ‘normal’ season.
- Flexibility to meet unbudgeted damages.

An annual report will be presented to the Rating District outlining the condition of the scheme assets and maintenance works and expenditure required for the coming financial year.

### 6.3 Damage Exposure

Event size (AEP)	Value	Damage ratio	Damage exposure	Prudent Reserve	Prudent reserve contribution
10%	\$11,682,518.92	5%	\$584,126	\$584,126	100%
5%	\$11,682,518.92	10%	\$1,168,252	\$817,776	70%
2%	\$11,682,518.92	20%	\$2,336,504	\$1,168,252	50%

It has been deemed, within reason, that all Rating Districts have a prudent reserve target balance that contributes to at least 100% of the damage exposure for a 10% AEP event, 70% for a 5% AEP event and 50% for a 2% AEP event. These percentages define what is an appropriate and acceptable level of risk for Council and the community.

### 6.4 Prudent Reserve

Why do we need a prudent reserve?

- Minimise the financial impact of unplanned works, such as those caused by weather events
- Ensure the rating district is able to contribute funding that is sustainable and affordable
- Ensure Council’s debt level is managed, and that borrowing is still available when required
- Ensure the debt levels of the rating district do not exceed the ability to fund the repayments

This target balance for the ‘prudent reserve’ for this rating district is \$500,000 as agreed by council. This prudent reserve is immediately available. It is likely the current reserve will only cover a portion of the actual cost of the potential damage that could occur.

If an event were to occur and the prudent reserve does not cover the full repair and rebuild cost of the assets, it is understood by the community that the remaining costs will be paid by loan, or the rating district accounts will be in overdraft. In the instance of extreme weather events, NEMA funding and the Councils private insurance will be accessed for cost recovery if the criteria are met. The West Coast Regional Council’s insurance policy has a \$400,000 excess. 40% of eligible rebuild costs will be met by this policy.

Below are the key criteria that needs to be met to access the NEMA funding, which can cover up to 60% of eligible rebuild costs

*The provisions for government financial support to local authorities apply whether or not a state of emergency is, or has been, in force*

*Government assistance will not normally be available for assets which receive a subsidy from any other source, unless:*

- *the local authority has adequately protected itself through asset and risk management including mitigation, where appropriate, and the proper maintenance of infrastructure assets, or*
- *the local authority has made sound financial provisions (such as the provision of reserve funds, effective insurance, or participation in a mutual assistance scheme with other local authorities) to a level sufficient to ensure that the local authority could reasonably be expected to meet its obligation to provide for its own recovery*

### **Threshold**

*Threshold for reimbursement; As with other response claims, Government policy is to reimburse 60 percent of the combined eligible costs (response and essential infrastructure costs), above the following thresholds:*

- *0.0075 percent of the net capital value of the city council, district council or unitary authority involved*
- *0.002 percent of the net capital value of unitary authorities where the assets in question are of a type that ordinarily are managed by regional councils, or*
- *0.002 percent of net capital value in the case of regional councils*

## **7.0 Funding**

### **7.1 Maintenance**

Maintenance is funded by targeted rates, the level of rating being determined each year in the Annual Plan process. This involves:

- Preparation of an annual works programme and corresponding budget.
- Adoption of the annual works programme and budget.
- Discussion of the works report and budget with the ratepayers.
- Adoption of final budget in the Council's Annual Plan.

The aim of maintenance is to ensure the infrastructure assets are kept at a standard where they can always perform to their service level. Where rock is required to be placed on an existing infrastructure under direct attack from the river, the protection required to maintain the existing infrastructure at its same service potential would be charged to the scheme maintenance account.

Capital works are generally defined as works which increase the service level of the scheme. Such work would include increasing the design standard or the area covered by a scheme and works to increase security or performance of an erosion control system or structure over and above that identified in the asset plan.

### **7.2 Damage Repairs**

Routine damage repairs are funded by a combination of:

- Carrying out work as scheduled in annual works programme.
- Reprioritising works identified in the annual works programme.
- Use of financial reserves.

Major damage repairs would be funded by loans raised by the Council and repaid by targeted rating over a number of years.

### 7.3 Financial Reserves

Financial reserves are held within the rating district account to provide the following:

- a) Meet the costs of unscheduled works.
- b) Enable an immediate response to flood damage repairs.
- c) Prevent major fluctuation in rating levels annually.

The levels of financial reserves held in the rating account are determined by the estimated damage exposure and the likely need for un-programmed works.

### 7.4 Depreciation

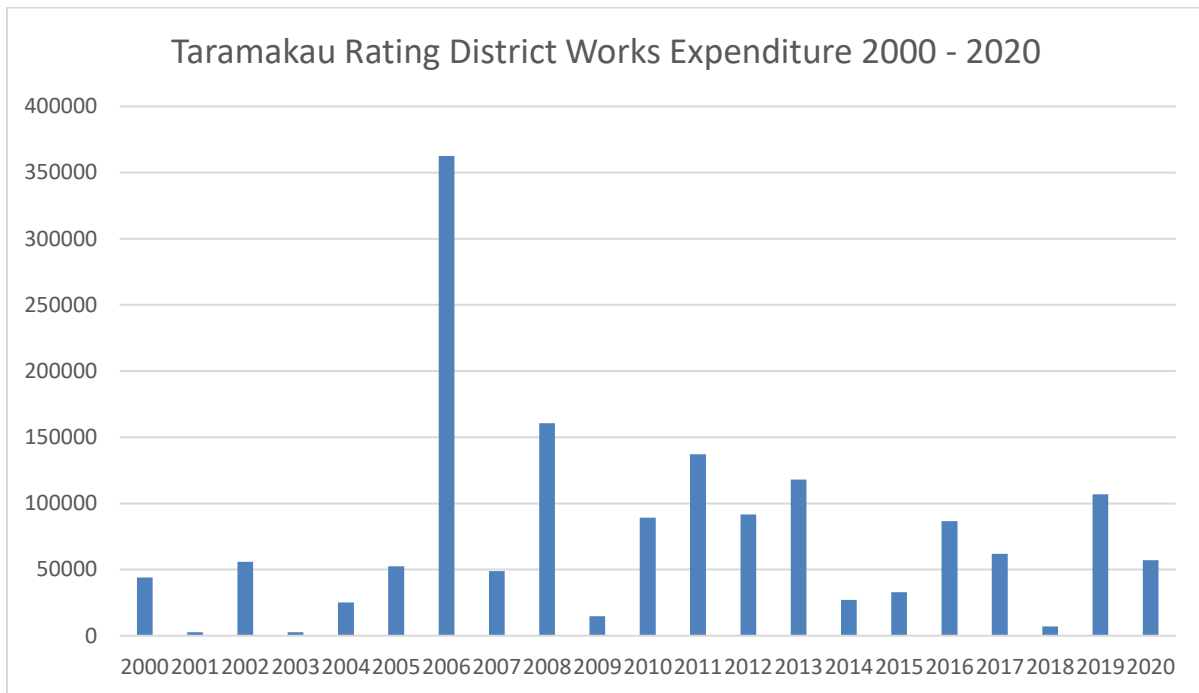
River and erosion control schemes are designed to be maintained in perpetuity by constantly repairing and replacing component parts which are damaged by floods or by the constant wear and tear encountered in a river environment.

The performance measure is that the infrastructure assets are maintained to meet their service levels at all times.

As there is a constant cycle of replacement of elements of the infrastructure as necessary, depreciation of the value of the assets is not appropriate and funding of depreciation is not necessary. This approach is consistent with the NZ Infrastructure Asset Valuation and Depreciation Guidelines, Section 5.4.4.

### 7.5 Works Expenditure

This chart reflects the construction costs of infrastructure assets on the Taramakau Rating District. This chart **does not** reflect the total annual expense incurred by the Taramakau Rating District. Please refer to the annual works and financial report for the total expenses.



Expenditure 2000 - 2020	
<b>Total expenditure</b>	<b>\$1,584,879</b>
<b>Average expenditure</b>	<b>\$75,470</b>
<b>Total asset value</b>	<b>\$11,682,518</b>

## 8.0 Performance Measures

The following procedures may be adopted to ensure the adequacy of maintenance.

Period	Procedure	Performance Measure
Annually	Produce annual works report for the rating district assets to include type of work to be undertaken, quantities, location, and costs.	No reports of channel or creek requiring repairs without an agreed programme of remedial work in progress.
	Organise contracts for agreed scheme work, oversee contract completion and report to Council.	
	Report on works undertaken during the previous financial period to the rating district ratepayers and Council.	
Triennially	Re-measure cross section river profiles to determine whether the riverbed is stable, or aggrading, and to identify management issues or options.	Report to Council and ratepayers on revaluation of assets and the Plan review.
	Revaluation of the asset schedule to include any additional excavation and channel clearance and bank protection works over the three-year period.	
	Review this Asset Management Plan	
10-yearly	Flood modelling will be undertaken to identify a range of level of services.	Report to council and ratepayers.

### 8.1 AMP Review and Monitoring

This plan is a living document, which is relevant and integral to daily activity. To ensure the plan remains useful and relevant the following on-going process of AMP monitoring and review activity will be undertaken:

- Formal adoption of the AMP by the West Coast Regional Council.
- Review and formally adopt Levels of Service to comply with the Rating District committee
- Revise this AMP three yearly prior to Long Term Plan (LTP) to incorporate and document changes to works programmes and outcome of service level reviews.
- Quality assurance audits of asset management information to ensure the integrity and cost effectiveness of data collected.
- Peer review and external audits will be undertaken to assess the effectiveness with which this plan meets corporate objectives. Periodic internal audits will be undertaken to assess the adequacy of asset management processes, systems and data and external audits will be undertaken to measure asset management and performance against 'best practice'.