



Kowhitirangi Rating District 2021-2024 Asset Management Plan



West Coast Regional Council

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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 Kowhitirangi 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 Kowhitirangi 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 Kowhitirangi protection scheme.
- Convey the long-term strategy for the management of the Kowhitirangi 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

The West Coast Regional Council recognises that the Kowhitirangi Asset Management Plan is the fundamental driver of flood protection 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 Kowhitirangi 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 Kowhitirangi 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 Kowhitirangi Rating District Background

Around 1907 the Lands Department erected a groyne near Diedrichs Creek on the Hokitika River to protect land on the true right bank. The protection was effective but the groyne was progressively eroded away and by 1927 it had disappeared completely.

In 1927 the settlers on the right bank at Kowhitirangi approached the Government and requested protection works to protect their land. The response was a counter proposal that the settlers constitute a River Board to carry out the necessary remedial measures. The settlers did not pursue the Government's proposal.

The floods in October 1936 damaged some local public works (Kokatahi, Mills and Malfroy's bridge and their roading approaches). The Government approved subsidy for the work required Council to reinstate and upgrade the local works. In 1937 the Westland County Council constructed a big stone protection wall at Camelback (above W. Jamison's land - Rural Sections 970 and 809).

In 1938 the Westland County Council (with a government subsidy of \$4 for \$1) erected a gabion groyne across an overflow channel along the southern boundary of D.P. 1048 designed to block the mouth of Pigeon Creek.

In 1941 the Westland County Council constructed 110m of stopbank across the overflow channel formed by Diedrichs Creek at the southern boundary of D.P. 1048. The Hokitika River was hitting the right bank almost at right angles and threatening to break through to an old channel behind the existing protection works and outflank the big stone protection wall at Camelback.

In 1944 the Public Works Department constructed a large groyne on the true right bank of the Hokitika River approximately 2km upstream of Mount Camelback. This groyne, generally known as the Camelback Groyne, was designed to block off two large overflow channels which ran through the Kowhitirangi farmlands to eventually join the Kokatahi River.

The Westland Catchment Board was formed on 18 May 1945. From 1945 to 1958 the Westland Catchment Board, at the request of local ratepayers, spent about \$1,600 repairing and maintaining the rockwork on the stronghead of the Camelback Groyne.

This was funded completely by individual contributions.

On 31 March 1958, as a result of further input from the immediately affected adjacent farmers, the Westland Catchment Board approached the Soil Conservation and Rivers Control Council with a proposed Kowhitirangi Flood Control Scheme.

The Scheme comprised:

- (a) 3360m of stopbanking, on the true right bank, from the Camelback groyne up to the Whitcombe Valley Road.
- (b) Willow planting along the berm (downstream along the river frontage of Rural Section 5637) and in the belly of the Camelback hook groyne.
- (c) Fencing of the stopbank (about 7080m) and willow planting.

- (d) Rock protection of about 160m of eroding land along the river frontages of Rural Sections 969 and 970 approximately 500 upstream of Camelback Road.
- (e) Rock protection where the stopbank crosses the two mouths of back flood channels (along the river frontage of Rural Section 4866) immediately below the Vine Creek confluence.
- (f) Repair and reconstruction of the Camelback groyne which had been damaged.
- (g) Reinstatement of the access road to the Camelback groyne.
- (h) About 1300m of stopbanking on the left bank opposite the Camelback hook groyne (Rural Section 2332) to prevent overflows into Supply Creek with consequent flooding and erosion of Rural Sections 2330 and 2331.

In May 1958 the Soil Conservation and Rivers Control Council approved the Catchment Board's proposal at an estimated cost of \$58,000 and granted the following financial assistance:

- (a) A grant of \$12,000 (not eligible for inclusion in the calculation of the subsidy).
- (b) A \$3 for \$1 subsidy on the balance sum of \$46,000, i.e., \$34,500.
- (c) An advance of up to \$6,000 towards the local share of \$11,500 (The advance to bear interest of 5% and to be recovered from subsidy payments within the financial year 1958-9).

At the meeting held on 28 July 1958 the Westland Catchment Board resolved to finance the local share of \$11,500 by:

- (a) Requesting a contribution of \$1,500 from the Westland County Council.
- (b) Raising the landowner's share by a loan to be repaid by the landowners from rates struck on a graduated scale according to the benefit received by individual properties.

The landowners in the Kowhitirangi area (comprising about 7800 ha in 88 properties) between the Hokitika River and the Kokatahi River would be included in this special rating district. In September 1958 the Local Authorities Loans Board, sanctioned the "Kowhitirangi Flood Control Loan - 1958" for \$10,000 to be repaid over 10 years.

The scheme classification was a differential rate set up to address both the loan repayment and the ongoing maintenance. The Scheme was designed to contain 3700 cumecs with 0.80 metres freeboard. Earthworks on the main stopbank on the true right bank were commenced in August 1958 (The Soil Conservation and Rivers Control Council approved a tender to undertake the work on 25 August 1958 in anticipation of the Catchment Board obtaining the finance for the local share because of the urgency of the work) and were completed in December 1958. Rock protection along certain lengths of the stopbank was in place by March 1959.

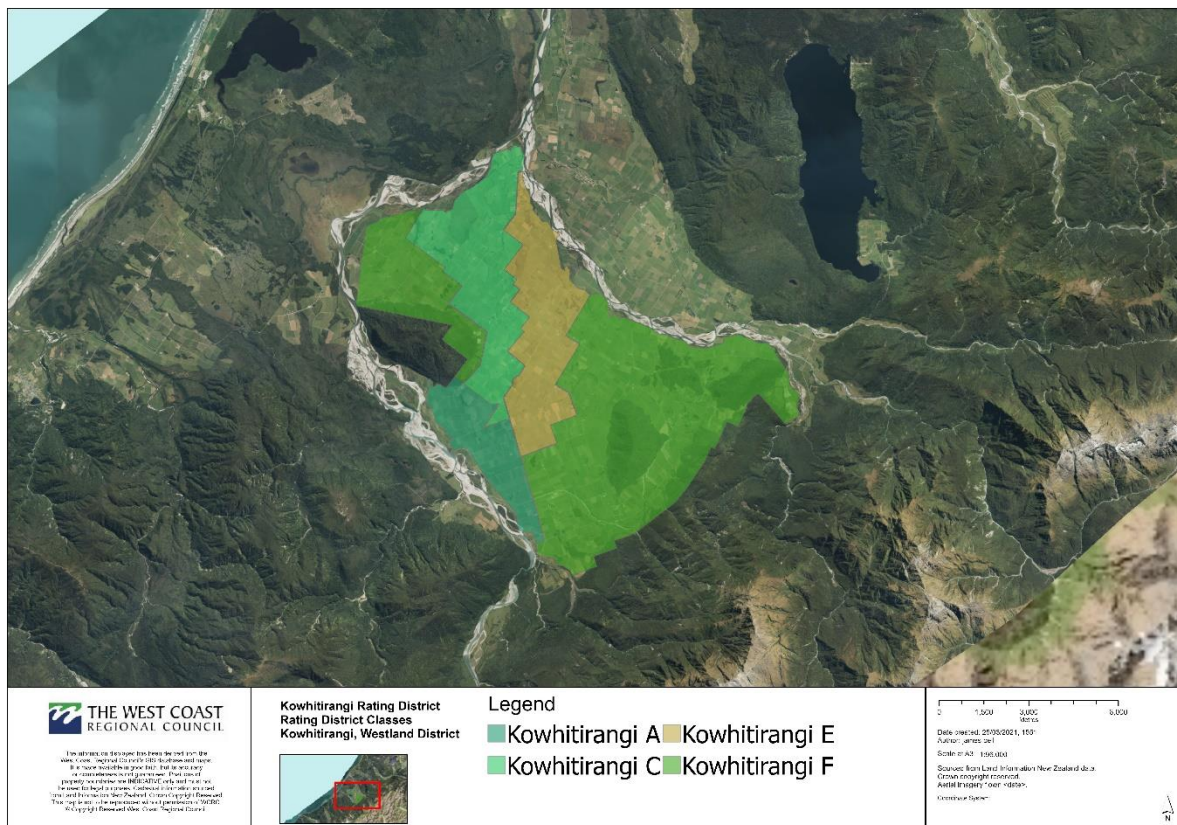
Maintenance of the protection works have been ongoing since then with several flood events causing damage that has been repaired as required.

Resource Consent Numbers 940113 and 940114 were issued by The West Coast Regional Council on 10 November 1994 for a term of 35 years. These consents are to maintain existing river protection works to their original standard. The resource consent is in the name of the Kowhitirangi Flood Control Scheme, C/- The West Coast Regional Council.

The Kowhitirangi Flood Control Scheme extends from Diedrichs Creek at the lower end of the Hokitika Gorge downstream on the right bank of the Hokitika River for 6.5 kilometres to Mount Camelback. The area protected is predominantly dairy farming with some dry stock farming. Community infrastructure such as roads, power and telephone lines all derive benefit from the river control system.

In 2000, concern was expressed at the apparent anomalies of non-paying front-line properties on the scheme. This was the result of additional lease land being freeholded from the Department of Conservation. Those ratepayers agreed that the “new” parcels of land should be included in the overall classification and as a result, a reclassification was carried out. The 2001 Rating District Annual Meeting formally endorsed the draft classification and as a result of further ratepayer consultation the reclassification was endorsed by Council.

4.0 Kowhitirangi Rating District



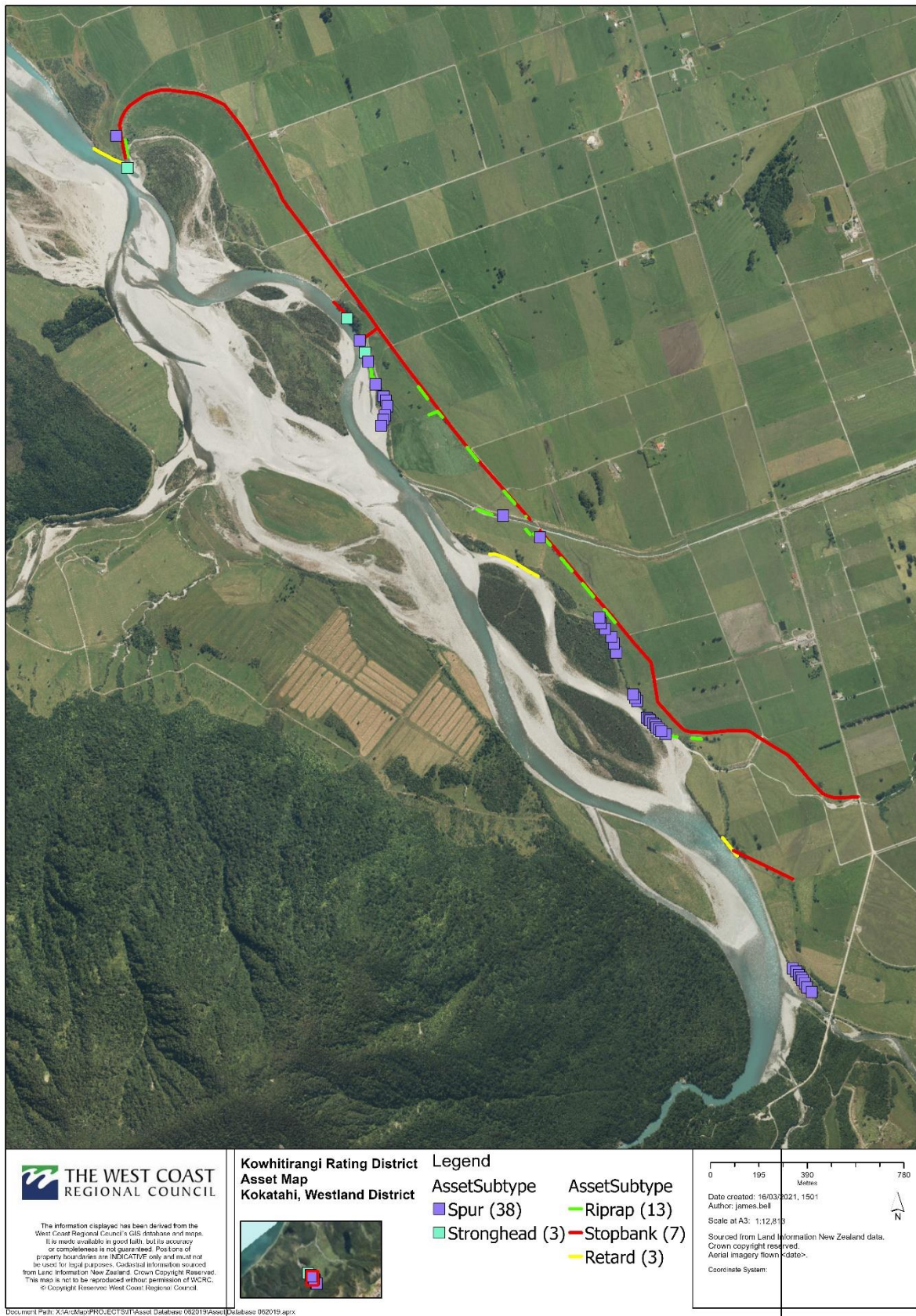
5.0 Description of Assets

Asset	Quantity	Unit	Rate
Fill	193,400	m ³	\$11.43
Rock	73,684	Tonne	\$36.55
Rubble	1,309	Tonne	\$16.55
Asset Value			\$4,925,376.15
<i>Contingencies</i>			<i>\$492,537.62</i>
<i>Resource Consents</i>			<i>\$108,358.28</i>
<i>Emergency Work Conditions</i>			<i>492,537.62</i>
Asset Value			\$6,018,809.66

5.1 Physical Assets

Asset Type	# Of Assets	Asset Components	Quantity	Rate	Value	Total Value
Spur	40	Rock	6165T	\$36.55	\$225,330.75	\$233,109.25
		Rubble	470T	\$16.55	\$7,778.50	
Stronghead	4	Rock	18216T	\$36.55	\$665,794.80	\$665,794.80
Riprap	19	Rock	30179T	\$36.55	\$1,103,042.45	\$1,109,116.30
		Rubble	367T	\$16.55	\$6,073.85	
Stopbank	10	Fill	193400m ³	\$11.43	\$2,210,562.00	\$2,225,182.00
		Rock	400T	\$36.55	\$14,620.00	
Retard	3	Rock	18724T	\$36.55	\$684,362.20	\$692,173.80
		Rubble	472T	\$16.55	\$7,811.60	
Total						\$4,925,376.15

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

The objective of the Kowhitirangi Rating District is to maintain existing protection works at current service levels with the aim to reduce bank erosion and flooding on the right bank of the Hokitika River between Diedrichs Creek and Mount Camelback.

Cross section surveys and flood flow analysis modelled in June 2008 indicate that its service potential is capable of containing river flows greater than the 2008 estimate of the 1 in 100-year return period flood flow plus 900mm freeboard.

No extra work is required to increase the service level for the stopbank.

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.

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 asset condition.

6.2 Maintenance Programme

An annual maintenance report is prepared each year in consultation with the Kowhitirangi 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.

The maintenance of the Kowhitirangi Flood Control Scheme can be broken into two areas. Stopbanking and Erosion Control Works.

6.3 Damage and Risk Exposure

Erosion works are constructed in a very high energy environment with the purpose of resisting and absorbing some of that energy. It is considered that no matter what the standard of maintenance carried out, it is likely that damage will occur from time to time.

An assessment of maximum damage potential was estimated as below:

Event size (AEP)	Value	Damage ratio	Damage exposure	Prudent Reserve	Prudent reserve contribution
10%	\$6,018,810	5%	\$300,940	\$300,940	100%
5%	\$6,018,810	10%	\$601,881	\$421,317	70%
2%	\$6,018,810	20%	\$1,203,762	\$601,881	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 \$100,000 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:

- a) Preparation of an annual works programme and corresponding budget.
- b) Adoption of the annual works programme and budget.
- c) Discussion of the works report and budget with the ratepayers.
- d) 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:

- a) Carrying out work as scheduled in annual works programme.
- b) Reprioritising works identified in the annual works programme.
- c) 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

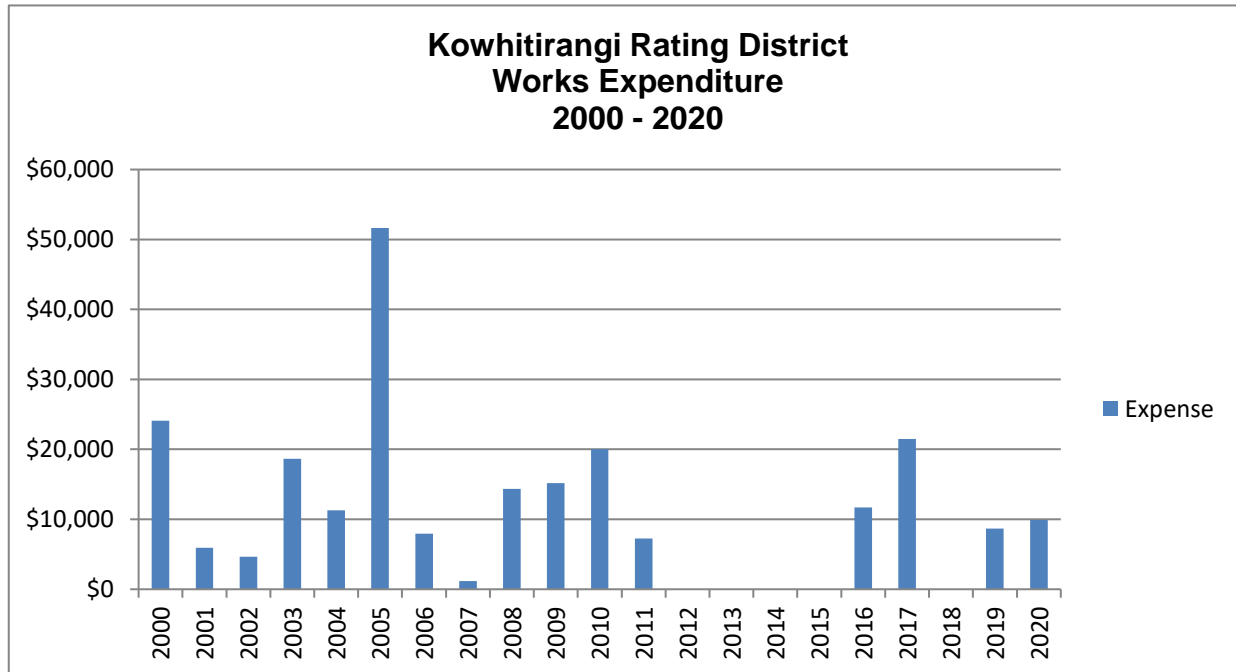
River control schemes are designed to be maintained in perpetuity by constantly repairing and replacing component parts which are damaged by floods or by the constant wear and tear encountered in a river environment.

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 Kowhitirangi Rating District. This chart **does not** reflect the total annual expense incurred by the Kowhitirangi Rating District. Please refer to the annual works and financial report for the total expenses.



Expenditure 2000 - 2020	
Total expenditure	\$233,911
Average expenditure	\$11,138
Total asset value	\$6,018,809

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 stopbanks or erosion protection works requiring repairs without an agreed programme of remedial work in progress. Asset maintenance is current as per level of service.
	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 rock placed on stopbanks 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 the 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'.