

Tasman District Council

Coastal Structures Activity Management Plan

2012 - 2022

July 2012

Quality Assurance Statement

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For full Quality Assurance Statement, Refer Appendix Z

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1 KEY ISSUES FOR THE COASTAL STRUCTURES ACTIVITY

The most important issues relating to the coastal structures activity are shown below in Table 1-1.

Table 1-1: Key Issues for the Coastal Structures Activity

| Key Issue | Discussion |
|--|---|
| Jackett Island | Council is currently developing a range of options for dealing with the erosion on Jackett Island. An allowance has been made in the budgets to develop a preferred option and to obtain resource consent for the work during 2012/2013. Council has increased the operating budget for this work from \$400,000 in the Draft Activity Management Plan (AMP) to \$650,000 in this final AMP. An indicative capital works budget of \$2.84 million has been provided in 2013-2015 to implement the preferred option. |
| Mapua Aquarium building | This Activity Management Plan (AMP) does not make provision for a budget to replace the Mapua Aquarium building which burnt down in 2011. It does, however, provide for a Mapua Wharf development plan, which will look at alternatives for replacing the building. It is expected that any new building will be, at least, cost neutral to Council. |
| Increasing demand for coastal structures | Urban development along coastal margins, coastal erosion and potential sea level inundation associated with climate change all increase the demand for coastal protection works. There is also increasing demand for coastal structures that enhance recreational access to coastal areas. Council is planning to maintain existing coastal protection works and recreational assets, but it is not planning to provide any increased levels of protection to properties or new recreational assets. Council is also developing resource management policies to manage growth in coastal hazard areas to reduce the likelihood of further areas being developed that could be at risk from inundation from the sea and the need for coastal protection works for these areas. |
| Management of derelict wharves and jetties | There are some wharves and jetties within the coastal area which are in derelict condition and in some cases have no clear owner. Council recognises that there is a potential risk to public safety should these structures not be managed appropriately. Council will work through these issues of ownership and management with appropriate agencies, with a view to either upgrade or remove the structures. |
| Coastal protection asset inventory | Council owns and maintains coastal protection under both this activity and the transportation activity dependent on the purpose that the asset serves. Council requires more clarity on the exact location of these assets and which activity they belong to. Council is currently updating its databases with this information and will continue to do so in an on-going manner as inspections are completed. |

2 ACTIVITY DESCRIPTION

2.1 What We Do

The activity comprises:

- the provision and management of coastal structures (wharves and jetties, boat ramps and foreshore protection walls) by Council
- the provision of navigation aids to help safe use of the coastal waters.

Some of the assets managed by this activity include:

- ownership and management of wharves at Mapua and Riwaka
- responsibility for Port Motueka
- jetties, boat ramps, navigational aids and moorings
- coastal protection works at Ruby Bay and Marahau
- navigation aids associated with harbour management.

A complete description of the assets included in the coastal structures activity is in Appendix B.

2.2 Why We Do It

Coastal structures have significant public value, enabling access to and use of coastal areas for commercial, cultural and recreational purposes. Council ownership and management of coastal assets ensures they are retained for the community.

3 COMMUNITY OUTCOMES AND OUR GOAL

The community outcomes that the coastal structures activity contributes to most are shown in Table 3-1.

Table 3-1: Community Outcomes

| Community Outcomes | How Our Activity Contributes to the Community Outcome |
|--|--|
| Our unique natural environment is healthy and protected. | Coastal structures can be managed so their impact does not affect the health and cleanliness of the receiving environment. |
| Our urban and rural environments are pleasant, safe and sustainably managed. | The coastal structures activity ensures our built environments are functional, pleasant and safe by ensuring the coastal structures are operated without causing public health hazards and by providing attractive recreational and commercial facilities. |
| Our infrastructure is safe, efficient and sustainably managed. | The coastal structures activity provides commercial and recreational facilities to meet the community needs at an affordable level. The facilities are also managed sustainably. |

3.1 Our Goal

Coastal infrastructure is developed to achieve the visions of both Council and the community.

4 OPERATIONS, MAINTENANCE AND RENEWALS STRATEGY

4.1 Operations and Maintenance

Routine maintenance of structures (eg. wharves, jetties and light towers) is not currently undertaken on a programmed basis. Reactive maintenance of these assets is undertaken on an as required basis. The work may be negotiated with Council's existing contractors (eg. transportation and/or bridging maintenance contractors). Significant works will be tendered as individual contracts.

Council has allocated funds to allow for maintenance of formed boat ramps.

Maintenance of coastal rock protection is undertaken in a reactive manner eg. when rock protection has been damaged as a result of a storm event. Council engages an experienced contractor for site specific works as required.

Regulatory assets such as signs and aids to navigation are routinely maintained by Council's Harbour Master.

Operation and maintenance is discussed in detail in Appendix E.

4.2 Renewals

Renewal expenditure is major work that does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original capacity. Work over and above restoring an asset to original capacity is new capital expenditure.

Assets are considered for renewal as they near the end of their effective working life or where the cost of maintenance becomes uneconomical and when the risk of failure of critical assets is sufficiently high.

The renewal programme has been developed by the following.

- Taking asset age and remaining life predictions from the valuation database, calculating when the remaining life expires and converting that into a programme of replacements based on valuation replacement costs.
- Reviewing and justifying the renewals forecasts using the accumulated knowledge and experience of asset operations and asset management staff. This incorporates the knowledge gained from tracking asset failures through the Customer Services System.
- Undertaking a review to identify opportunities for bundling projects across assets, optimised replacement, timing across assets and smoothing of expenditure.

The renewal programme is reviewed in detail during each AMP update (ie. three yearly), and every year the annual renewal programme is reviewed and planned with the input of the consultant.

The work is undertaken in accordance with best practice, site specific design, site specific resource consents where applicable, and the Tasman Resource Management Plan (TRMP). Contractors are selected on their proven ability to provide best practice on an as required basis.

Regulatory assets such as signs and aids to navigation are renewed by Council's Harbour Master on an as required basis.

Renewals are discussed in detail in Appendix I.

5 EFFECTS OF GROWTH, DEMAND AND SUSTAINABILITY

5.1 Population Growth

A comprehensive Growth Demand and Supply Model (GDSM or growth model) has been developed to provide predictive information for population growth and business growth, and from that, information about dwelling and building development across the district and demand for infrastructure services. The Growth Demand and Supply Model underpins the Council's long term planning through the AMPs, Long Term Plans (LTPs) and supporting policies (eg. Development Contributions Policy).

The 2011 Growth Demand and Supply Model is a third generation growth model with previous versions being completed in 2005 and 2008.

Population growth does not have a direct effect on the coastal structures activity. Therefore the model outputs are not directly relevant to this activity. However, generally population growth leads to intensification of the use of existing facilities for recreation and demand for further housing development close to the coast. The potential effects of this on the coastal activities are:

- increased use of port, wharf, mooring, marina and boat ramp facilities for recreation
- possible need for further coastal protection of properties if not fully allowed for in assessing the suitability of development.

Council will continue to allow the use of the assets for coastal related activities and other compatible uses in a manner that minimises conflict with the local community and the coastal environment, serves the needs of the district and is self supporting.

No additional boat ramps are currently programmed.

Coastal protection work will be programmed as required and affordable to the community. Currently there is no new coastal protection programmed.

Growth and demand for the coastal structures activity is discussed in detail in Appendix F.

5.2 Sustainability

The Local Government Act 2002 requires local authorities to take a sustainable development approach while conducting its business, taking into account the social, economic and cultural well-being of people and communities, the need to maintain and enhance the quality of the environment; the reasonably foreseeable needs of future generations.

Sustainable development is a fundamental philosophy that is embraced in Council's Vision, Mission and Objectives, and that shapes the community outcomes. The levels of service and the performance measures that flow from these inherently incorporate the achievement of sustainable outcomes.

Many of the Council's cross-organisational initiatives are shaped around community well-being (economic, social, cultural and environmental) and take into consideration the well-being of future generations. This is demonstrated in:

- Council's Integrated Risk Management approach which analyses risks and particularly risk consequences in terms of community well-being
- Council's Growth Demand and Supply Model which seeks to forecast how and where urban growth should occur taking into account opportunities and risks associated with community well-being
- Council adopting a 20 year forecast in the AMPs to ensure the long term financial implications of decisions made now are considered.

At the activity level, a sustainable development approach is demonstrated by the following:

- ensuring minimal impact on the environment by the activity
- ensuring that the district's likely future Coastal Structure requirements are identified at an early stage and that they, and the financial risks and shocks, are competently managed over the long term without the Council having to resort to disruptive revenue or expenditure measures.

6 LEVEL OF SERVICE AND PERFORMANCE MEASURES

Table 6-1 summarises the levels of service and performance measures for the coastal structures activity. Development of the levels of service is discussed in detail in Appendix R. Shaded rows are the levels of service and performance measures to be included in the Long Term Plan.

Table 6-1: Levels of Service

| ID | Levels of Service (we provide) | Performance Measures (We will know we are meeting the level of service if...) | Current Performance (as at end Yr 2 2010/11) | Future Performance | | | Future Performance (targets) by Year 10 2021/22 |
|--|--|---|--|------------------------------------|------------------------------------|------------------------------------|---|
| | | | | Year 1 | Year 2 | Year 3 | |
| | | | | 2012/13 | 2013/14 | 2014/15 | |
| Community Outcome: Our unique natural environment is healthy and protected. | | | | | | | |
| 1 | Our works are carried out so that the impacts on the natural coastal environments are minimised to a practical but sustainable level. | <i>Resource consents are held and complied with for works undertaken by Council or its contractors on Council owned coastal protection. As measured by the number of abatement notices issued to Council.</i> | Actual = There have been no abatement notices issues for breach of resource consent conditions. | <i>No abatement notices issued</i> | <i>No abatement notices issued</i> | <i>No abatement notices issued</i> | <i>No abatement notices issued</i> |
| 2 | | Council owned coastal protection is maintained to its original constructed standard. As measured by routine inspections. | Actual = Not currently measured | 100% | 100% | 100% | 100% |
| Community Outcome: Our infrastructure is safe, efficient and sustainably managed. | | | | | | | |
| 3 | Faults in the coastal assets are responded to and fixed promptly. | We are able to respond to Customer Service Requests in our coastal assets within the timeframes we have agreed with our suppliers and operators, and within the available funding. | Actual = 100% | 90% | 90% | 90% | 90% |

7 CHANGES MADE TO ACTIVITY OR SERVICE

Table 7-1 summarises the key changes for the management of the coastal structures activity since the 2009 AMP.

Table 7-1: Key Changes

| Key Change | Reason for Change |
|---|---|
| Removal of redundant navigational aids. | Council plans to remove aids to navigation which are no longer appropriate nor a regulatory requirement, eg. lead lights on winding channels. These have therefore been excluded from this AMP. |

8 KEY PROJECTS

Table 8-1 details the key capital and renewal work programmed for years 2012 to 2022.

Table 8-1: Significant Projects

| Project Name | Description | Year 1 (\$) | Year 2 (\$) | Year 3 (\$) | Years 4 to 10 (\$) | Project Driver ¹ |
|---------------------------------------|---|-------------|-------------|-------------|--------------------|-----------------------------|
| Boat Ramp Reconstruction. | Renewal and upgrading of formed boat ramps. | 0 | 0 | 0 | 200,000 | LoS/R |
| Jackett Island. | Remediation. | 0 | 1,300,000 | 1,300,000 | 0 | LoS |
| Mapua Wharf – Streetscape Wharf Area. | Upgrade to wharf area including lighting, toilets and street furniture. | 0 | 0 | 0 | 340,000 | G/LoS |
| Marahau – Coastal Protection. | Renewal of sections of support. | 0 | 0 | 0 | 81,200 | R |

Note:

1. See Appendix F for a full detailed list of new capital works projects driven by growth, renewals and/or an increase in level of service.
2. See Appendix I for a full detailed list of renewal projects.

¹ LoS = Levels of Service, R = Renewal, G = Growth

9 MANAGEMENT OF THE ACTIVITY

9.1 Management

The Council has management and operational roles as a Harbour Authority, Regional Authority and Territorial Authority.

The Council carries out the following roles in the management of coastal assets included in this activity.

Engineering Services

- Management of coastal structures owned by Council.

Community Services

- Management of physical structures on coastal reserves (for example boat ramps at Rabbit Island and the reserves themselves).
- Routine maintenance of regulatory assets such as moorings, buoys and aids to navigation (excluding the structures which the aids are mounted on).
- Management of Council owned property on wharves.

Environment and Planning

- Implementing aspects of the Harbour Bylaw relating to navigational safety, designated marine activities, and commercial operators.
- Implementing the Resource Management Act, including setting coastal planning policy and processing resource consents.

Corporate Services

- Implementing aspects of the Harbour Bylaw relating to collection of wharfage/berthage fees.

9.2 Significant Effects

The significant negative and significant positive effects are listed below in Table 9-1 and Table 9-2 respectively.

Table 9-1: Significant Negative Effects

| Effect | Council's Mitigation Measure |
|---|---|
| The construction of structures that appear out of character with the coastal environment. | Council controls this through bylaws and the TRMP, and may impose conditions on lessees to improve the amenity value of existing buildings. |
| Increased traffic and noise from both commercial and recreational users of coastal facilities. | Council controls the use of coastal areas and facilities through Bylaws, the TRMP, restriction of access, and education. |
| The cost of providing the services. | Council uses competitive tendering processes to achieve best value for money for works it undertakes. It also uses priority matrices to prioritise funding allocations. |
| Potential changes to the natural coastal process due to placement of structures. This may include loss of natural sand dunes. | Council mitigates/minimises changes to the natural environment through bylaws and the TRMP. |
| Potential to affect wahi tapu sites relating to the local iwi. | Council undertakes consultation with affected parties prior to undertaking works. Council also maintains a record of known cultural heritage sites. |

Table 9-2: Significant Positive Effects

| Effect | Description |
|-------------------------------|---|
| Economic development. | Provision and maintenance of coastal structures allows for the development of commercial businesses, therefore, contributing to economic growth and prosperity in the district. |
| Safety and personal security. | Provision and maintenance of coastal protection schemes improves protection for some residents and the built environment. |
| Community value. | Coastal structures contribute to community well-being by providing assets for recreational use of residents and visitors to the area. |
| Environmental sustainability. | Council aims to achieve environmental sustainability whilst managing the coastal structures activity. |
| Economic efficiency. | Council's management of the coastal structures activity uses best practice and competitive tendering to provide value for money for the ratepayers and provides jobs for contractors. |

9.3 Assumptions

Council has made a number of assumptions in preparing the AMP. These are discussed in detail in Appendix Q. Table 9-3 lists the most significant assumptions and uncertainties that underline the approach taken for this activity.

Table 9-3: Major Assumptions

| Assumption Type | Assumption | Discussion |
|-----------------------------|---|---|
| Financial assumptions. | That all expenditure has been stated in 1 July 2011 dollar values and no allowance has been made for inflation. | The LTP will incorporate inflation factors. This could have a significant impact on the affordability of the plans if inflation is higher than allowed for, but Council is using the best information practically available from Business and Economic Research Limited (BERL). |
| Asset data knowledge. | That Council has adequate knowledge of the assets and their condition so that the planned renewal work will allow Council to meet the proposed levels of service. | There are several areas where Council needs to improve its knowledge and assessments but there is a low risk that the improved knowledge will cause a significant change to the level of expenditure required. |
| Major events. | That no major storm events will occur creating coastal erosion and damage to the Council's coastal infrastructure. | If a major event occurs it may have moderate effect on the operations and maintenance budgets due to the extent of reinstatement required and associated costs. Council will need to prioritise expenditure. The risk of this occurring is high. |
| Timing of capital projects. | That capital projects will be undertaken when planned. | The risk of the timing of projects changing is high due to factors like, resource consents and funding. Council tries to mitigate this issue by undertaking the consultation, investigation and design phases sufficiently in advance of the construction phase. If delays are to occur, it could have an effect on the level of service. |

| Assumption Type | Assumption | Discussion |
|---|---|--|
| Funding of capital projects. | That the projects identified will receive funding. | The risk of Council not funding capital projects is moderate due to community affordability issues. If funding is not secured, it may have an effect on the levels of service as projects may be deferred. The risk is managed by consulting with the affected community/users and appropriate distribution of fees and charges. |
| Accuracy of capital project cost estimates. | That the capital project cost estimates are sufficiently accurate enough to determine the required funding level. | The risk of large under estimation is low; however the significance is moderate as Council may not be able to afford the true cost of the projects. Council tries to reduce the risk by including a standard contingency based on the projects lifecycle. |
| Changes in legislation and policy. | That there will be no major changes in legislation or policy. | The risk of major change is high due to the changing nature of the government and politics. If major changes occur it is likely to have an impact on the required expenditure. Council has not mitigated the effect of this. |

The major capital projects and their potential uncertainties are listed in Appendix Q.

9.4 Risk Management

Council's risk management approach is described in detail in Appendix Q.

This approach includes risk management at an organisational level (Level 1). The treatment measures and outcomes of the organisational level risk management are included within the Long Term Plan.

The asset group level (Level 2) risk assessment was carried out at the same time as the Level 1 assessment due to the small number of assets managed within the activity.

Council has also identified and assessed critical assets (Level 3), the physical risks to these assets and the measures in place to address the risks to the asset. The specific risk mitigation measures that have been planned within the 20 year coastal structures programme include:

- an allowance for routine maintenance of structures
- routine structural inspections.

9.5 Improvement Plan

This Activity Management Plan document was subject to a peer review in its Draft format by Waugh Infrastructure Management Ltd in October 2011. The document was reviewed for compliance with the requirements of the LGA 2002. The findings and suggestions were assessed and prioritised by the asset management team and either implemented for the final version of the document or added to the Improvement Plan.

Development of the improvement plan is discussed in Appendix V. It includes a table (Table V-3) of planned improvements that are still to be implemented and information on how they have been budgeted. It is a snapshot of the improvement plan as at February 2012 and includes. It is intended that the Improvement Plan is continually updated and monitored as a live document.

Version 4 of this document and the Improvement Plan was then reviewed a final time by Waugh Infrastructure Management Ltd in May 2012. The report produced has been included in Appendix V along with key improvements that have been achieved since the 2009 AMP.

10 SUMMARY OF COST FOR ACTIVITY

The following figures have been generated from the Funding Impact Statement held in Appendix L and the Public Debt and Loan Servicing Cost information held in Appendix K. Further detail is held in Appendix E, F and I for operating and maintenance, new capital and renewal costs respectively. All of the following graphs include inflation. For ease of reporting Council has included Port Tarakohe in the Funding Impact Statement for Coastal Assets and will therefore also be included in some of the following figures.

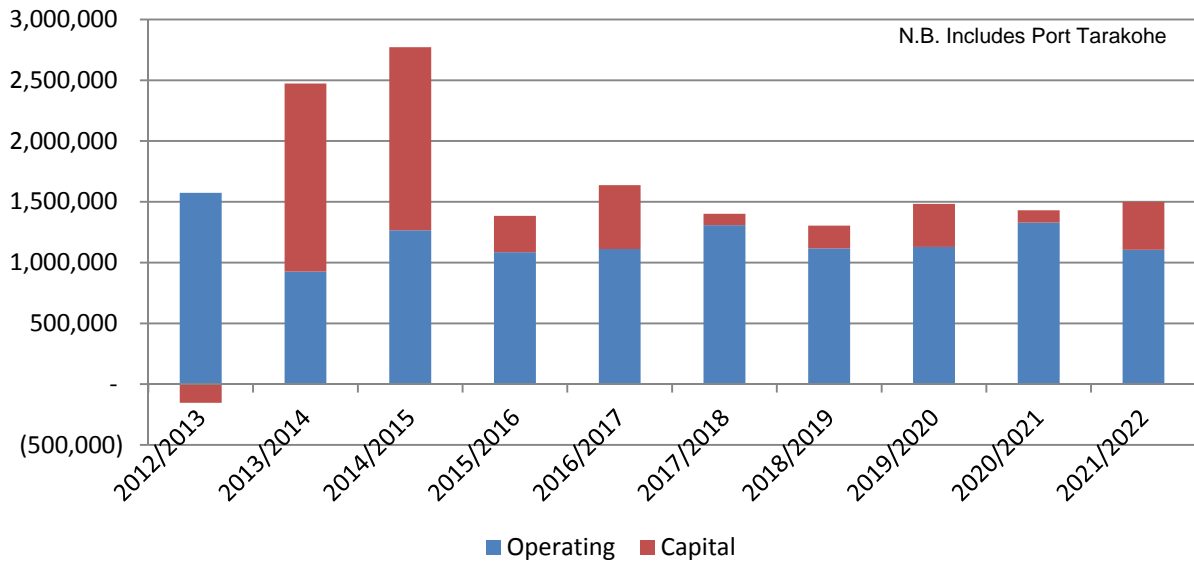


Figure 10-1: Total Expenditure

- Significant increases in capital expenditure in Year 2 and 3 are associated with the implementation of the preferred option for Jackett Island remediation works.
- The operating expenditure fluctuates over the next 10 years. This is associated with routine structure removal and Torrent Bay beach replenishment.

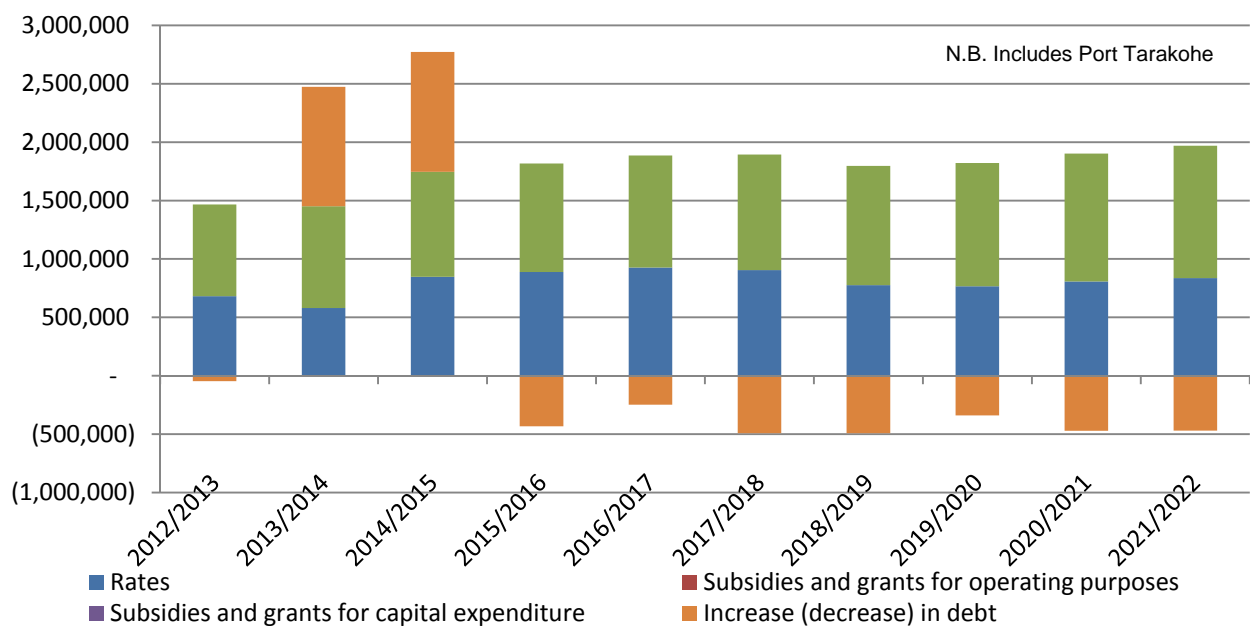


Figure 10-2: Total Income

- The income proposed for the next 10 years corresponds with the proposed expenditure in Figure 10-1.
- Rates fluctuate in accordance with operating expenditure. Debt increases are in conjunction with major capital projects.

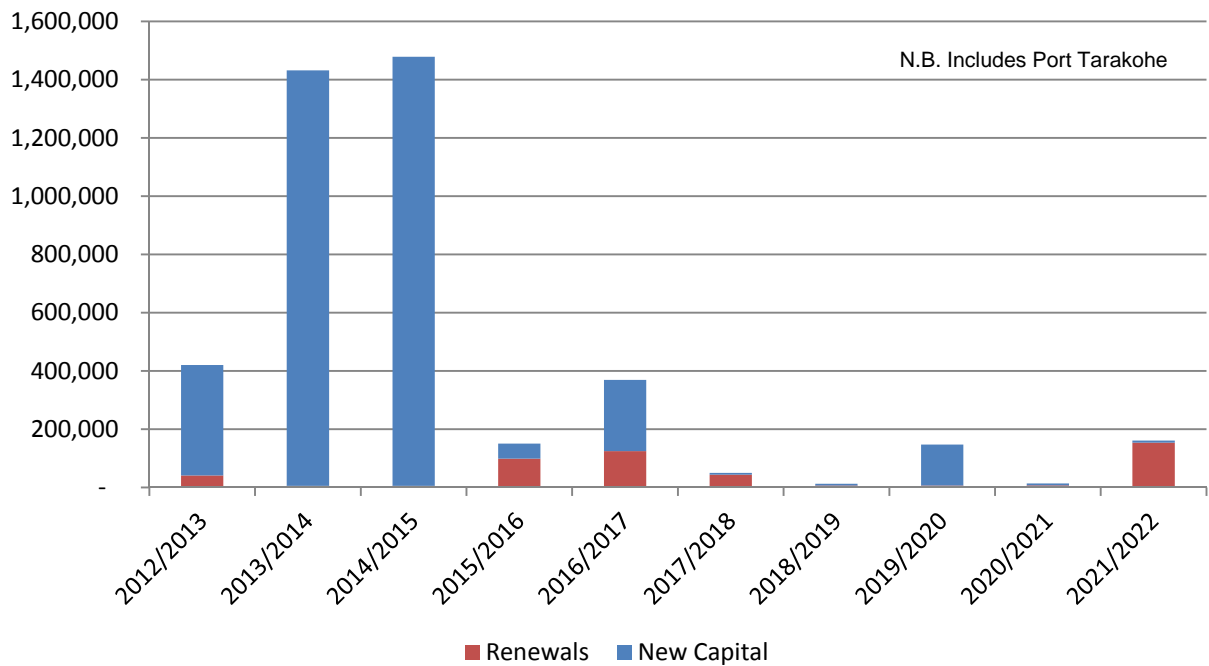


Figure 10-3: Capital Expenditure

- The peak in new capital expenditure relates to the Jakkett Island remediation project.

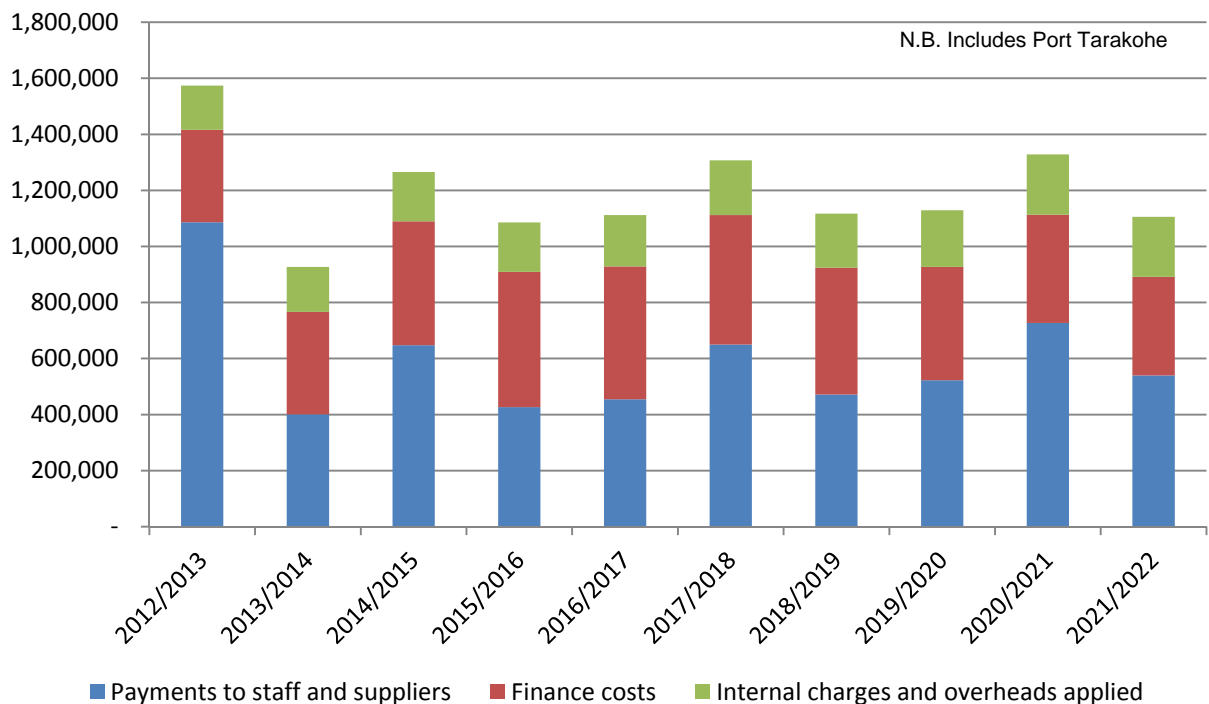


Figure 10-4: Operating Expenditure

- The Payments to Staff and Suppliers includes maintenance costs and professional service fees.
- Finance costs show an initial increase and then decrease over the next 10 years due to a similar pattern in the level of debt shown in Figure 10-5.

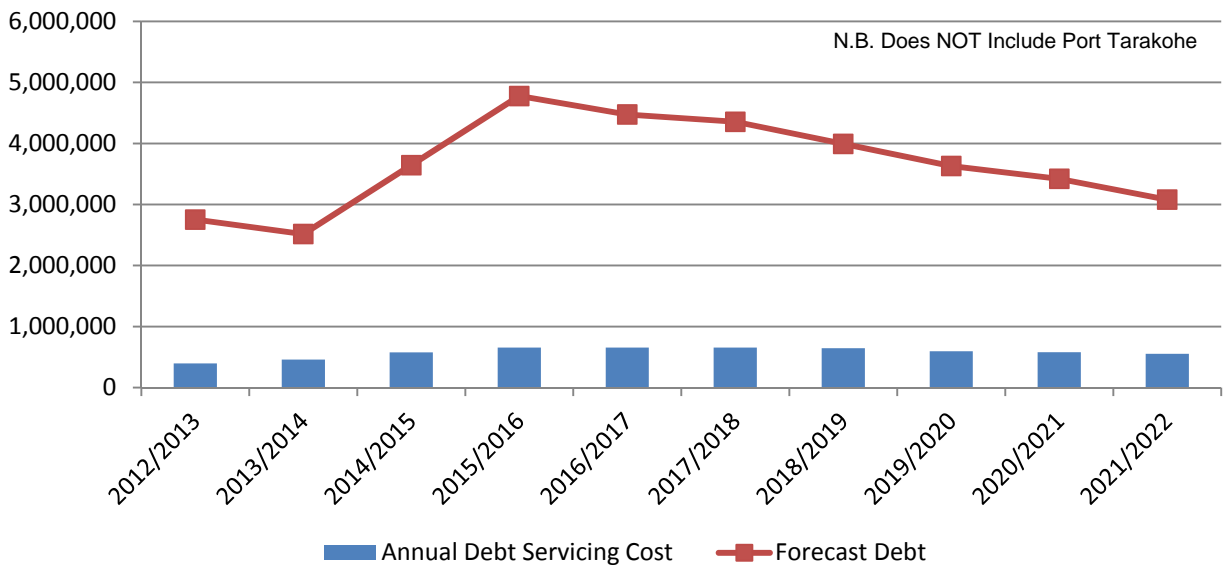


Figure 10-5: Debt

- Council's debt associated with the Coastal Structures activity shows a peak in 2015/2016 of \$4.8 million, decreasing after that to be \$3.1 at the end of the 10 year period.

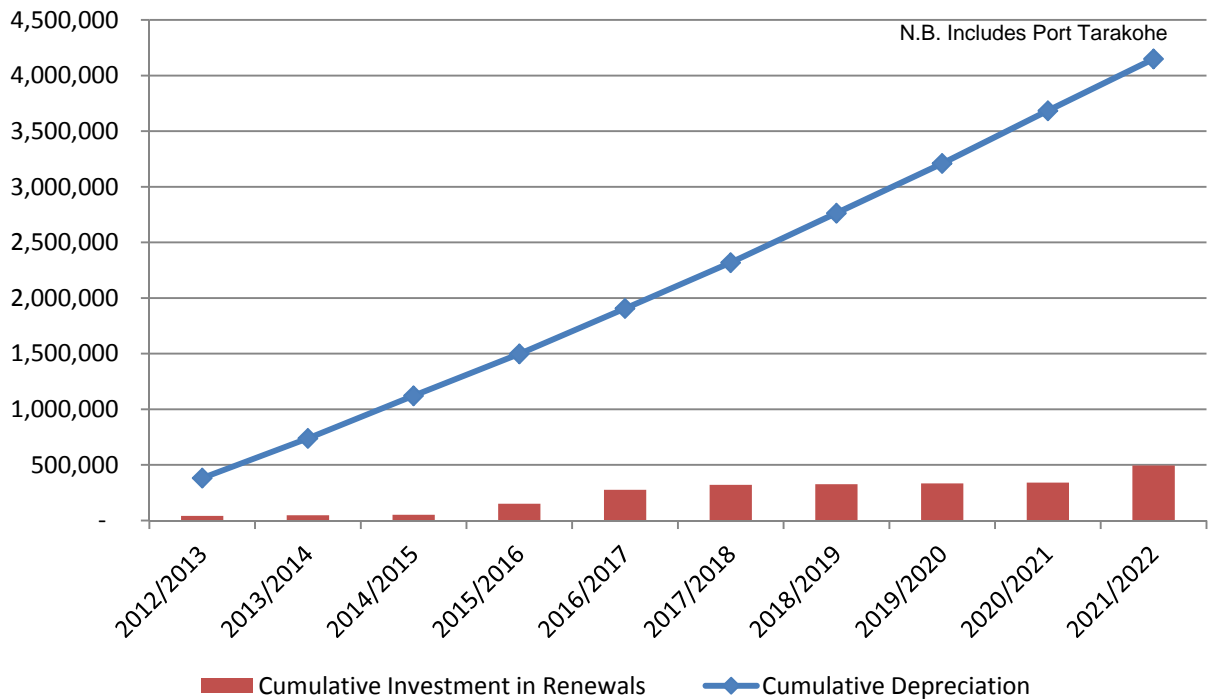


Figure 10-6: Investment in Renewals

- The above figure covers a relatively short time period when compared with the useful life span of the coastal structures assets. The apparent lack of renewals will be further investigated when Council reviews its renewals strategy. This is discussed further in Appendix I.