THE WEST COAST
REGIONAL COUNCIL

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AGENDA AND SUPPORTING PAPERS FOR COUNCIL'S MAY MEETINGS

TO BE HELD IN THE OFFICES OF THE WEST COAST REGIONAL COUNCIL 388 MAIN SOUTH ROAD, GREYMOUTH

TUESDAY, 8 MAY 2018

The programme for the day is:

10.30 a.m:	**Resource Management Committee Meeting**
On completion of RMC Meeting:	**Council Meeting**

COUNCILLOR WORKSHOP:

ECONOMIC DEVELOPMENT
LONG TERM PLAN
PLANNING MATTERS

RESOURCE MANAGEMENT COMMITTEE

THE WEST COAST REGIONAL COUNCIL

Notice is hereby given that a meeting of the **RESOURCE MANAGEMENT COMMITTEE** will be held in the Offices of the West Coast Regional Council, 388 Main South Road, Paroa, Greymouth on **Tuesday, 8 May 2018**

N. CLEMENTSON
CHAIRPERSON

M. MEEHAN
Chief Executive Officer

AGENDA NUMBERS	PAGE NUMBERS	BUSINESS	
1.		**APOLOGIES**	
2.		**MINUTES**	
	1 – 3	2.1	Confirmation of Minutes of Resource Management Committee Meeting – 10 April 2018
3.		**PRESENTATION**	
4.		**CHAIRMAN'S REPORT**	
5.		**REPORTS**	
		5.1	**Planning and Operations Group**
	4 – 5	5.1.1	Planning Report
	6 – 39	5.1.2	National Policy Statement for Freshwater Management Implementation Strategy
	40 – 61	5.1.3	Gravel Take Project
	62	5.1.4	Beach Bathing Water Quality Sampling Update
	63	5.1.5	Hydrology and Flood Warning Update
	64	5.1.6	Regional Pest Plant Management Plan
		5.2	**Consents and Compliance Group**
	65	5.2.1	Consents Monthly Report
	66 - 69	5.2.2	Compliance & Enforcement Monthly Report
		6.0	**GENERAL BUSINESS**

THE WEST COAST REGIONAL COUNCIL

MINUTES OF THE MEETING OF THE RESOURCE MANAGEMENT COMMITTEE HELD ON 10 APRIL 2018, AT THE OFFICES OF THE WEST COAST REGIONAL COUNCIL, 388 MAIN SOUTH ROAD, GREYMOUTH, COMMENCING AT 10.30 A.M.

PRESENT:

N. Clementson (Chairman), A. Robb, T. Archer, P. Ewen, P. McDonnell, A. Birchfield, S. Challenger, J. Douglas

IN ATTENDANCE:

M. Meehan (Chief Executive Officer), R. Mallinson (Corporate Services Manager), R. Beal (Operations Manager), H. Mills (Planning Science & Innovation Manager), N. Costley (Strategy & Communications Manager), T. Jellyman (Minutes Clerk), The Media.

1. APOLOGIES

There were no apologies.

2. MINUTES

Moved (Archer / Robb) *that the minutes of the previous Resource Management Committee meeting dated 13 March 2018, be confirmed as correct.*

Carried

Matters Arising

There were no matters arising.

3. PRESENTATION

M. Crowe introduced Mr Jon Mitchell from the Ministry of Civil Defence. Introductions were made. Mr Mitchell advised that he is the programme manager for the AF8 project (Alpine Fault Magnitude 8). He stated that he has been working on this project for almost two years. The project is being led by Emergency Management Southland, in partnership with all of the Civil Defence Emergency Management Groups in the South Island with funding coming from the Ministry of Civil Defence Emergency Management Resilience Fund. Mr Mitchell spoke to his presentation and answered questions from Councillors.

4. CHAIRMAN'S REPORT

The Chairman spoke to his report and stated that he attended the second Marrs / Shingle Beach consultation group meeting. He stated that a further meeting has been arranged.
The Chairman reported that he attended the Making Good Decisions training course to update his commissioner's recertification.

Moved (Clementson / Robb) *That the report is received.*

Carried

5. REPORTS

5.1 PLANNING AND OPERATIONS GROUP

5.1.1 PLANNING REPORT

H. Mills spoke to this report and answered questions from Councillors. H. Mills advised that the Implementation Strategy for the NPS – Freshwater Management will be brought to next month's Council meeting.
H. Mills spoke of the Local Government Commission's recommendation for a One District Plan for the Region, and stated that the draft will be released today. Cr Robb advised that he has copies available for everyone.
M. Meehan updated the meeting on matters relating to Franz Josef. He stated that a Governance Group has been set up, he is a member along with the CEO of Westland District Council, Development West Coast, DoC, NZTA, Iwi representation and representatives from MBIE and the Ministry for the Environment. M. Meehan advised that good feedback has been received from the community but they wish to go back to the Franz Josef Working Group to talk through the three options. M. Meehan advised that the most likely outcome will be the development of a business case supported by central government to refine the options. He advised a master plan for Franz Josef will also be developed concurrently because within all three options there is a lot of planning to be done with support from central government required.
H. Mills advised that staff will meet with the facilitator of the Marrs / Shingle Beach working group in May, to work though the options for where to from here with this project.
M. Meehan advised that it is likely the new Minister for the Environment will make the draft targets for swimmable lakes and rivers more practical.
M. Meehan spoke of the work involved with the Local Government Commission and stated that one of the outcomes was for more streamlined planning. He advised that the proposal put together by this Council was supported by GDC and WDC. Cr Robb advised that the Local Government Commission will make their decision based on the consultation feedback.
Discussion place on which Councillors would be available for the hearing for the Proposed Land and Water Plan Change 1 hearings and deliberations. Crs Robb and Archer advised that they are available. Cr Clementson is not available.

Moved (McDonnell / Clementson)

1. *That the report is received.*

2. *That Rob van Voorthuysen be appointed as Commissioner and Chair of the hearing panel for the Proposed Regional Policy Statement hearings and deliberations.*

3. *That Allan Cubitt be appointed as Commissioner and Chair of the hearing panel for the Proposed Land and Water Plan Change 1 hearings and deliberations.*

4. *That two qualified Councillors (Cr Robb and Cr Archer) be selected to sit on the hearing panel for the Proposed Land and Water Plan Change 1 hearings and deliberations.*

Carried

5.1.2 BATHING BEACH WATER QUALITY SAMPLING UPDATE

H. Mills spoke to this report and advised that good results were achieved during the reporting period.

Moved (Robb / Challenger) *That the report is received.*

Carried

5.1.3 HYDROLOGY & FLOOD WARNING UPDATE

H. Mills spoke to this report and stated two flood alarms triggered during month.

Moved (Archer / Ewen) *That the report is received.*

Carried

5.2.1 CONSENTS MONTHLY REPORT

M. Meehan spoke to this report as H. McKay is on a course. He offered to answer questions from Councillors. M. Meehan provided an update on possible future works, including protection works at Carters Beach. He stated that there has been discussion between this Council, BDC and the Domain Board at Carters Beach. R. Beal advised that Council's Engineer is working on costings for a possible sacrificial bund. M. Meehan agreed to follow up on matters relating to Carters Beach and Brownsgold Ltd.

Moved (Archer / Birchfield) *That the April 2018 report of the Consents Group be received.*

Carried

5.2.2 COMPLIANCE & ENFORCEMENT MONTHLY REPORT

M. Meehan spoke to this report. He advised that 50 site visits were undertaken during the reporting period with 21 of these being to dairy farms.
M. Meehan spoke of ongoing issues relating to rubbish and erosion at a whitebait site near Bruce Bay. He stated that this area is no man's land but staff are working with WDC on this matter.
M. Meehan advised an abatement notice has been issued to WDC which relates to the discharge of effluent to surface water at Franz Josef. He advised that this matter is also under an enforcement order. M. Meehan reported that further investigations are being carried out in Westport in relation to dead eels in a creek.
M. Meehan reported that three abatement notices were issued during the reporting period. M. Meehan answered questions from Councillors and confirmed that he would follow up on some matters with H. McKay.

Moved (Birchfield / McDonnell) *That the April 2018 report of the Compliance Group be received.*

Carried

GENERAL BUSINESS

There was no general business.

The meeting closed at 11.35 a.m.

.....
Chairman

.....
Date

THE WEST COAST REGIONAL COUNCIL

Prepared for:	Resource Management Committee Meeting – 8 May 2018
Prepared by:	Hadley Mills – Planning, Science & Innovation Manager
Date:	27 April 2018
Subject:	**PLANNING MANAGER'S MONTHLY REPORT**

Our land 2018

The Ministry for the Environment and Statistics NZ have released the fourth report in the environmental reporting series – Our land 2018. This is the first report in the series to focus specifically on the pressures, state and impacts affecting the land of the country.

Our land 2018 reinforces that land use decisions are putting the environment under pressure. What we do on the land has effects across our environment and economy – water quality, the marine environment, the volume of greenhouse gas emissions, and primary production.

Key findings from the Report are:

- Our soil is affected by erosion and intensive agriculture.
- Nearly 83% of native birds, bats, reptiles and frogs are classified as threatened or at risk of extinction (between 2010 and 2016).
- 20 species of birds improved their conservation status (between 2012 and 2016).
- As well as loss of native vegetation across the country, coastal and lowland habitats continued to reduce.
- There have been significant shifts in land use in the last two decades in urban and rural areas.

An online video is available to find out more about the key findings and the state of the country's land.
http://www.mfe.govt.nz/land/environmental-reporting-land

PCE Report on a Zero Carbon Act

The Parliamentary Commissioner for the Environment (PCE) has released a report outlining detailed advice to the Government on the enactment of a UK-style Zero Carbon act, and the establishment of an independent Climate Change Commission.

The Report considers that the UK model provides a solid base for creating a Climate Change Commission while highlighting the need for the New Zealand context to be kept front of mind. The key features of a UK style Climate Act are:

- Clearly defined targets
- Using independent experts to provide objective analysis and advice
- "Stepping stone" carbon budgets, set 15 years in advance to provide clarity on future targets (in conjunction with the Emissions Trading Scheme)
- A transparent process requiring the Government to respond to the Climate Change Commission and bring forward polices to meet budgets and targets.

Separate targets are being considered for greenhouse gases as these make up about half of New Zealand's emissions profile. Greenhouse gases are increasing, as are carbon dioxide emissions. The PCE has reported that all sectors will need to contribute to reversing these upwards trends.

Here is a link to the full Report: http://www.pce.parliament.nz/media/196427/zero-carbon-act-for-nz-web.pdf

NES for Marine Aquaculture

The Ministry for Primary Industries (MPI) has been working closely with the Ministry for the Environment, the Department of Conservation, and the Aquaculture Reference Group (including members of the aquaculture industry, regional councils, Te Ohu Kaimoana, and the Environmental Defence Society) to address issues identified through consultation and to refine the NES proposal. MPI expects a final policy recommendation will be provided to Cabinet by late 2018. Council submitted on the proposed NES last year generally supporting it, with concerns about monitoring biosecurity requirements for preventing/controlling unwanted marine organisms, and requirements for marine farms in outstanding natural character or landscape areas.

NES for Plantation Forestry

The National Environmental Standard for Plantation Forestry (NESPF) came into effect on 1 May 2018. Staff have done an initial identification of which Land and Water Plan rules prevail over the NES rules, and will provide a guide for Consents and Compliance staff, and foresters, in the next few weeks. Information on the NESPF and what it means for forestry activities has been posted on Council's website, and will also be communicated via other avenues. The key points are:

- Resource consents issued prior to the gazetting of the NESPF on 3 August 2017 still stand, provided that the conditions of the consent are complied with, until the consent expires or the consent is reviewed under s128 of the RMA.
- For resource consents that are processed between 3 August 2017 and 1 May 2018:
    - If the decision on notification of the application was made prior to 3 August 2017 then the notification decision still stands, and the proposed application will continue to be processed under the Land and Water Plan.
    - If the notification decision was made after 3 August 2017, the application will be processed under the NESPF.
- Any consent applications lodged after 1 May 2018 will be considered under the NESPF.

Ongoing advice and guidance will be provided in response to enquiries.

DOC Efficiency and Effectiveness Review of the NZCPS

The Department of Conservation (DOC) has undertaken a review of the efficiency and effectiveness of the New Zealand Coastal Policy Statement (NZCPS) since it came into effect in December 2010.
Some councils were invited to have input into the review, and this Council provided feedback.

The key general findings of the review are:

- There has been good progress with implementing the NZCPS where councils have adopted a strategic and integrated approach to coastal planning, for example, Bay of Plenty, Auckland and Northland. Not all councils are prioritising strategic planning due to a lack of technical information, high costs and silo approaches. All councils reported that this is challenging, particularly for smaller councils with complex coastlines and high-profile resource management issues.
- There are strongly polarised views on the implications of the King Salmon decision on the NZCPS directive policies, that is, 'avoiding adverse effects' on significant biodiversity and outstanding natural character and landscapes. There is a clear understanding that the directive policies in the NZCPS are aimed at protecting 'the best of the best'. Polarised views are particularly around the level of protection that is appropriate for these values, and whether some activities are so important (or present such significant benefits) that adverse effects should not need to be avoided. If adverse effects are not required to be avoided, there are also polarised views on matters such as who should make decisions about the type and effects to be allowed, and which RMA process should be used for such decisions.
- Some councils are funding biodiversity investigations to identify indigenous biodiversity in the coastal marine area. Marine investigations are costly, but partnerships with other statutory agencies, such as DOC, have helped to reduce these costs, for example, in Marlborough. The Review noted that the WCRC has secured an Envirolink grant for NIWA to undertake initial research, and depending on the outcome, a partnership may be a cost effective approach for any further work.
- Implementing the coastal hazard policies is very challenging, particularly with regard to data availability, a lack of community awareness, understanding and acceptance of the risks associated with coastal hazards, and financial constraints. Guidance and support on appropriate risk assessment methodologies is needed so that councils can engage with communities in identifying agreed levels of risk that communities are willing to tolerate.

The full document is available at http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/coastal-management/review-of-effect-of-nzcps-2010-on-rma-part-one.pdf

RECOMMENDATION

That the report is received

Hadley Mills
Planning Science and Innovation Manager

THE WEST COAST REGIONAL COUNCIL

Prepared for:	Resource Management Committee Meeting – 08 May 2018
Prepared by:	Hadley Mills – Planning, Science & Innovation Manager
Date:	26 April 2018
Subject:	**NPSFM Implementation Strategy**

Staff facilitated a workshop after the February 2018 Resource Management Committee (RMC) meeting in which the National Policy Statement for Freshwater Management (NPSFM) Regional Implementation Strategy was presented and discussed. The attached strategy has been developed by the NPSFM implementation team made up of council staff.

During the past few months the NPSFM implementation team have had a number of hui with Te Runanga o Ngai Tahu (TRONT) working on chapter 6 and other minor areas of the strategy. One major clarification that TRONT wanted to confirm was that Freshwater Management Units (FMU's) can have separate management areas for certain values and/or different management processes. We received confirmation from The Ministry for the Environment (MfE) that this is possible and is a common approach. It was agreed to keep all FMU boundaries as originally proposed on the proviso that separate management areas can be identified within FMU's. This could be useful for pounamu rivers for example.

Based on the workshop in February and further discussions with iwi changes that have been made include:

- Removal of the Costing chapter,
- Separation of the Introduction and Background chapter into two separate chapters,
- Addition of the Cultural Importance and Management of Water chapter (chapter 6),
- Addition of other minor changes, including cultural significance sentences in Appendix 2 for each of the FMU's, removal of recommendations for each chapter and general editing; and
- Updating the Progressive Implementation Programme to include the 2030 implementation extension.

Based on separate discussions with MfE it was recommended that we extend our implementation date to 2030. Meeting the 2025 deadline would likely result in lower quality planning. The following extract from the NPSFM outlines our option to extend this date:

NPSFM Policy E1

b) Every regional council is to implement the policy as promptly as is reasonable in the circumstances, and so it is fully completed by no later than 31 December 2025.

ba) A regional council may extend the date in Policy E1(b) to 31 December 2030 if it considers that:

i. meeting that date would result in lower quality planning; or

ii. it would be impracticable for it to complete implementation of a policy by that date.

RECOMMENDATION

1. *That the report is received.*

2. *That the attached National Policy Statement for Freshwater Management (NPSFM) Regional Implementation Strategy including the Progressive Implementation Programme be accepted and forms the direction and framework for staff to implement the National Policy Statement for Freshwater Management.*

3. *That staff apply to the Ministry for the Environment for an extension of time to 2030 for the implementation of the National Policy Statement for Freshwater Management.*

Hadley Mills
Planning Science and Innovation Manager

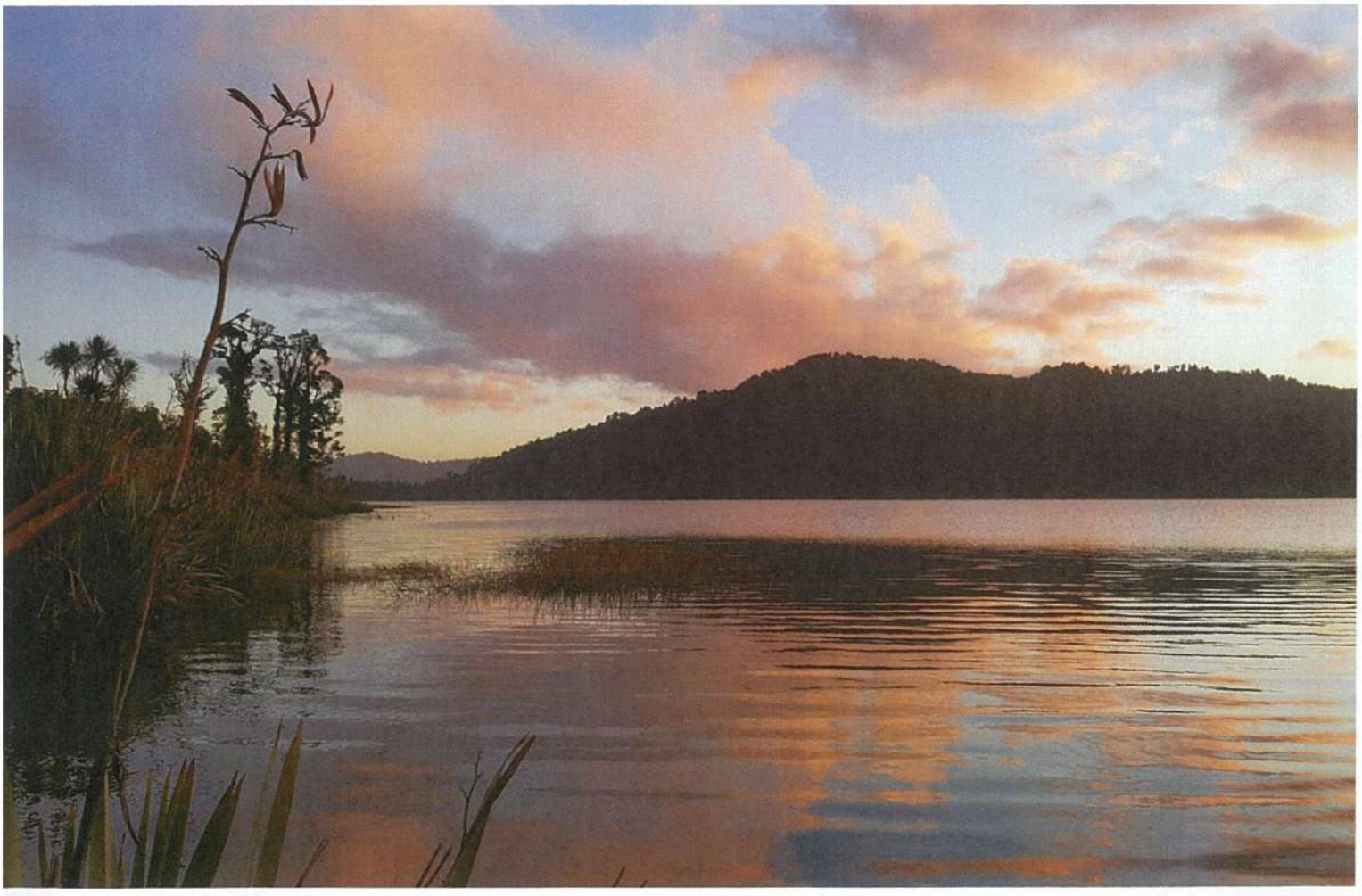
West Coast Regional Council

National Policy Statement for Freshwater Management – Regional Implementation Strategy

2018

THE WEST COAST REGIONAL COUNCIL

Contents



1. Introduction

Fresh water is essential to New Zealand's economic, environmental, cultural and social well-being. Fresh water gives our primary production, tourism and mining sectors their competitive advantage in the global economy. Fresh water is highly valued for its recreational aspects and it underpins important parts of New Zealand's biodiversity and natural heritage. Fresh water has deep cultural meaning to all New Zealanders. Many of New Zealand's lakes, rivers and wetlands are iconic and well known globally for their natural beauty and intrinsic values.

The Treaty of Waitangi/Te Tiriti o Waitangi is the underlying foundation of the Crown-iwi/hapu relationship with regard to freshwater resources. Addressing tangata whenua values and interests across all of the well-beings, and including the involvement of iwi and hapū in the overall management of fresh water, are key to giving effect to the Treaty of Waitangi.

New Zealanders face challenges in managing our fresh water to provide for all of the values that are important to New Zealanders. The quality, health, availability and economic value of our fresh waters are under threat.

To respond effectively to these challenges and issues, we need to have a good understanding of our freshwater resources, the threats to them, and provide a management framework that enables water to contribute both to New Zealand's economic growth and environmental integrity, and provides for the values that are important to New Zealanders.

Freshwater planning will require an iterative approach that tests a range of possible objectives and limits, and methods for their achievement. This ensures that the implications of proposed freshwater objectives are clear for the Council and communities.

The National Policy Statement for Freshwater Management (NPSFM) recognises Te Mana o te Wai and sets out objectives and policies that direct local government to manage water in an integrated and sustainable way, while providing for economic growth within set water quantity and quality limits.

The NPSFM recognises iwi/hapu and community interest in fresh water, including their environmental, social, economic and cultural values. There are two compulsory values that must be managed for ecosystem health and human health.

Iwi and hapu have a kinship relationship with the natural environment, including fresh water, through shared whakapapa. Iwi and hapū recognise the importance of fresh water in supporting a healthy ecosystem, including

human health, and have a reciprocal obligation as kaitiaki to protect freshwater quality.

The NPSFM requires freshwater quality within a freshwater management unit (FMU) to be maintained at its current level (where community values are currently supported) or improved (where community values are not currently supported). For the human health value, water quality in FMUs must be improved unless regional targets have been achieved or naturally occurring processes mean further improvement is not possible. This NPS allows some variability in terms of freshwater quality, as long as the overall freshwater quality is maintained within a FMU.

Monitoring plans are intended to be practical and affordable. It is not possible for regional councils to monitor every drop of water, nor every possible indicator of freshwater health. Monitoring freshwater objectives need only be undertaken at representative sites within a FMU as identified by regional councils, and must use the Macroinvertebrates Community Index, as well as measures of indigenous flora and fauna and Mātauranga Māori. Monitoring plans are also intended to recognise the importance of long term data.

Setting enforceable quality and quantity limits is a key purpose of this NPS. This is a fundamental step to achieving environmental outcomes and creating the necessary incentives to use fresh water efficiently, while providing certainty for investment. Water quality and quantity limits must reflect local and national values. The process for setting limits should be informed by the best available information and scientific and socio-economic knowledge.

Once limits are set, freshwater resources need to be allocated to users, while providing the ability to transfer entitlements between users so that we maximise the value we get from water. Where water resources are over allocated (in terms of quality and quantity) to the point that national and local values are not met, over-allocation must be reduced over agreed timeframes.

The New Zealand Coastal Policy Statement 2010 addresses issues with water quality in the coastal environment. The management of coastal water and fresh water requires an integrated and consistent approach.

2. Background

The NPSFM was gazetted in 2011. The primary responsibility for implementing the NPSFM lies with regional and unitary councils[1], who must give effect to the NPSFM in planning documents, report on their progress, and fully implement the NPSFM no later than 31 December 2025.

Based on an initial review in 2011, the West Coast Regional Council (WCRC or the Council) concluded that the NPSFM objectives appeared to align well with the Proposed Regional Land and Water Plan objectives. At this stage it was considered that no significant additional planning or other work was required to meet the NPSFM's requirements.

An amendment was made to the NPSFM in 2014 which introduced the National Objectives Framework (NOF) and national bottom lines for water quality. These amendments require councils to determine how their communities value these waterways and what goals should be set for the future, based on economic, social, cultural and environmental factors. Subsequently, the condition of these values must be assessed using empirical accounting methods, for example, monitoring and catchment modelling of waterbody state and trends. A key component of the NPSFM is the requirement that the overall quality of freshwater must be maintained or improved. Deteriorating trends must be addressed.

A further amendment to the NPSFM was released in August 2017. The amendment introduces a number of changes to the document, the most significant of which is the requirement for regional councils to work towards, and report on, the progress of achieving the Government's national target of making 90 per cent of New Zealand's large rivers and lakes swimmable by 2040.

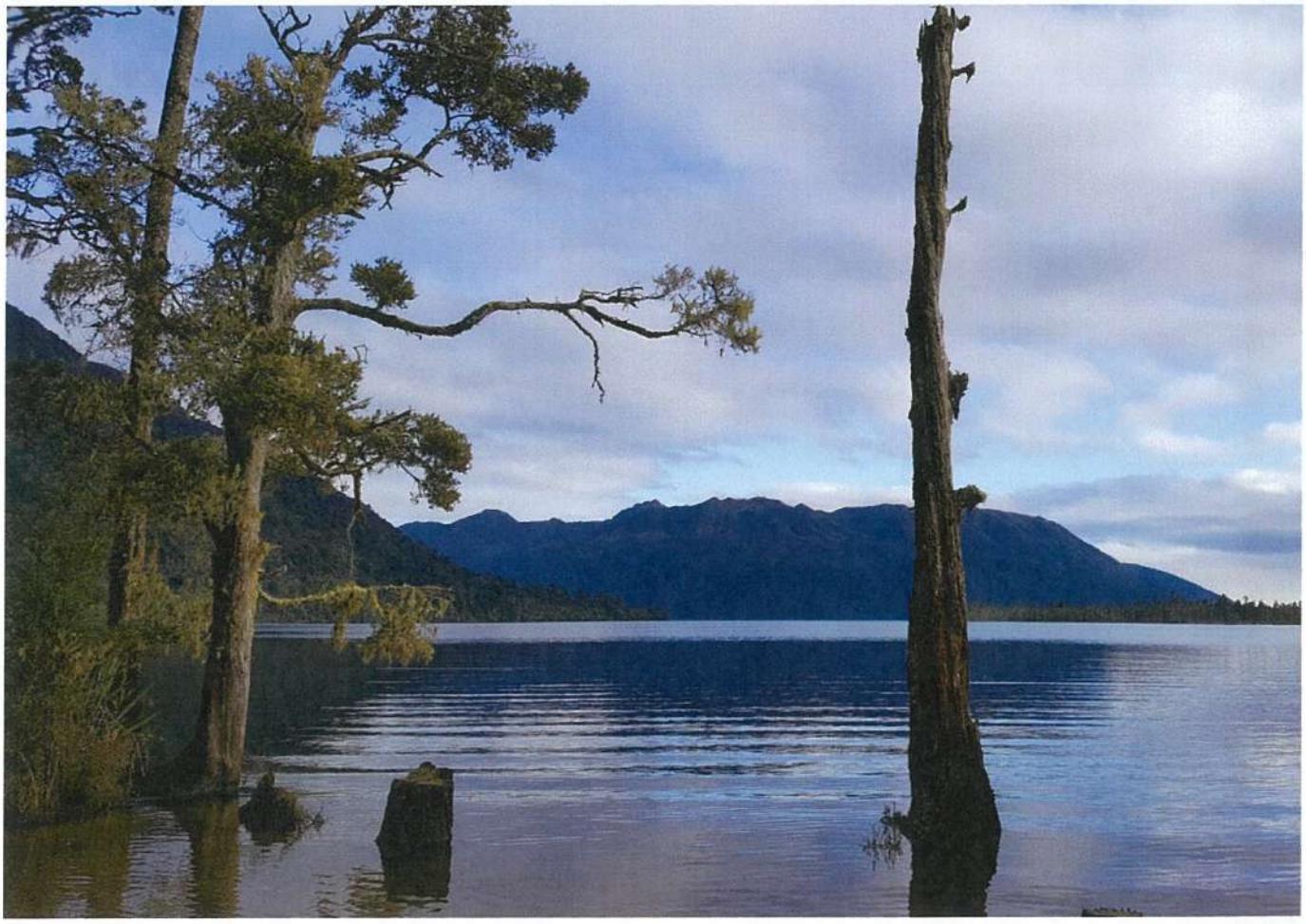
The WCRC monitoring network has historically focused on catchments where water quality is affected by human activity. Based on those results, we understand the majority of our rivers to be healthy with a smaller number that would benefit from improvement. What we do not know is how our communities value their freshwater resources, whether our monitoring framework accurately reflects the communities' values, and what goals the community believe should be set for the future of those waterways. These are key components of the NPSFM.

[1] The Resource Management Act 1991 requires Regional Councils to give effect to national policy statements in regional policy statements and regional plans (Sections 62 and 66 respectively).

In addition, there are other related aspects of the NPSFM that the Council is required to address but has not yet done, including the requirement to identify FMU's, set objectives and limits for freshwater quality and quantity within those units, and to undertake freshwater accounting.

In early 2016, in response to increasing awareness that more needs to be done to give effect to the requirements of the NPSFM, an implementation team was formed. The team consists of staff from Resource Science (hydrology and water quality), Consents and Compliance and the Planning departments of the Council.

This document sets out the recommended direction of the Implementation Team, and explains what the Team believe needs to be done in order to give effect to the NPSFM in accordance with Sections 62 and 66 of the RMA.



3. What needs to be done and why?

The NPSFM sets out a number of objectives and policies to be implemented. Key requirements of the NPSFM are as follows:

- Identify Freshwater Management Units (FMUs) to include all freshwater bodies in the Region (Policy CA1).
- To recognise and provide for Te Mana o te Wai in the management of fresh water. Te Mana o te Wai recognises the connection between water and the broader environment – Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody), and Te Hauora o te Tangata (the health of the people) (Policy AA1).
- Involve Poutini Ngāi Tahu in the management of freshwater, working with Te Rūnanga o Ngāti Waewae, Te Rūnanga o Makaawhio and Te Rūnanga o Ngāi Tahu to identify tangata whenua values and interests and reflect these in the management of, and decisions-making about, freshwater (Policy D1)
- Working with Poutini Ngāi Tahu and the wider community to develop objectives and set freshwater quality and quantity limits for all FMUs (Policy A1 and CA2)
- Working with Poutini Ngāi Tahu to ensure that those objectives maintain or improve the overall freshwater quality within each FMU (Objective A2)
- Working with Poutini Ngāi Tahu to develop a monitoring plan for achieving objectives (Policy CB1)
- Establish and operate a freshwater quality and quantity accounting system (Policy CC1)
- Amend the Regional Land and Water Plan to the extent needed as per the NPSFM policies.

An overview of the process is illustrated in the figure below:

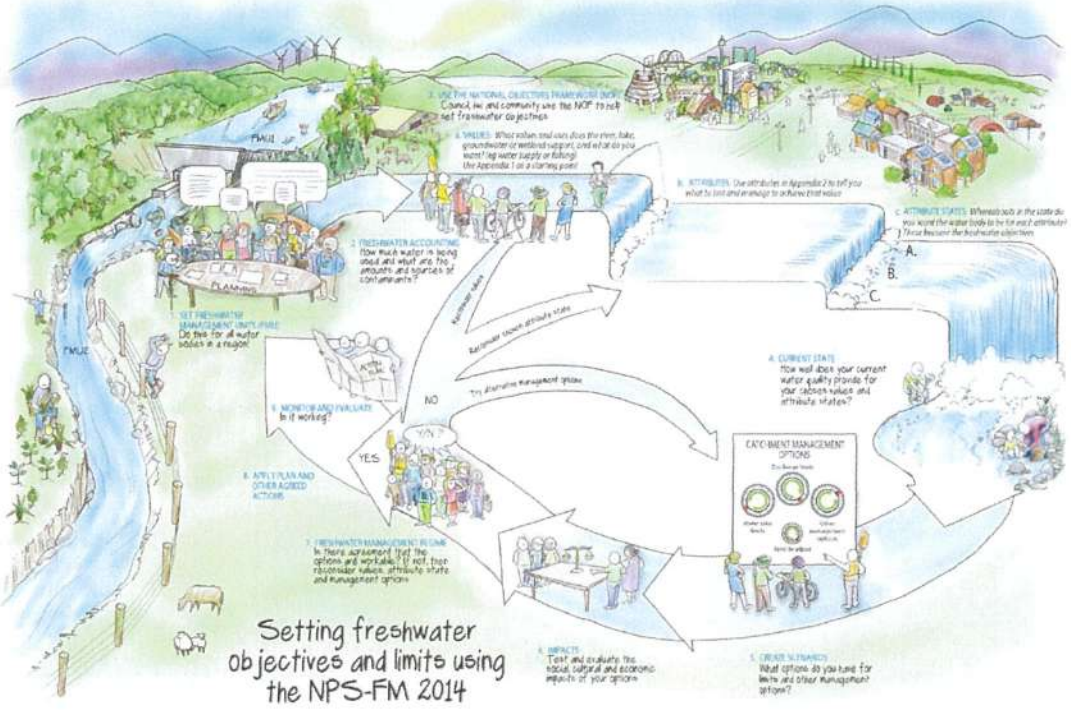


Figure 1: pg. 63. MfE. 2015. A Guide to the National Policy Statement for Freshwater Management 2014. Wellington: Ministry for the Environment.

To date, the WCRC has not formally committed any resources toward achieving any of the requirements above as water quality and quantity is not seen to be an issue locally given the state of our water quality and quantity. However, having good water quality or quantity does not obviate the Council from our responsibility to implement the NPSFM. The NPSFM represents a fundamental shift in the way we are expected to manage freshwater. It provides a framework for the way regional councils must manage their fresh water resources now and into the future. The legislative requirement to give effect to the NPSFM exists regardless, and pressure to do more in this area will continue to increase. As more and more is achieved around the country, the absence of any progress on the West Coast will become more apparent. Many regional councils around the country have moved beyond the planning phase and are now in what is being described nationally as "the implementation phase". In recognition of this, the Ministry for the Environment (MFE) has also shifted its focus and is now focusing on implementation.

As regional councils around the country work toward implementation of the NPSFM, many investing significant amounts of time and energy into addressing the NPSFM's requirements (see preceding section of this Report), this has the effect of raising the bar and increasing public expectations. More and more, external parties are asking what the WCRC is doing to implement the requirements of the NPSFM.

The Council received numerous submissions[2] in opposition to the Proposed Regional Policy Statement (PRPS), criticising the failure of the document to give effect to the NPSFM. Staff propose to respond to these submissions by making minor revisions to the Land and Water chapter of the PRPS which explain that NPSFM implementation will be carried out through revisions to the Regional Land and Water Plan (L&WP). In effect, accepting that there is more to be done, but explaining that that work will be done at a later date in a lower tier policy document. Given the changes that have been made to the NPSFM since 2011, claiming that we have already given effect to the document is no longer appropriate.

Under Section 79 of the RMA, regional councils must commence a review of any provision within their regional policy statements or regional plans no later than 10 years after they previously became operative.

Policies relating to freshwater (excluding wetlands) were last reviewed when the Proposed Water Management Plan, Proposed Land and Riverbed Plan and the Regional Plan for Discharges to Land were merged and notified in September 2010. The majority of the provisions became operative in October 2012, with the entire Plan becoming operative in 2014 following the resolution of the appeals relating to the wetlands.

In order to meet the 10 year deadline for review, work on reviewing the L&WP needs to commence now and be carried out over the next few years. The Council will not be able to carry out a successful review of the Plan unless more work is carried out to address the requirements of the NPSFM.

Local Government New Zealand stated in 2015[3], that on average, it has taken 6.3 years after a district plan has been notified for it to become operative, 6.1 years for a regional plan, 4.4 years for a regional policy statement and 2 years for a plan change. Based on our own experience, these timeframes are optimistic. Council agreed to commence a review of the operative Regional Policy Statement in 2009, and hearings are scheduled to take place toward the middle of this year (nine years taken to date). Similarly, Council agreed to commence a review of the operative Regional Coastal Plan in 2010 and hearings are likely to take place next year (nine years taken to date).

Given the amount of work required to implement the key requirements of the NPSFM, including the need to work with Poutini Ngāi Tahu and engage with communities, and based on our own experience, and the experiences of other regional councils that are more advanced with implementation, it should be noted that developing the evidence base for any review of

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[2] Submissions requesting more direction on how the WCRC will implement the NPSFM received from the Environmental Defence Society, Federated Farmers New Zealand, Department of Conservation, Trustpower, Straterra, Forest and Bird, joint submissions of Te Rūnanga o Ngāti Waewae, Te Rūnanga o Makaawhio and Te Rūnanga o Ngāi Tahu, and a number of individual submitters.

[3] LGNZ. 2015. A 'blue skies' discussion document about New Zealand's resource management system. Retrieved 1st August 2017 from www.lgnz.co.nz/assets/Uploads/LGNZ-blue-skies-thinkpiece-Dec-2015.pdf

policies and rules related to freshwater will take some time. As such, the need to start work in this area is becoming urgent.

17

4. What is everyone else doing?

In May 2017, MFE published a document titled 'National Policy Statement for Freshwater Management Implementation Review – National Themes Report'[4]. The purpose of this document was "To provide a stocktake of progress made by regional councils toward setting objectives and limits for freshwater resources in their region as required by the NPSFM" (pg. 6). The information and analysis underpinning the Review used evidence collected via questionnaires completed by each of the regional authorities, interviews with council executives and elected councillors, senior council staff, iwi, stakeholder representatives and reviews of regional planning documents.

A summary of each Council's approach to implementation is included in Appendix 1. Based on the information set out within this document, it is clear that the WCRC is one of the Councils that have made the least progress to date.

The Review document describes the approach taken by the WCRC as follows:

> "West Coast Regional Council considers that the existing Regional Plan met the requirements of the NPSFM 2011, but needs to undertake work to implement the 2014 amendments. Though the Council intends to address implementation on a catchment by catchment basis, it has not yet prioritised catchments or established a timeline for planning".

In respect of NPSFM implementation, the Review concludes the following:

- Regional council progress implementing the NPSFM varies across the country; many councils have made good progress to identify objectives and set limits. However, and not unexpectedly, no council has implemented the NPSFM in its entirety.
- Some councils have made good progress through the implementation process including Horizons, Canterbury, Waikato, and Otago. Others, however, have made much less progress.
- Regional councils cannot wait around to gather information while waterways continue to decline. Putting such problems off will not make their resolution easier and simply exacerbates the environmental problem. To do so is to fail to implement the NPSFM and to undertake statutory functions.

[4] http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/npsfm-implementation-review-national-themes-report.pdf

- Region-wide default limits are appropriate in some situations and can help ensure that action is being taken while catchment-specific provisions are still being developed - but they may not be appropriate where the total of catchment inputs on particular water bodies is not understood (pg. 23).

As part of the National Implementation Review carried out by MFE, regional summaries have also been prepared. The recommendations from that summary for the West Coast region are as follows:

- WCRC, iwi, stakeholders and the community generally agree that they have good working relationships and want to ensure these continue through any freshwater decision-making processes.
- In order to fully implement the NPSFM 2014, it is recommended that WCRC continues to work with iwi, stakeholders and the community to identify FMUs, values and limits for its freshwater resources.
- WCRC should consider working in the most stressed FMUs first. It could set region-wide policy for the management of low pressure areas, for example, the conservation estate, and initiate community processes for identified high pressure areas or issues within the FMUs.

5. What should we do?

One of the benefits of starting later is that we can learn from the experiences of other regional councils. Some councils have invested significant amounts of money and have made limited progress. We want to avoid making the same mistake. Given the size of our rating base, we need to make sure that the work we do counts.

Additionally, given we do not have the same pressing issues with water quality and quantity that are experienced in other parts of the country, we need to make sure that our commitment to this process is commensurate with the issues we are facing locally. That means we have the ability to tailor our approach to suit our own situation.

The Implementation Team have reviewed what has been done elsewhere and recommend developing a proposal that is locally responsive. Implementation of the NPSFM needs to focus attention on areas where we know we have issues (water quantity issues in the Grey Valley, for example), and direct resources at these areas. Areas where we expect we will have less work to do (South Westland, for example), should be left till last, and should benefit from a process that is streamlined and less involved.

6. Cultural Importance and Management of Water

"He taura whiri kotahi mai ano te kopunga tai no i te pu au"

"*From the source to the mouth of the sea, all things are joined together as one*"

Water is an essential and integral part of the connection between Poutini Ngāi Tahu, as mana whenua, and their tribal territory. Council recognises that Wai Māori/fresh water is a tāonga for Poutini Ngāi Tahu. The life-giving and life-sustaining properties of water are intrinsically linked to the spiritual, cultural, economic, environmental and social well-being, survival and identity of Poutini Ngāi Tahu whānui.

The Council understands that addressing mana whenua values and interests is essential. The Council recognises that working with Poutini Ngāi Tahu in the overall management of water on the West Coast is key to giving effect to the Treaty of Waitangi and the RMA.

The principles in this section have been provided by Poutini Ngāi Tahu and are intended to guide freshwater management discussions in a manner consistent with mana whenua cultural values and interests:

- Water management effectively provides for Te Mana o te Wai and the tāonga status of water, the Treaty partner status of Ngāi Tahu, the importance of water to cultural well-being, and the specific interests in, and kaitiakitanga responsibilities of tangata whenua for, water.
- Pounamu is a tāonga of utmost importance to Poutini Ngāi Tahu culture and tradition. Water is managed to ensure the relationship between Poutini Ngāi Tahu and the collection of pounamu is maintained.
- Water and land are managed as interrelated resources embracing the practice of *Ki Uta Ki Tai* (from the mountains to the sea), which recognises the connection between land, groundwater, surface water, coastal waters and the passage of water from mountains to the sea.
- Water quality and quantity in groundwater and surface water resources in the takiwā enables customary use.
- Recognise the preference for discharges to land over discharges to water.

- Prioritise efficient use of water, and establish culturally sustainable flow regimes.
- Mauri and mahinga kai are recognised as key cultural and environmental indicators of the cultural health of waterways and the relationship of Poutini Ngāi Tahu to water.
- Water use in the takiwā respects catchment boundaries as much as practically possible.
- Wetlands, waipuna (springs), estuaries, hāpua and lagoons are recognised as wāhi tāonga.
- Cultural monitoring tools are used to monitor the health of waterways.

7. Identifying Freshwater Management Units (FMUs)

Given the size of the Region and the vast differences between areas within the Region, it is recognised that the objectives and limits in some areas will not be appropriate in others (for example the rules that have been applied in the Lake Brunner catchment would not be appropriate everywhere). This is provided for within the NPSFM by allowing regional councils to separate their region into Freshwater Management Units (FMUs).

The NPSFM and its associated guidance[5] allows regional councils flexibility in how they go about identifying FMUs. The guidance does note, however, that the scale of the FMU needs to be appropriate for objective and limit-setting, freshwater accounting, and monitoring. An FMU should not be set at too large a scale, which may prevent the setting of freshwater objectives that are specific enough to be effective. Equally, an FMU should not be set at too small a scale, which may result in undue complexity and cost in the planning process or in the management of the FMU. Separate management areas can be identified within an FMU for certain values and/or different management processes.

Some councils have taken an aggregating approach to determining management units or zones; others have sub-divided their region to a much greater extent. This means that the number of water management zones or FMUs in one region can vary from around two to five, to dozens in other regions. These different approaches to FMUs are appropriate given the differences in the physical environments from region to region and differing pressures.[6]

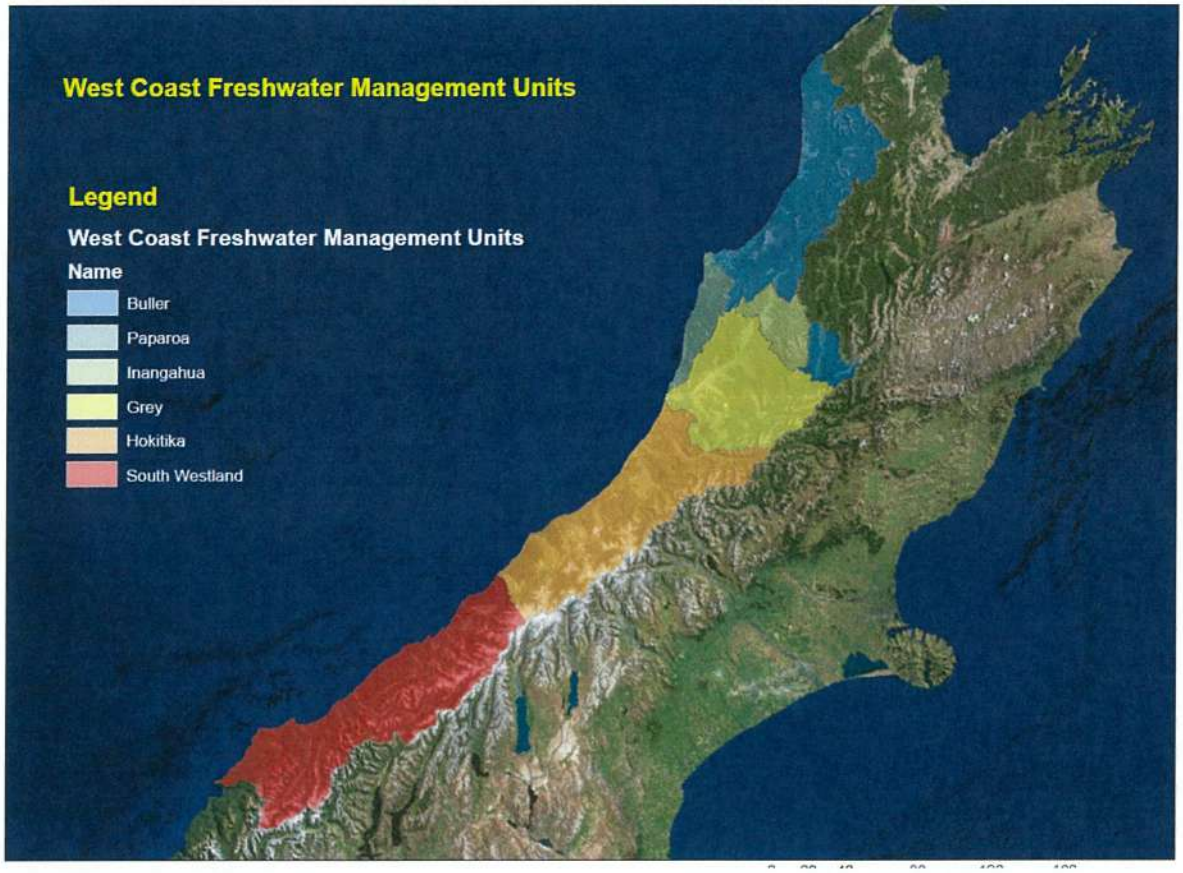
The Implementation Team has considered the options and what has been done elsewhere around the country. The Team proposes to divide the Region into six FMUs based on geographical groupings of similar land uses and/or

[5] Ministry for the Environment. 2015. A Guide to the National Policy Statement for Freshwater Management 2014. Wellington: Ministry for the Environment

[6] Ministry for the Environment. 2017. National Policy Statement for Freshwater Management Implementation Review National Themes Report. Wellington: Ministry for the Environment

activities. The proposed FMUs take into account existing monitoring sites and community boundaries. Initially, consideration was given to defining FMUs by catchment but this was discounted as impractical given the vast number of catchments in the Region. The Team also looked at defining FMUs by types of catchments (for example, combinations of land cover, altitude, source of flow, geology). This was less ideal given that communities and their values are likely to be centralised.

The six proposed FMUs are illustrated in the image below:



Appendix 2 provides a more detailed map and short description of each FMUs' likely values, issues, information we have and information we might need.

It is to be noted that the proposed boundaries of the FMUs are not fixed and could be moved if this was considered necessary by Council or following engagement with our communities.

8. Prioritising Freshwater Management Units

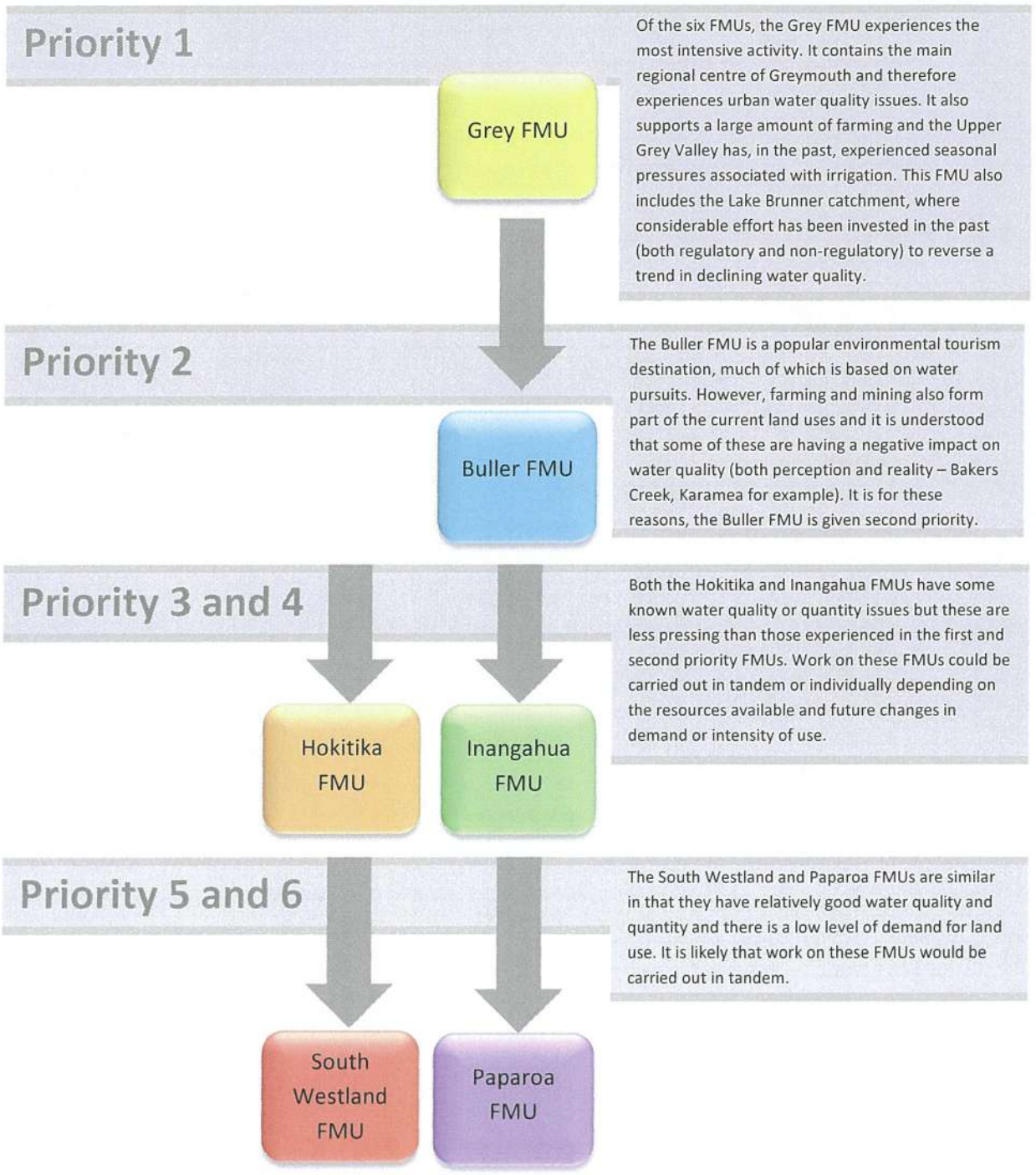
Most councils have chosen their most challenging catchments to work in first, in terms of resource management issues and conflicts or pressures, including:

- Gisborne (Waipaoa),
- Waikato (Waikato/Waipa),
- Greater Wellington (Ruamahanga),
- Bay of Plenty (Rotorua Lakes),
- Northland (priority catchments including the Whangarei Harbour), and
- Canterbury (Selwyn and Te Waihora/Lake Ellesmere).

MFE endorse this approach, noting it is important that councils focus their efforts on hotspots, especially where there are sensitive receiving environments or where there are looming allocation issues (pg. 17, MFE, 2017). MFE have also made it known that their preference is for councils to tackle FMU's with the most important and at risk values first.

Taking into account the issues we are facing within our Region, and what has worked best elsewhere around the country, the Implementation Team recommends the six FMUs are prioritised in the order set out in the diagram below.

As with the boundaries of the FMUs, the priority level attributed to each of the FMUs is not fixed and could be moved if this was considered necessary by Council or following engagement with our communities. It may also be necessary to revisit priorities as issues change over time.


Priority 1
Grey FMU
Of the six FMUs, the Grey FMU experiences the most intensive activity. It contains the main regional centre of Greymouth and therefore experiences urban water quality issues. It also supports a large amount of farming and the Upper Grey Valley has, in the past, experienced seasonal pressures associated with irrigation. This FMU also includes the Lake Brunner catchment, where considerable effort has been invested in the past (both regulatory and non-regulatory) to reverse a trend in declining water quality.
Priority 2
Buller FMU
The Buller FMU is a popular environmental tourism destination, much of which is based on water pursuits. However, farming and mining also form part of the current land uses and it is understood that some of these are having a negative impact on water quality (both perception and reality – Bakers Creek, Karamea for example). It is for these reasons, the Buller FMU is given second priority.
Priority 3 and 4
Hokitika FMU
Inangahua FMU
Both the Hokitika and Inangahua FMUs have some known water quality or quantity issues but these are less pressing than those experienced in the first and second priority FMUs. Work on these FMUs could be carried out in tandem or individually depending on the resources available and future changes in demand or intensity of use.
Priority 5 and 6
South Westland FMU
Paparoa FMU
The South Westland and Paparoa FMUs are similar in that they have relatively good water quality and quantity and there is a low level of demand for land use. It is likely that work on these FMUs would be carried out in tandem.

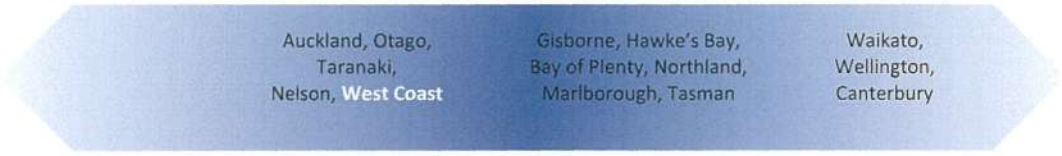
9. Engaging with the community

Freshwater objectives seek to ensure that what is valued about each FMU will be maintained or enhanced. To understand what is valued, and therefore what needs to be achieved in each FMU, working with Poutini Ngāi Tahu and engaging with water users, and the wider community is essential.

Most councils have undertaken, or are embarking on, some form of collaborative or enhanced consultative process with their communities, as promoted by the NPSFM Implementation Guide and the Land and Water Forum, but not explicitly required by the NPSFM itself[7].

Engagement exists across a spectrum as illustrated in the diagram below:

	Inform	Consult	Involve	Collaborate	Empower
Goal	To provide balanced and objective information in a timely manner.	To obtain feedback on analysis, issues, alternatives and decisions.	To work with the public to make sure that concerns and aspirations are considered and understood.	To partner with the public in each aspect of decision-making.	To place final decision-making in the hands of the public.
Promise	"We will keep you informed"	"We will listen to and acknowledge your concerns"	"We will work with you to ensure your concerns and aspirations are directly reflected in the decisions made"	"We will look to you for advice and innovation and incorporate this in decisions as much as possible	"We will implement what you decide"



(Adapted from IAP2, Spectrum of Public Participation and pg. 29, MfE, 2017).

Traditionally, the consultation carried out by the WCRC in respect of planning documents has sat at the "inform/consult" end of the spectrum, meeting, but not exceeding, statutory requirements for public consultation. However, more recently, as part of the review of the PRPS, the WCRC has been moving towards processes that "involve/collaborate" with key stakeholders. This new collaborative-style process has been well received by stakeholders and this reflects trends around the country.

[7] Ministry for the Environment. 2017. National Policy Statement for Freshwater Management Implementation Review National Themes Report. Wellington: Ministry for the Environment

Collaboration is increasingly being used to tackle complex resource management issues. Regional authorities are engaging stakeholders, communities and working with iwi/hapū early in the planning process as a way to resolve tensions over conflicting values, multiple interests, and increasing demands for fresh water. An engagement approach that emphasises the sharing of knowledge and working together at the front end of the planning process, through dialogue and discussion, is desired.

However, the costs involved in resourcing more collaborative processes can be significant, and should be a consideration when deciding what engagement process to choose. Collaborative processes are more resource intensive (staff and funding) than traditional plan making processes. Furthermore, collaborative processes take time as the group needs to be provided with the space and time to build trust amongst the group, to consider information, and reach a consensus.

Effort must also be made to ensure that Poutini Ngāi Tahu and all members of the community are represented and are able to have their voice heard. The groups need to make sure that regular progress reports about the groups' decisions are made to the wider community.

In order to understand what communities value about freshwater, it is the view of the Implementation Team that an "involve/collaborate" type process will be required in each FMU. While the sky is the limit for collaborative involvement, and resource intensive management options, it is widely recognised that the degree of collaboration can be scaled to the issues associated with water management within each FMU. For example, in an FMU with few issues, the degree of collaboration could be scaled towards a more consultative approach. The same applies to the extent and complexity of accounting, objectives, and targets.

The Implementation Team recommends that a community engagement group (CEG) is established for each FMU who will consult with the local community and then work together to understand the issues in that FMU, identify values and provide a package of recommendations (including recommended objectives and limits where required) to Council for consideration. Those recommendations, if agreed, will form the basis of a plan change/review of the L&WP. The CEG composition and operation will not be the same in every FMU. The composition and terms of agreement for each FMU will need to be tailored to suit the circumstances in that specific FMU.

10. Freshwater accounting

Accurate information on the quantity of water being taken from freshwater bodies, and the type and amount of contaminants going into freshwater bodies, is essential for a number of reasons including the following:

- To inform decisions on freshwater objectives and limits by providing an understanding of the existing use of water, and sources and amount of contaminants, when testing the economic and social impacts of various scenarios for freshwater objectives and limits
- To inform decisions on how to manage within limits (for example, to determine the most equitable and cost-effective way to reduce current discharges)
- To provide feedback to communities on their progress in meeting freshwater objectives, and act as a trigger for changes in management (for example, when existing initiatives are not having the required effect and targets are not being met)
- To provide consistent regional accounting information for investors on catchments where there is headroom for expansion[8].

The NPSFM requires that regional councils establish and operate freshwater quality and quantity accounting systems, and that they collect and record freshwater accounting information for all FMUs (Policy CC1). However, there is no single correct or preferred way to establish a freshwater accounting system to meet the requirements of the NPSFM. The guidance notes that this can be done at a level of detail that reflects the scale of the water quality/quantity issues in the FMU. This provides scope for information to be gathered in a number of ways including direct measurements, modelling results or estimates. It is also the purpose of the NPSFM, through collaboration, to allow Poutini Ngāi Tahu and communities a greater say in what values are important. This will subsequently influence what is measured and accounted for.

Given the different issues facing each of our proposed FMUs and the differing scale of issue facing each of those FMUs, the Implementation Team expect that the accounting systems required for each of our FMUs will not be the same across the board. We will not need the same level of detail or robustness of information in our lower priority FMUs as in our higher priority FMUs.

[8] Ministry for the Environment. 2015. A Guide to Freshwater Accounting under the National Policy Statement for Freshwater Management 2014. Wellington: Ministry for the Environment.

The Council's State of Environment and contact recreation monitoring programmes are a form of freshwater accounting. It is likely that in some FMUs, particularly the lower priority FMUs, that the Council's existing monitoring programme, along with estimates, will be sufficient for the purposes of informing FMU decision making. However, in the FMUs with greater issues, additional monitoring, more detailed information, and catchment modelling, are likely to be required to understand and inform discussions with communities and decision making.

The nature of accounting required for each FMU will only be known when discussions with communities begin and the ways in which communities value their waterways are understood. However, it is important to note that accounting is part of the process, and resourcing will be required to deliver it.

11. Progressive Implementation Programme

In order to meet the requirements of the NPSFM, the Council is required to implement the NPSFM by no later than December 2025. There is provision for extending this date to 2030 if the Council considers that meeting the 2025 date would result in lower quality planning, or it would be impracticable for it to complete implementation of a policy by that date.

The NPSFM states that the Council can implement the NPSFM in a programme of defined time-limited stages (Policy E1(c)). This programme is to be formally adopted by the Council by 31 December 2018, and publically notified (Policy E1(f)).

The Implementation Team's proposed Progressive Implementation Programme is included below.

Proposed Progressive Implementation Programme

	Regional Planning	FMU specific planning	Monitoring/Accounting
Phase 1			
2018	• Council agrees approach and notifies PIP • Begin review of Regional Land and Water Plan. Scope includes: • Developing region-wide water quality objectives and limits.	• Establish engagement group for Grey FMU (priority 1) • Develop objectives and set limits for Grey FMU • Establish engagement groups for Buller FMU (priority 2).	• Establish monitoring plan and basis of accounting system • Monitor in accordance with plan • Refine accounting system for Grey FMU • Report on progress (as per NPSFM Policy E1(e))
Phase 2			
2020	• Developing region-wide water quantity objectives and limits (minimum flows and allocation). • Identification and management of outstanding water bodies. • Provision for catchment-specific measures	• Develop objectives and set limits for Buller FMU • Establish engagement groups for Hokitika and Inangahua FMUs (priority 3 and 4).	• Monitor in accordance with plan • Refine accounting system for Buller FMU • Report on progress (as per NPSFM Policy E1(e))
2021		• Develop objectives and set limits for Hokitika and Inangahua FMUs • If engagement groups are required, establish groups for South Westland and Paparoa FMUs (priority 5 and 6). • Develop objectives and set limits for South Westland and Paparoa FMUs.	• Monitor in accordance with plan • Refine accounting systems for Hokitika and Inangahua FMU • Report on progress (as per NPSFM Policy E1(e))
2022	Complete first draft of Regional Land and Water Plan and release for stakeholder feedback.	Regulatory elements of FMUs incorporated into draft Regional Plan	• Monitor in accordance with plan • Refine accounting systems for South Westland and Paparoa FMU • Report on progress (as per NPSFM Policy E1(e))
Phase 3			
2023	Draft changes to Regional Land and Water Plan revised and notified.		
2025	Continue with First Schedule Proposed Plan process	Assess the need for/establish further engagement groups.	
2028	Complete Proposed Plan process, incl addressing: • Any further amendments to the NPSFM. • Further catchment-specific regulatory measures.	• Include regulatory elements of any further engagement groups. • Refine/adjust objectives and limits (if needed).	
2030	Implementation complete		

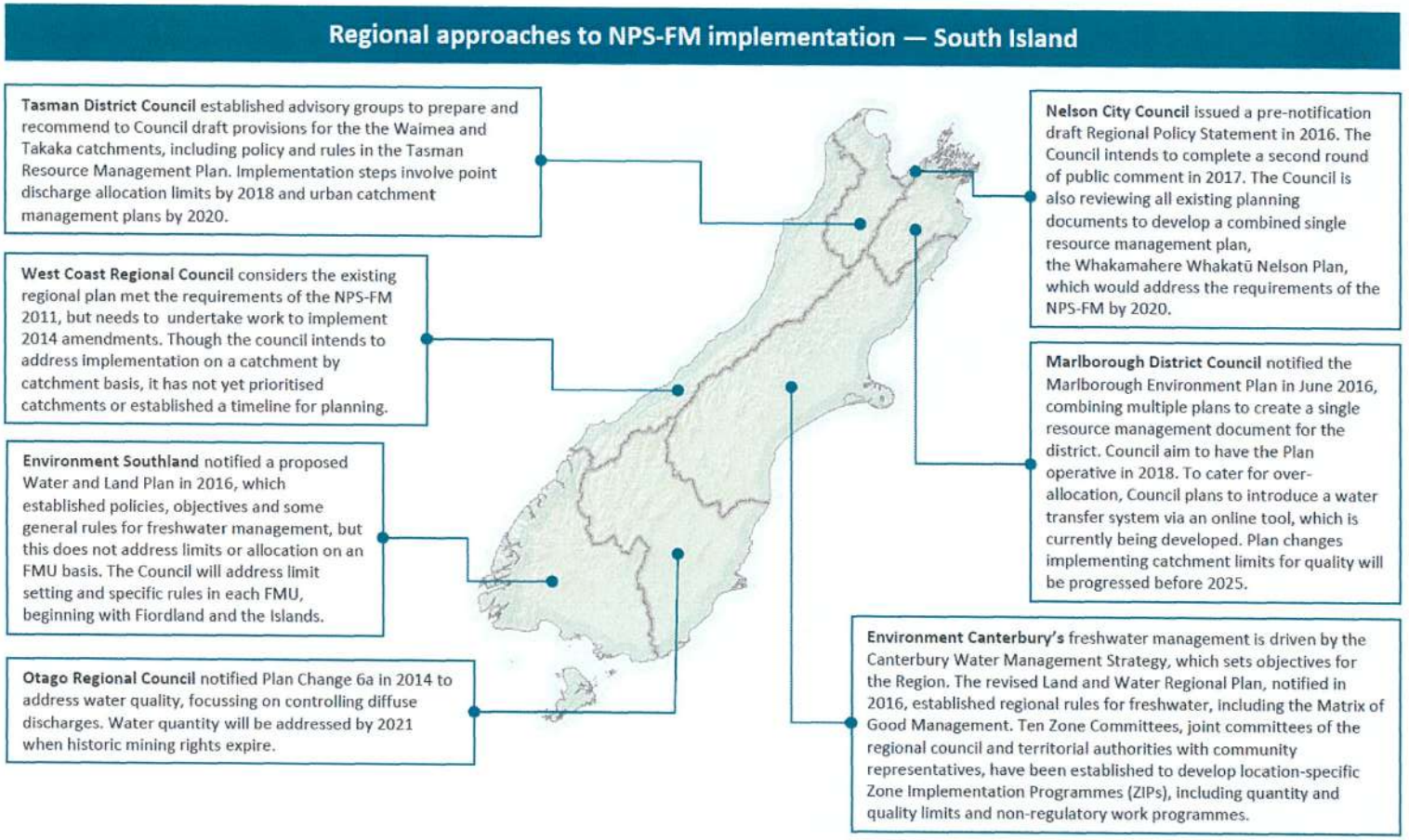
12. Conclusion

Councils are required by the RMA to give effect to the NPSFM. Regional councils around the country are working on implementation of the NPSFM, many investing significant amounts of time and energy into addressing the NPSFM's requirements. Many have made significant progress and it is considered that nationally we are moving from a scoping to implementation phase. This has the effect of raising the bar, and increasing public expectations for the management of freshwater.

The RMA also requires all regional planning documents to be reviewed every ten years. The Regional Council will not be able to carry out a successful review of the operative Land and Water Plan without more work being carried out to address the requirements of the NPSFM. The NPSFM has a number of deadlines associated with expected levels of progress. Given the amount of work required to implement the NPSFM within stipulated timeframes, including the need to work with Poutini Ngāi Tahu and engage with communities, the need to start work in this area is becoming urgent as it will be a lengthy process.

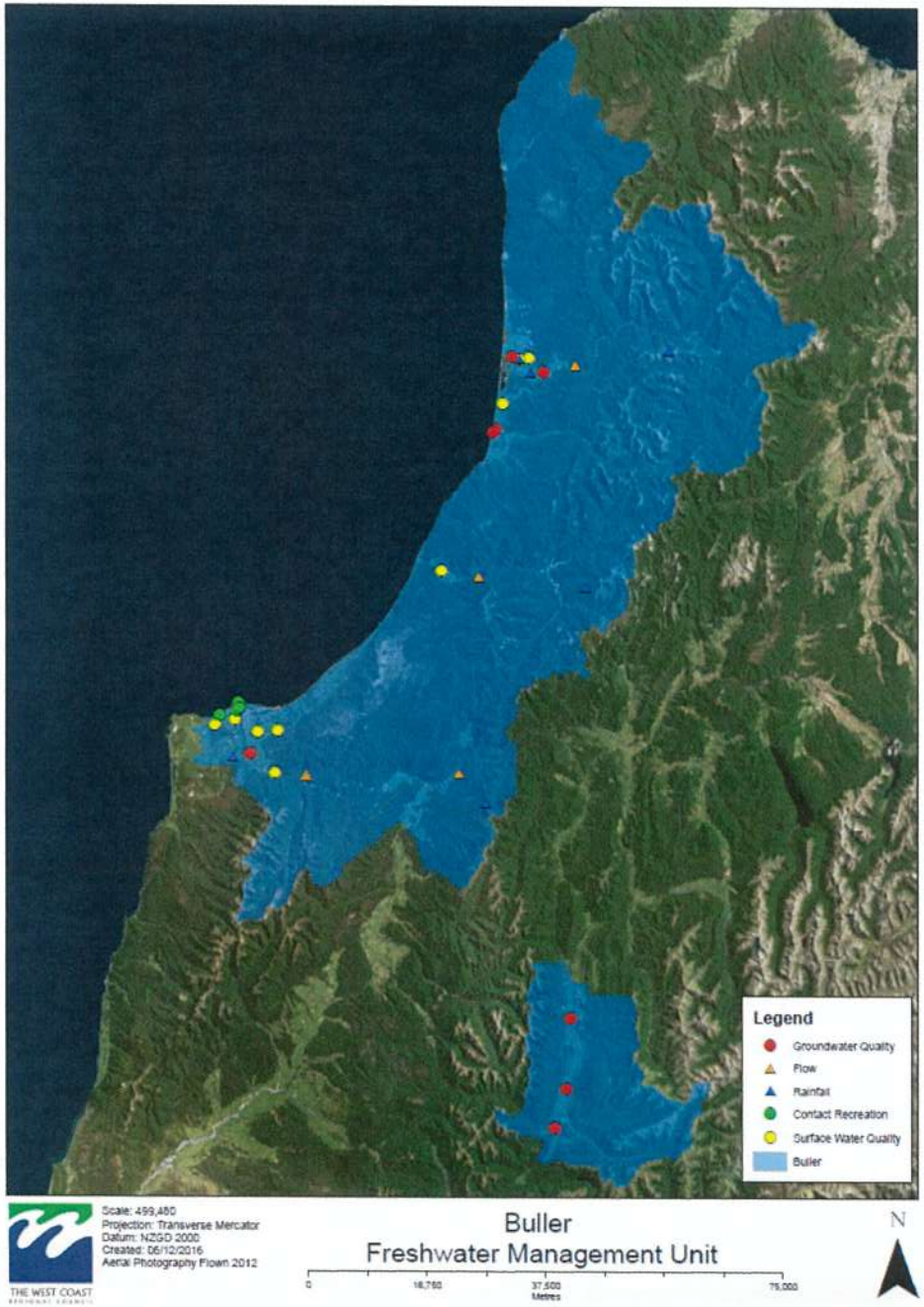
Based on our existing monitoring programme we understand the majority of our rivers to be healthy, with a smaller number that require improvement. It is important to note that the NPSFM does not allow any FMU to deteriorate significantly from its current state, regardless of its current state and community ambitions. Therefore the relatively high quality of our freshwater does not obviate us from our responsibility to implement the NPSFM; but it does mean we have fewer waterbodies that are below national bottom lines and must be improved. We can make sure that our commitment to this process is commensurate with the issues we are facing locally.

Appendix 1: Summary of regional approaches to NPSFM implementation[9]



Appendix 2: Detailed information relating to each Freshwater Management Unit (FMU)

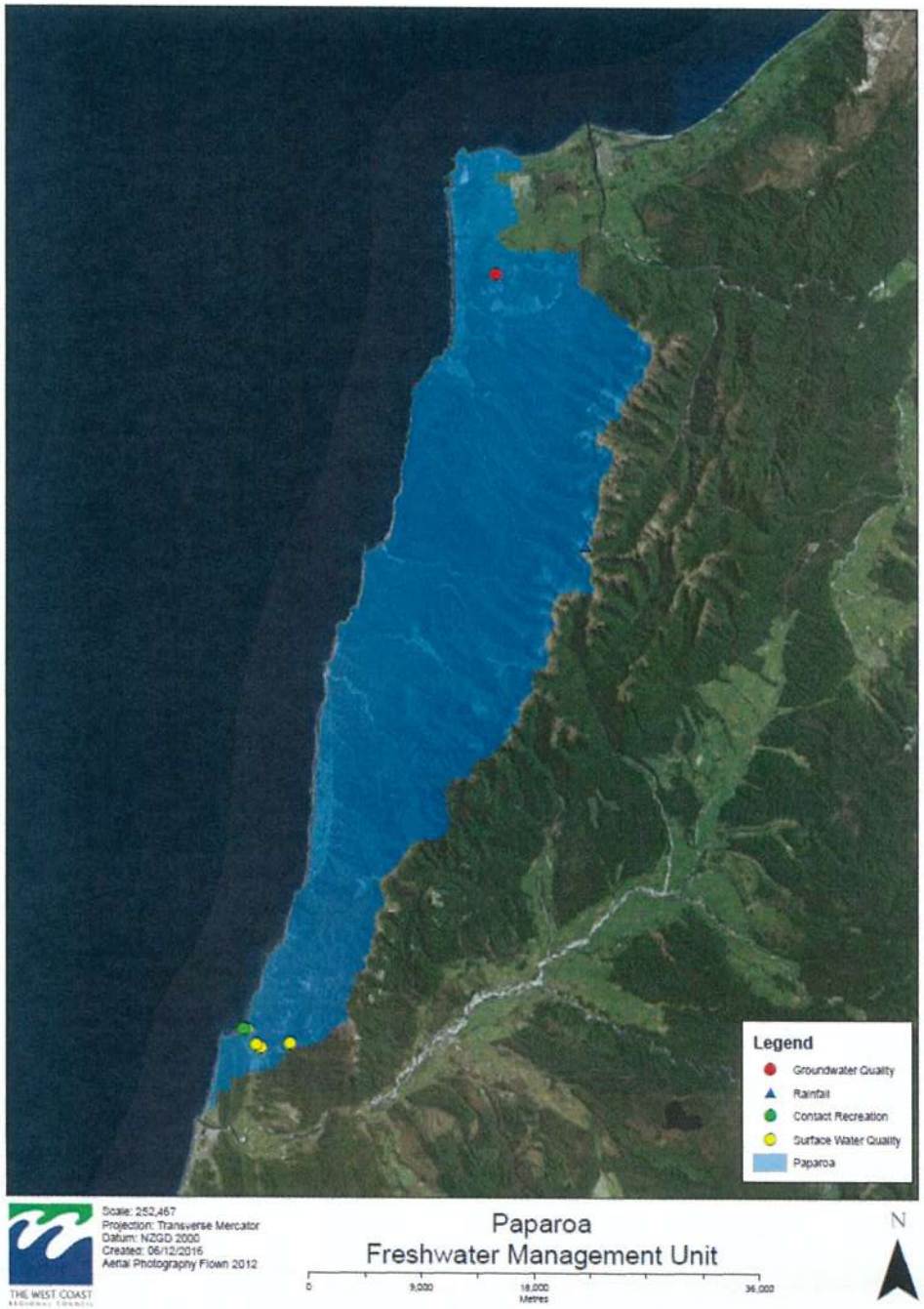
[9] Ministry for the Environment, 2017, 'National Policy Statement for Freshwater Management Implementation Review National Themes Report'



Buller/Kawatiri FMU

This FMU is in the most northern part of the Region and is characterised by its high landscape value and its comparatively untouched and unmodified natural environment. The Buller River/Kawatiri is culturally significant due to it being a well-known travel and birding area. The Tai Poutini coastline is also culturally significant as a major travel route. Mahinga kai maintenance and or enhancement is important in the Buller/Kawatiri FMU. Following South Westland, it is probably the second most popular place within the Region for environmental tourism. It is also expected to be an area where tourism and other recreational activities grow in future. Much of the tourism is based upon water pursuits including rafting, kayaking, jet boating, and fishing and is built on the "clean green" image. However, farming and mining also form part of the current land uses and it is understood that some of these are having a negative impact on water quality (both perception and reality – Bakers Creek, Karamea for example). The Buller FMU has been separated from the Inangahua FMU based on catchment boundary and also different land use pressures (Inangahua being more farming based). This FMU crosses a jurisdictional boundary we share with Tasman RC and is also subject to the Buller River Water Conservation Order.

Information we have: We have a range of data in this FMU including water quality, rainfall, flow and contact recreation. However, given the size of the FMU, this may not be sufficient.

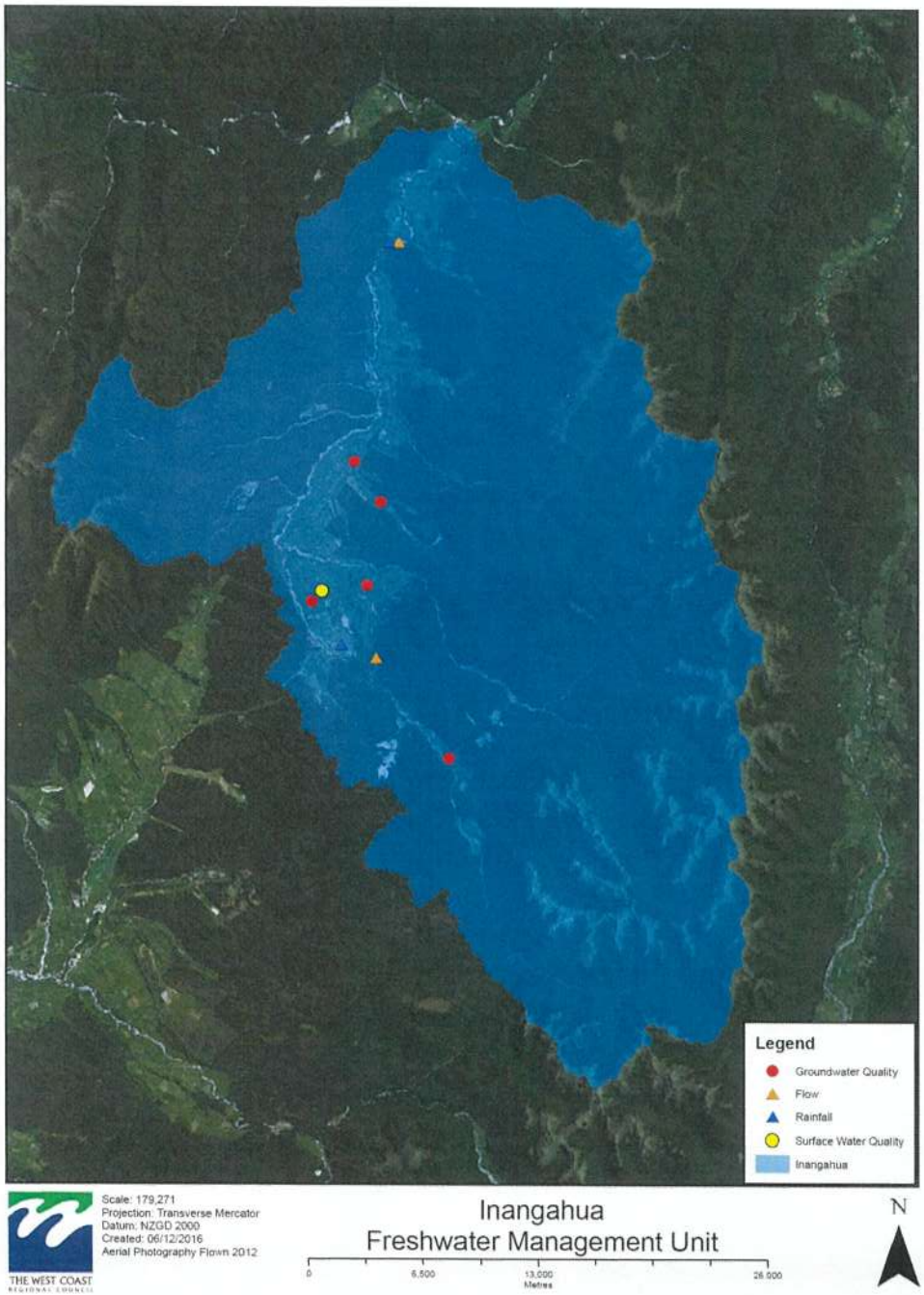


Paparoa FMU

The Paparoa FMU is located on the western edge of the Region. It is separated from the Grey FMU due to its unique climatic and geological conditions and because it forms part of a separate catchment that does not experience the same water allocation issues that are mentioned in the Grey FMU. The Ohikanui River is culturally significant due to it being a well-known travel route. The Tai Poutini coastline is also culturally significant as a major travel route. Mahinga kai maintenance and/or enhancement is important in the Paparoa FMU. The FMU has a reputation as a pristine environment and this reputation is important for tourism, in particular the rafting and kayaking businesses that are located within this FMU because of these values. A number of mines exist in the FMU which result in water quality issues in a few localised creeks. There exist two very obvious conflicts in values - mining and dairy vs natural character and tourism.

Information we have: Comparatively limited. No current flow data. Four SoE SWQ monitoring sites in the Seven Mile Ck catchment. There is some compliance data associated with mining consents.

Information we might need: Lack of general data across this FMU due to the low level of activity in this area. As such, there is likely to be a need for additional data in this FMU.

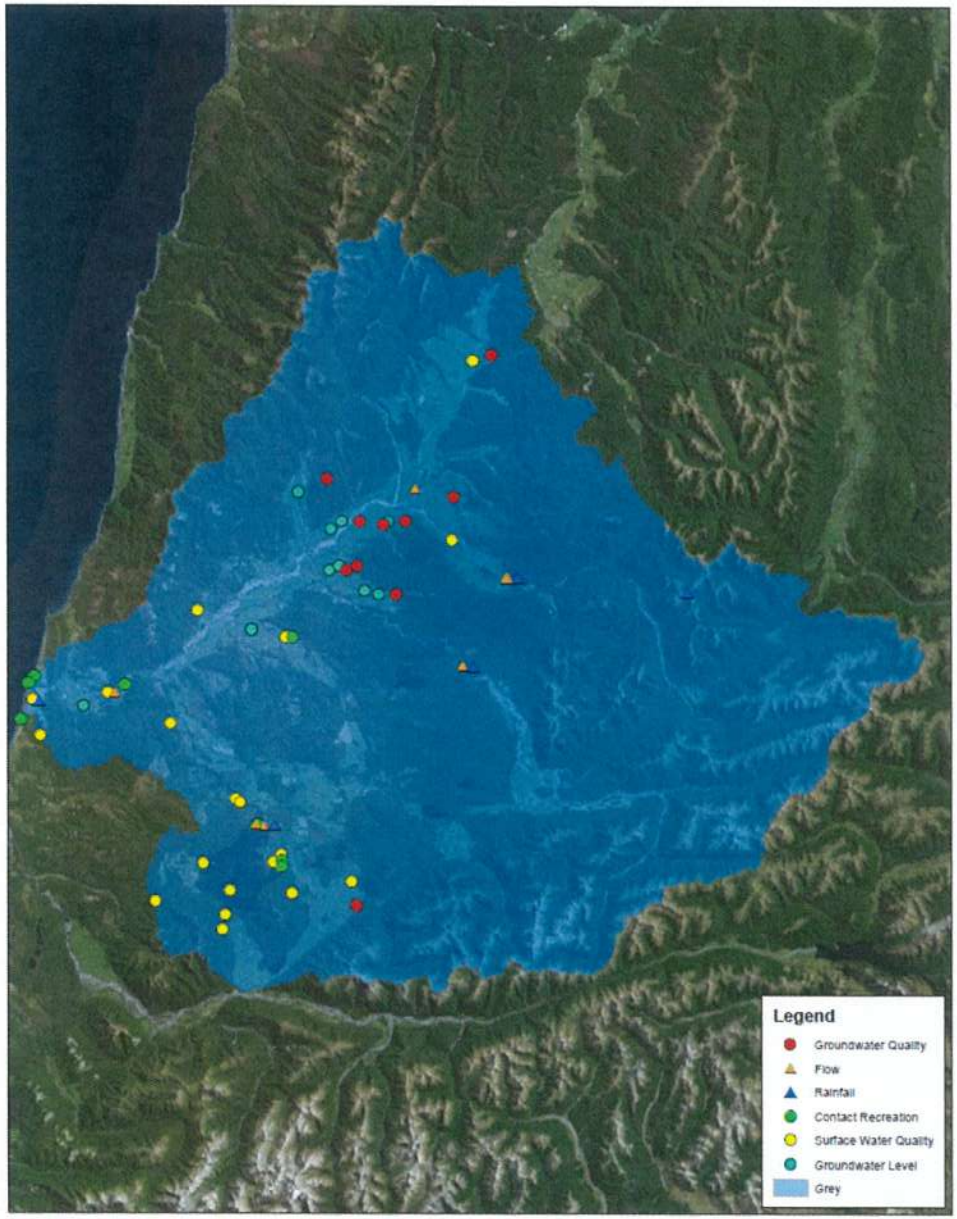


Inangahua FMU

The Inangahua and Maruia rivers are culturally significant travel routes. Mahinga kai protection is important in this FMU. The Inangahua FMU is known for its wealth of minerals (coal and gold), but it also contains a number of dairy farms. Like the Upper Grey Valley, the Inangahua catchment is also understood to experience a degree of seasonal demand for water. The area also has water quality issues associated with historical and current mines and the particular geology of the area. The FMU contains the urban settlement of Reefton which gives rise to some urban water quality issues (including impacts associated with the rubbish tip).

Information we have: Currently limited, but planned expansion of both flow and rainfall monitoring in this FMU. There is some compliance data in this FMU that might be useful.

Information we might need: There are gaps in the SoE water quality monitoring programme that may need to be addressed and there is infrastructure in some locations that could facilitate this.

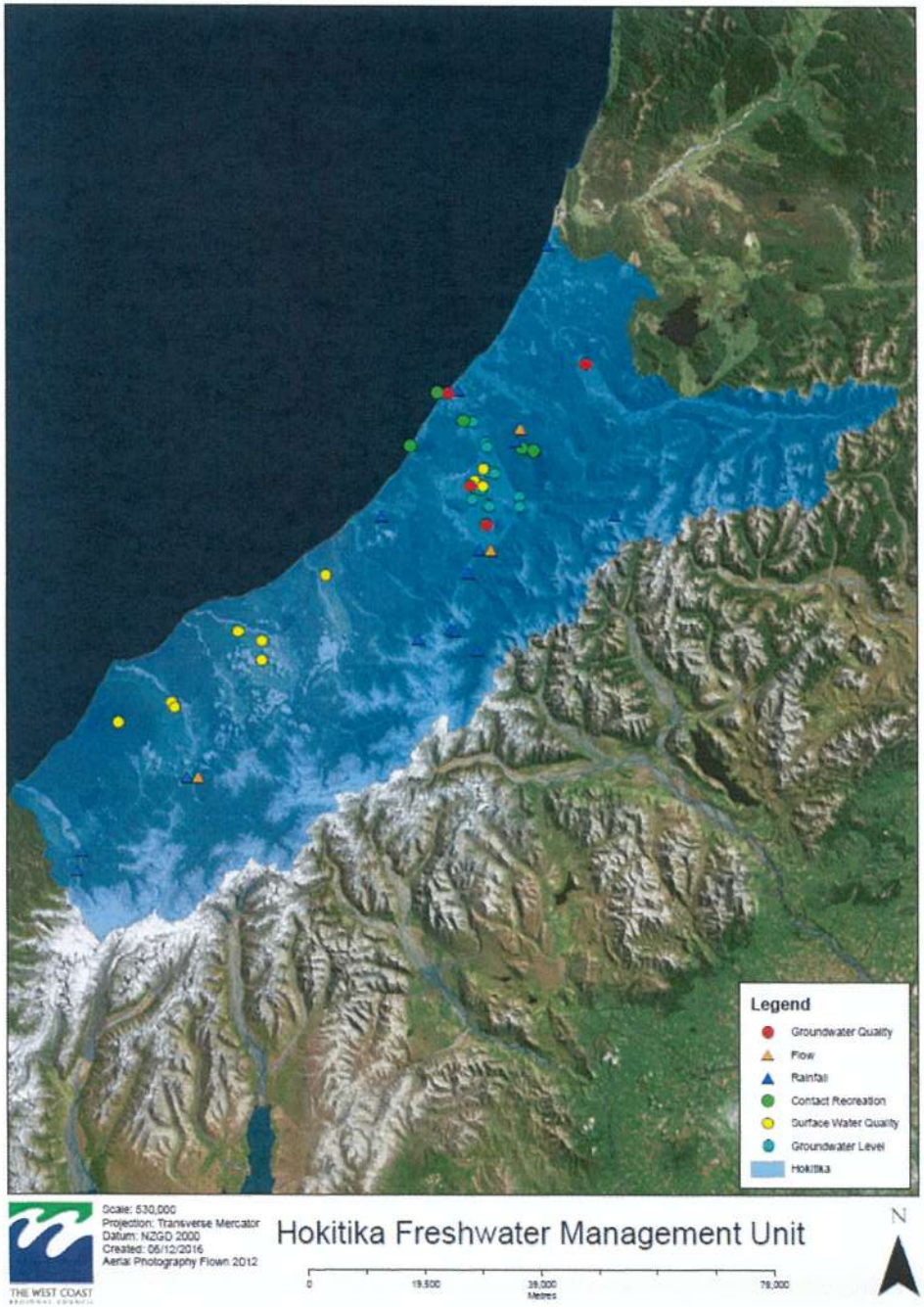


Grey/Māwhera FMU

Of the six FMUs, the Grey/ Māwhera FMU experiences the most intensive activity and is likely to be an area where efforts may need to be focused in future. Not only does it contain the main regional centre of Greymouth and therefore experiences urban water quality issues, it also supports a large amount of farming and the Upper Grey Valley has, in the past, experienced seasonal pressures associated with irrigation. This FMU also includes the Lake Brunner/ Kotukuwhakaoka catchment, where considerable effort has been invested in the past (both regulatory and non-regulatory) to reverse a trend in declining in water quality.

Information we have: Most of our monitoring is carried out in this FMU given the population density and intensity of land use. We also have good information within the Lake Brunner/ Kotukuwhakaoka catchment and CHESS modelling.

Information we might need: None identified at this stage

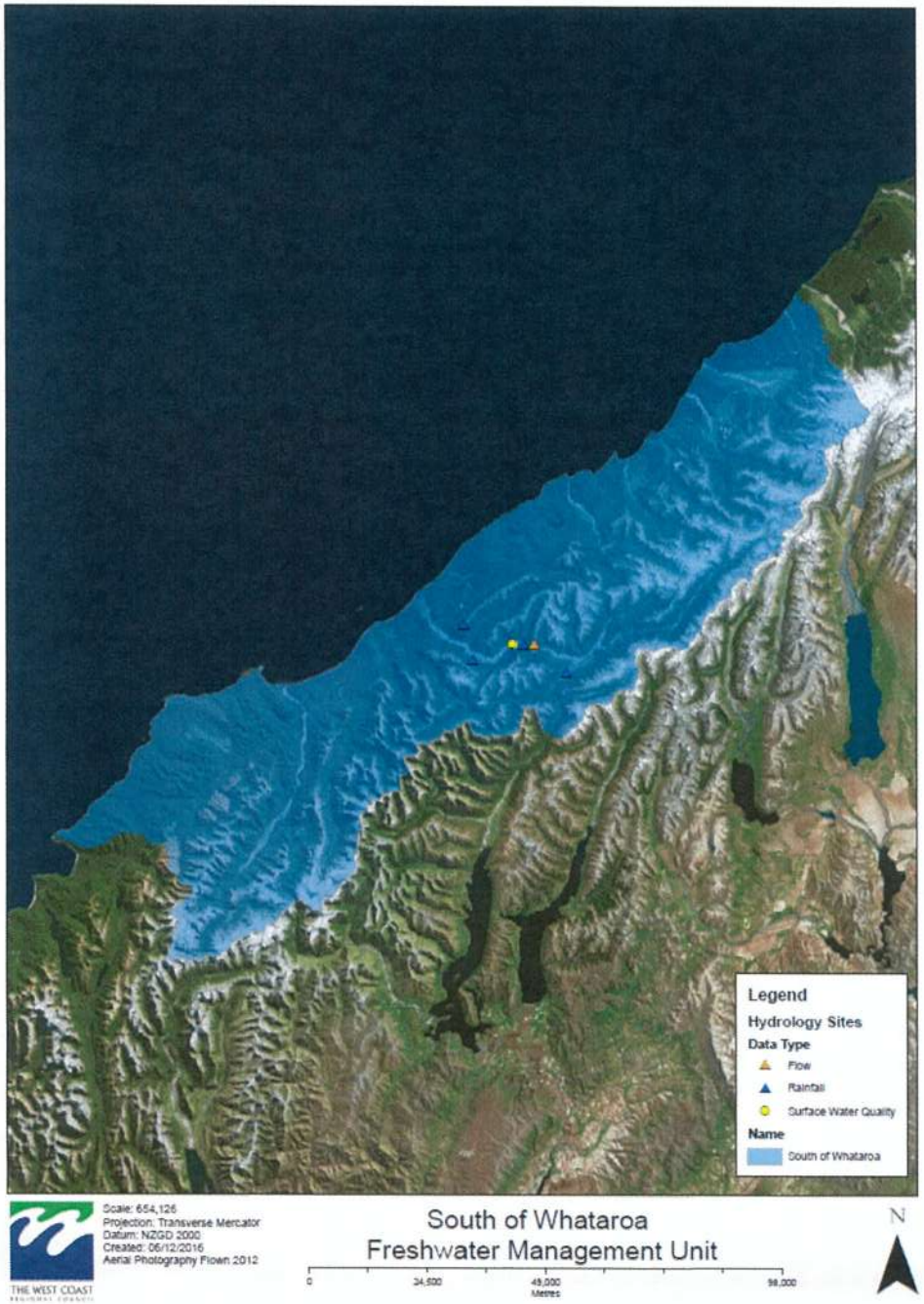


Hokitika FMU

The Hokitika FMU comprises short catchments with high levels of rainfall. This FMU includes the catchment of the Arahura River which was traditionally an important source of pounamu, and remains of immense cultural significance for Ngāti Waewae. Also in this management unit are Lake Kaniere and Lake Mahinapua which are significant to both Ngāti Waewae and Makaawhio. Okarito Lagoon is a significant area for Makaawhio. Comparatively, the Hokitika FMU contains a high proportion of dairy farms, some of which are used intensively. The Westland Milk Products processing plant is located in the town of Hokitika and is the major employer in the area with over 250 staff. It is a cooperative and processes the milk from the more than 350 dairy farms throughout the Region. Toward the southern end of the FMU is the Waitangiroto Nature Reserve which hosts the white heron sanctuary. The FMU experiences some urban water quality issues around the settlement of Hokitika, including sewage and surface water runoff. There are known to be a number of small hydro schemes located within this FMU.

Information we have: Similarly to the Grey/Māwhera FMU, there is a relatively good level of data in this FMU given the higher level of activity. There is also a planned expansion of both the flow and rainfall monitoring programme in this FMU.

Information we might need: None identified at this stage



South Westland FMU

South Westland is the most southern part of our Region and the area with the least development. However, it is also the most widely recognisable part of the Region and its natural features and landscapes are the most frequently visited by tourists. The South Westland FMU contains traditional travel routes, pounamu areas , many wetlands , rivers and lakes and is an important mahinga kai area. This FMU includes the Makaawhio (Jacobs River) which is of immense cultural significance to Kati Mahaki (hapū of Makaawhio Rūnanga). South Westland is the primary environmental tourism destination in the Region, playing host to Franz Josef/ Ka Roimata o Hine Hukatere and Fox/Te Moeka o Tuawe Glaciers and the Westland Tai Poutini National Park. It has the highest percentage of Crown ownership and includes the Te Wāhipounamu South West New Zealand World Heritage Area. This FMU is largely unmodified and lacking in data.

Information we have: There is limited data in this FMU due to the low levels of activity. Historically, NIWA monitored rainfall and flow data (and we retain this information), but much of this monitoring has been

Prepared for:	Resource Management Committee Meeting – 8 May 2018
Prepared by:	Heather McKay – Consents & Compliance Manager & Hadley Mills –Planning, Science & Innovation Manager
Date:	17 April 2018
Subject:	**Gravel Take Project**

Background

Following concerns raised by the Department of Conservation through submissions on the West Coast Regional Council's Proposed Regional Policy Statement (RPS) and Proposed Regional Coastal Plan (RCP), regarding gravel extraction in the lower reaches of rivers potentially contributing to coastal erosion on nearby shorelines, research was commissioned (through Envirolink funding) in early 2017. This work provides a literature review on the issue. NIWA produced the attached report titled 'Assessing the effects of river-gravel extraction on coastal erosion" in August 2017.

The NIWA report in summary concluded that gravel takes can contribute to coastal erosion, although the link is difficult to prove (pg.18). The report also suggests a gravel take volume limit of 10% per year of the bedload of a river and provides a practical framework that could be applied to ensure that gravel takes granted would unlikely have a significant effect on coastal erosion. Council does not however, possess the information to be able to answer all the questions in the decision-tree framework (pg 19) so it is currently of limited use.

In addition, while the NIWA report suggests that gravel takes can contribute to erosion, it still raises many questions and does not provide conclusive evidence that gravel takes are contributing to erosion for West Coast coastal areas. As a preliminary exercise, staff have undertaken an assessment (as at 1 September 2017) of gravel takes on West Coast rivers within identified coastal hazard areas (CHA), to assess which rivers have cumulative consented gravel take in any given year which is in excess of 10% of the bedload. The following rivers/coastal hazard areas were identified as having maximum cumulative consented takes which would exceed the 10% average annual bedload in any given year:

- Granite Creek, Oparara River and Little Whanganui (CHA1: Karamea)
- Mokihinui River (CHA2: Mokihinui)
- Waimangaroa River (CHA3: Hector, Ngakawau, Granity)
- Grey River (CHA17: Cobden)
- New River (CHA19: South Beach to Camerons)
- Taramakau River (CHA20: Taramakau to Arahura)

While the identification of these sites is helpful, they are indicative of issues only, as it is not actually known if there is a direct link between gravel extraction at these sites and nearby coastal erosion. It is important to note that the maximum cumulative consented take, does not mean that this amount of gravel is actually taken in any given year.

The information available thus far, does not provide conclusive evidence to support planning changes or significant consenting changes in regard to gravel takes at present. However it does indicate a potential link, and further Envirolink funding will be sought to seek more investigation in this area before final recommendations on any changes are made.

As a precautionary approach, while further investigations are done, the following approach will be taken for those rivers where consented take exceed 10% bedload and a CHA is identified as being potentially impacted by river gravel supply:

- For renewals or variations to existing consents, the term of consent will be limited to two years or the existing volumes of consented take will be decreased (providing other normal consent processing considerations allow for consent to be granted)
- New applications will be assessed on a case by case basis.

This will allow for continued granting of consents while further research is done and provide some limitations around what will be granted.

RECOMMENDATION

That the report is received

Hadley Mills
Planning Science and Innovation Manager

NIWA
Taihoro Nukurangi

Assessing the effects of river-gravel extraction on coastal erosion

Prepared for West Coast Regional Council

August 2017

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Quality Assurance Statement		
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	Approved for release by:	Jo Hoyle

Contents

Executive summary

This report provides advice and guidance to West Coast Regional Council (WCRC) around assessing the potential effects of river gravel extraction on coastal erosion. The advice is aimed at giving WCRC greater certainty about how to manage gravel extraction in rivers so that the benefits from using the West Coast gravel resource can continue to be obtained in appropriate forms and locations and at a rate which ensures that adverse effects on coastal hazard risks are appropriately managed. It is anticipated that the advice will be reflected in WCRC's RMA planning documents or by other action as needed, and will also be used in resource consent processing.

The work scope included providing a generic overview of the potential effects of river gravel extraction on coastal erosion, including how the effects can develop, and guidance on what information or investigations would help to assess if these effects will be significant. This was developed largely from existing knowledge, but also addressed questions posed by WCRC planners, engineers, and consents staff during a video-conference.

In overview, West Coast beaches are typically formed of sand and gravel, and while the gravel may only form part of a beach it is usually concentrated on the upper foreshore where it serves a very useful role protecting against storm waves – thus depleting a beach gravel stock is a recipe for shore retreat and backshore flooding.

The sources of gravel to West Coast beaches include rivers and erosion of coastal outcrops by waves and slope failure processes. It is considered that gravel supplies to the West Coast rivers are cyclic over several-century time scales, driven by large earthquakes on the Alpine Fault. The coast is currently towards the lower end of this gravel delivery cycle, hence stocks of beach gravel along some segments of the coast are in a relatively diminished state and these coasts are eroding. For this reason, the current supply of river gravel to the coast may be 'precious' in regard to replenishing beach stocks continually reduced by abrasion and longshore transport and so maintaining the natural protective functions of the shore. Another good reason for preserving beach sediment stocks (and their sources) as much as possible is to mitigate the effects of rising sea level. The rate of sea level rise is expected to accelerate in the coming decades, and most shores are expected to erode as a consequence.

The extent and timing of the effect of a river gravel extraction operation on gravel delivery to the coast depends on the extent that the extraction site is 'connected' to the coast and how far upstream it is. Only connected gravel pathways will induce coastal effects, and these effects will be more delayed and diffused over time the further upstream the extraction site is. However, extraction at a site tens of kilometres upstream from the coast can still have a significant coastal impact, even if its signal is delayed and diffused. If the site is close to the coast, even a short phase of extraction may cause a substantial albeit temporary reduction in the gravel delivery to an adjacent beach, increasing the risk that the beach backshore may experience erosion and/or flooding.

When assessing the potential effects of any particular river gravel extraction proposal on coastal stability, the fundamental consideration is the impact of the extraction on the sediment budget of the coast adjacent to the river mouth. This can be broken down into estimating: (i) the impact on the river gravel load delivered to the mouth, then (ii) the river load contribution to the beach sediment budget.

Assessing the impact on the gravel load delivered to the river mouth should consider: the delivery of the load from the extraction site to the river mouth; the proportion of the load passing the extraction

site that is intercepted by the extraction; the term of the extraction; the distance from the coast; and the cumulative effects of multiple extractions on the same river, whether current or past. Assessing whether the river gravel load makes a significant contribution to the beach sediment budget is straight-forward where information on the coastal gravel budget estimates exists, however, this is rarely the case and so geomorphic evidence is required. The last step is assessing the coastal hazard associated with any increased risk of coastal erosion due to the river gravel extraction. Elevated scrutiny should automatically be given to cases where rivers discharge gravel to existing Coastal Hazard Areas.

Guidelines and "rules-of-thumb" are provided for each step of these assessments, and a decision-tree is provided for deciding if impacts are likely to be significant.

Beyond the guidance provided in this report, there does not appear to be any national scale guidance directed at assessing coastal effects of river gravel extraction. Information on the topic appears to be limited to case examples where river gravel extraction (or at least reduced gravel load) has been considered a contributing factor to coastal erosion.

1 Introduction

1.1 Background

West Coast Regional Council (WCRC) manage gravel extraction from the West Coast's rivers. A potential effect of such extraction, particularly when taken from the lower (near coast) reaches, is on erosion of the adjacent coast.

Currently, WCRC staff who issue consents for river gravel extraction generally do so by comparing the scale of the gravel take with an appreciation of the gravel load of the river (consent is generally granted if this ratio is small). While this pays implicit regard to the impact on coastal gravel delivery, there is currently no explicit mechanism to determine if there is likely to be an effect of riverbed gravel extraction on coastal erosion.

The Department of Conservation (DOC 2016) has submitted on WCRC's Proposed Regional Policy Statement (WCRC 2015) and Proposed Regional Coastal Plan (WCRC 2016), seeking policy modifications to manage potential effects of gravel extraction in the lower reaches of rivers on coastal erosion.

WCRC are therefore considering whether this is an issue that requires further policy direction and/or can be managed through existing processes with improved guidelines, and have sought technical advice from NIWA to inform on these questions.

1.2 Aims and anticipated uptake pathway

The advice is aimed at giving WCRC greater certainty about how to manage gravel extraction in coastal reaches of rivers so that the benefits from using the West Coast gravel resource can continue to be obtained in appropriate forms and locations and at a rate which ensures that adverse effects on coastal hazard risks are appropriately managed.

It is anticipated that the advice provided will be reflected in WCRC's RMA planning documents or by other action as needed. Guidance on how to determine if a riverbed gravel take will affect coastal erosion will be used in resource consent processing. When applying the guidance, if this indicates that there is no, or a low, risk of coastal erosion from riverbed gravel extraction, the activity can continue to be enabled in the appropriate planning documents. If the guidance shows there is a risk of gravel extraction contributing to coastal erosion, WCRC can then decide what action needs to be taken to avoid or reduce the risk of the activity contributing to coastal erosion.

1.3 Work scope and program

The advice sought by WCRC includes:

- A generic overview of the potential effects of river gravel extraction on coastal erosion on the West Coast, including how the effects can develop, and guidance on what information/investigations would help to assess if these effects will be significant.
- Answers to specific questions posed by WCRC planners, engineers, and consents staff.

The work was desktop-based and included a teleconference with WCRC staff, held on 10 April 2017.

1.4 Acknowledgements

The work was funded by an Envirolink Small Advice Grant (Contract 1758-WCRC159). Lillie Sadler coordinated the project for WCRC. We also thank WCRC staff Sarah Jones, Paulette Birchfield, Brendon Ross, Oliver Varley, Gerald McCormack, Rachel Clark, Sandra Cox, Tony Ridge, and Wayne O'Keefe for contributing to the videoconference.

2 What are the potential effects of river gravel extraction on coastal erosion on the West Coast?

West Coast beaches are typically formed of sand and gravel, and the gravel usually concentrates on the upper foreshore – either mixed with coarse sand or separated in the form of a shingle ridge[1] - while the lower beach and nearshore is typically flatter and sandy. Gravel also makes beaches steeper and more wave-reflective, and so gravel ridges provide a good natural protective barrier to storm waves at high tide. Thus, while it may only form part of a beach, gravel serves a very useful purpose, and depleting the beach gravel stock is a recipe for shore retreat and backshore flooding.

The sources of beach gravel include rivers and shore erosion. On the West Coast, the erosion of sea cliffs formed from outcrops of Pleistocene moraine or alluvial deposits delivers 'ready-made', rounded gravel, but erosion of other rock-types (e.g., landslides off limestone or granite cliffs) also contributes gravel-grade material. Rivers certainly provide the main supply of gravel on the long spans of low-lying coast (where there is no cliff erosion). On the coast, the gravel is generally moved alongshore northward by the prevailing westerly swell, and in the process is worn down by abrasion.

The supply rate of river gravel to the coast is influenced by catchment size, steepness, rainfall, rock-type, and tectonic and geomorphic history. Gravel generation in the steep, mountainous headwaters is strongly influenced by earthquake-triggered landslides, while its evacuation from the mountains is driven by flood runoff from heavy rain. Gravel delivery to the coast may fluctuate at 100-1000 year time scales from cycles of aggradation and down-cutting on alluvial fans at the toes of the mountains and along the valleys connecting to the coast. It is currently considered that gravel delivery to the West Coast is towards the lower end of the delivery cycle, since it has been some 300 years since the last major earthquake on the Alpine Fault. In that context, stocks of beach gravel along some segments of the coast (e.g., Rapahoe-Punakaiki, Granity-Hector) are in a relatively diminished state and these coasts are eroding as a consequence (e.g., Hicks 2014, Allis 2016).

In such situations, the current supply of river gravel to the coast may be 'precious' in regard to replenishing beach stocks continually reduced by abrasion and longshore transport and so maintaining the natural protective functions of the shore.

Another good reason for preserving beach sediment stocks (and their sources) as much as possible is to mitigate the effects of rising sea level. The rate of sea level rise is expected to accelerate in the coming decades, and most shores are expected to erode as a consequence.

As detailed in the following section, the extent, timing, and 'shape' of the effect of a river gravel extraction operation on gravel delivery to the coast depends on the extent that the site is 'connected' to the coast and how far upstream it is. Only connected gravel pathways will induce coastal effects, and these effects will be more delayed and diffused over time the further upstream the extraction site is. To understand the mechanism behind this, consider that extraction off a gravel bar (over, say, a few months) will create a 'hole' which will be filled by gravel brought from upstream by subsequent floods. While this restocking is occurring, the bar will supply less gravel downstream, and so the 'hole' will diffuse downstream to the next bar and so on. As this happens the 'hole' also spreads out over a longer reach. If the extraction site is many kilometres upstream from the coast, then the effect on the coastal gravel delivery will be delayed and buffered over time, but if the site is close to the coast (e.g., upstream of the SH6 bridge over the Fox River), it may mean a temporary but

[1] Gravel is "combed" up on the foreshore by the asymmetry of waves – which produces a shorter but more intense up-wash.

substantial reduction in the gravel delivery to an adjacent beach – which will increase the risk that the beach backshore may experience erosion and/or flooding.

It should be noted that while the effects of reduced river sediment loads on shore erosion are typically expected to be downdrift[2] from river mouths, they can also be felt updrift. A good example is at the Mokihinui River mouth, where the river has built a wave-dominated delta. The delta acts as a "soft groyne" that traps sand and controls the width of beach on the southern (updrift) side of the river (just like Gentle Annie Headland further north acts as a "hard groyne" that traps sediment moving off downdrift from the Mokihinui River mouth). NIWA investigations of the proposed Mokihinui HEP dam (Hicks et al. 2007) predicted that the Mokihinui delta would retreat after the dam intercepted most of the river's supply of sand and gravel, and in consequence the beach shoreline on its southern flank would also retreat.

It is also of note that where a river's bed is aggrading, gravel extraction can have the beneficial effect of mitigating the aggradation and reducing flooding hazards. In such cases, potential negative effects of extraction on coastal erosion may require balancing against positive local effects in-river.

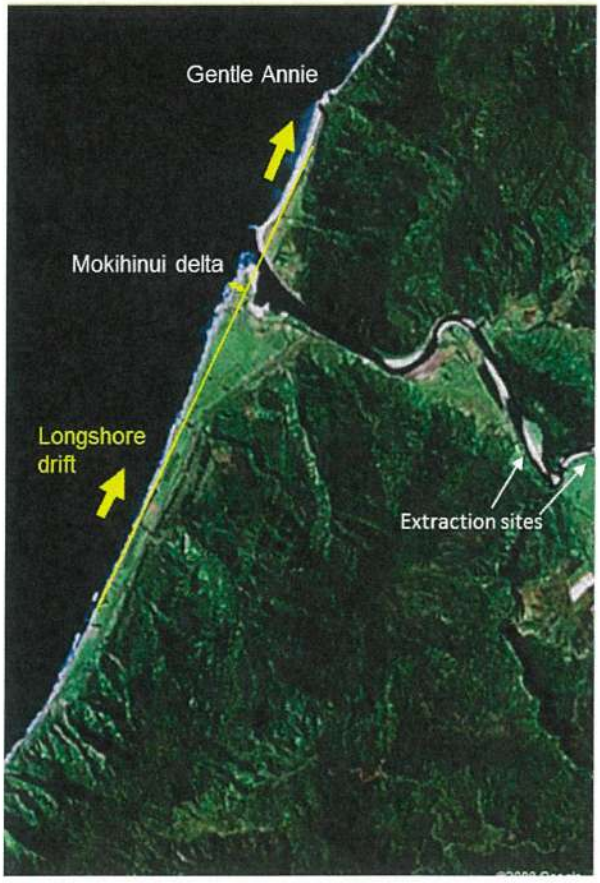

Figure 2-1: Mokihinui River mouth. The wave-dominated delta at the Mokihinui River mouth traps littoral drift sand moving alongshore from the south, stocking the beach south of the river mouth. Yellow line indicates extent of shoreline extension by river delta. Reducing the river's sand and gravel load will 'flatten' the delta and cause the beach to the south to be trimmed back (potentially to yellow line).

[2] Downdrift refers to the net direction of wave-driven littoral (or longshore) drift along a coast. A beach downdrift from a river will receive sediment from the river. A beach updrift from a river may have sediment passing along it that passes the river. On the West Coast, the net longshore transport direction is south to north, so the downdrift shore is to the north of a river mouth.

3 Factors to consider when assessing the potential effects of river gravel extraction on coastal erosion

This section outlines what information/investigations can help to assess if the effects of a river gravel extraction operation will be significant. Fundamentally, the effect to consider is the impact of the river gravel extraction on the sediment budget of the coast adjacent to the river mouth. This can be broken down into estimating: (i) the impact on the load delivered to the mouth, then (ii) the river load contribution to the beach sediment budget.

3.1 Impact on the gravel load delivered to the river mouth

This should consider several things:

- the delivery of the load from the extraction site to the river mouth
- the proportion of the load passing the extraction site that is intercepted by the extraction
- the term of the extraction
- the distance from the coast, and
- cumulative effects of multiple extractions.

3.1.1 Gravel delivery from extraction site to river mouth – Geomorphic setting

The gravel load transported by a river out of the mountains may not be the same as what it delivers to the coast, indeed, often the coastal delivery is less. This is because of gravel deposition at places where the transport capacity wanes, typically at slope breaks and/or coming out of valley-confinement (e.g., alluvial fans – e.g., Waiho fan) or the intersection of alluvial fans with coastal plains (where there may be a gravel/sand transition – e.g., Waimakariri River). The gravel load is also reduced downstream by abrasion (which is sensitive to rock-type). In some instances, the load can increase towards the coast (e.g., lower Ashburton River, which drops its gravel load on the upper Canterbury Plains but it recovers gravel by incising into the lower plains because its slope has been increased by coastal retreat).

Therefore, it is important that the geomorphic setting of the river span between the extraction site and the coast is appreciated. Resources for doing this include Google Earth, Maptoaster (or other digital topographic maps), cross-section surveys, and field knowledge. Typical questions to ask around this span of river are:

- Is the extraction reach aggrading (e.g., is it on an alluvial fan that is accumulating at the slope break between the mountains and the coastal plain – such as the Waiho River at Franz Josef)? If so, then the river's gravel load will be reducing downstream, and the impact of the extraction on the coastal gravel delivery will be proportional, not absolute. Are there cross-section surveys or is there field evidence that quantifies this?
- Is there a gravel/sand transition upstream of the mouth (typically marked by an abrupt slope reduction and a change from braided to narrow, meandering planform)? If so, then there will be no gravel connection with the coast.

- Does it stay braided (or at least semi braided) to the coast, and/or is its slope at least around 1 m/km? If so, then full delivery of the gravel load can be assumed.
- Does the river steepen, is it incised through old alluvial terraces, and does it emerge onto a retreating coast? If so, the load likely increases downstream, and extraction from upstream of the slope change likely has less proportional impact on the supply to the coast.
- Does the river deposit its gravelly bedload in a large estuary, with little if any being delivered to the coast (at least over 'planning' time scales)? If so, then the rivers gravel load does not connect with the coast.

3.1.2 Extraction rates compared with gravel load passing the extraction site

A crude estimate of the mean gravel load passing the extraction site can be made assuming that this equates to a small percentage (e.g., 10 per cent) of the mean annual suspended load passing the site. The mean annual suspended load can be estimated from empirical models, for example that of Hicks et al. (2011), which was calibrated for the West Coast Region using data from West Coast rivers[3]. This model can be accessed from NIWA's Rivermaps tool at https://shiny.niwa.co.nz/nzrivermaps.[4]

The river gravel mass load (t/yr) can be converted to a bulk-volumetric load (to equate with extraction volumes) by assuming a bulk gravel density of 1.8 t/m^3. For example, for the Hokitika River past Hokitika, the estimated suspended load is ~ 6.2 million t/yr, thus the gravel bedload ~ $6.2 \times 10^6 \times 0.1 / 1.8 = 340{,}000$ m^3/yr.

If the proposed extraction exceeds, say, 10 per cent of the estimated mean annual bedload, then the downstream effects should be considered[5].

Sometimes only part of the river's bedload is targeted for extraction. For example, WCRC staff commented that extraction their rivers generally focussed on material finer than 250 mm unless specifically taken for crushing. This raises the question of possible side-effect of size-selective extraction on bed-material supply and mobility. River bedloads (and the supply to the coast) are dominated by the finer fractions of the material found in the bed. Targeting only the finer fractions may leave an overly coarse armour layer, which may hinder gravel resupply from within the bed – which would be important in a situation where the river secures a significant part of its bedload from its own bed (e.g., Ashburton River on Canterbury coast). Conversely, taking too much of the armour may "loosen-up" the bed and actually increase the gravel load – at least for a short time. The effects of size-selective extraction should be considered on a case-by-case basis.

3.1.3 Term of extraction, distance from coast, and extraction holidays

The term of the intended extraction should be considered along with the volumetric extraction rate. For example, taking the equivalent of the mean annual gravel bedload for just one year may be assumed to cause similar effect to the time-averaged budget downstream as taking 10 per cent over

[3] Note that the Hicks et al. (2011) estimator only estimates the long-term average suspended load. It does not predict temporal variability in load due to transient events such as landslides triggered by earthquakes or extreme rainstorms.

[4] In Rivermaps: select West Coast region; select National Estimates tab; select sediment load from the Select variable type tab. The load is given in t/yr at any selected reach.

[5] The 10% threshold provided here is partly arbitrary in that it is not supported by any particular case studies. Nonetheless, it is set conservatively low in allowance that the estimate of the gravel bedload could be in error by up to a factor of around 4 (due, for example, to a x2 uncertainty in the suspended load estimate compounded by another x2 uncertainty in the gravel load / suspended load ratio). In such a case, the extraction could potentially amount to 40% of the actual gravel load even if estimated to be only 10%. WCRC may care to raise this threshold if they wish, but the risk of a 'false negative' impact will increase.

10 years. This allows that the annual sediment load of a river typically ranges by up to about a factor of 10 year by year[6] (simply as a consequence of hydrological variability), and thus the effect of a single year's extraction should cause no more short-term impact than typical annual variability does, while the long-term impact will be dampened.

Pursuing this further, consider a river that has a mean annual gravel load of 40,000 m^3/yr. If 40,000 m^3 is taken from a short reach in one year, then that will leave a "hole" to be filled by gravel brought from upstream by subsequent floods. One large flood may quickly fill the hole, but during a dry spell with no large floods it may take several years to fill the hole. In the interim, though, the gravel supply to the reach downstream (and the coast) would not cease because the lower margin of the extraction hole would diffuse downstream, restoring at least a partial gravel supply.

An important factor is the distance of the extraction site from the coast. The above example assumes an adequate span of river downstream of the extraction site to buffer delivery to the coast. However, if the extraction site is close to the coast (e.g., upstream of the SH6 bridge over the Fox River), then there will be minimal buffering. In that case, the effect of the extraction hole could propagate along shore from the river mouth – depleting beach gravel stocks and potentially exacerbating an erosion phase. Thus large, short term takes should be avoided for sites close to the coast – even if the impact on the long-term budget is small.

A reasonable "rule of thumb" to balance term and take (at least for sites more than several km upstream from the coast) would be to consider the gravel take insignificant if the average annual extraction rate over 10 years does not exceed 10 per cent of the estimated mean annual bedload. For example, if 20 per cent of the load was taken every year over five years, then the river would need to be given a holiday for another five years to meet the 10-year average criteria and recoup its gravel stocks.

Similar logic should be applied when setting consent durations. On the New Zealand east coast, where there is a high demand for gravel and there are concerns around coastal gravel supply and stability (e.g., southern Hawkes Bay), then ten years would be regarded as a long consent period and shorter consents are common. On the West Coast, the maximum term should scale inversely with the potential effects but should still be restricted to a maximum of ten years. This will be long enough to provide surety of supply but will also allow flexibility to deal with factors such as accelerated coastal erosion due to rising sea level.

3.1.4 Cumulative effects of multiple extractions

The effect of individual extractions should be considered in the context of (i) other concurrent extractions elsewhere along the same river and (ii) the history of extraction. The effects of multiple gravel takes will have a spatially cumulative impact on the coastal gravel delivery, while deficits in gravel supply to the coast can accumulate over time. So, for example, it would not be a good idea to consent any extraction from a river that has recently been over-extracted. Thus, when assessing potential effects, extraction should be accumulated (and averaged) over space (multiple sites) and time (to account for legacy effects from past extractions).

[6] For example, Hicks (2016) found that the annual sediment load of the Arawhata River ranged over a factor of 7.7.

3.1.5 Monitoring

Monitoring datasets can also inform on the potential downstream effects of gravel extraction. River extraction effects monitoring is best done near the source, i.e., by monitoring river bed levels around the extraction site. Unless extraction continues over decadal time scales, chasing an extraction signal downstream and along the coast will likely be difficult because of spatial diffusion and time lags in the gravel supply deficit against background "noise" from floods and coastal storm events. If extraction produces no significant change in mean bed levels at the extraction site (say more than 0.2 m degradation), then it is unlikely that it will have a significant impact on gravel exports. Clearly, an extensive, regularly-surveyed network of cross-sections set up to help manage river bed levels and flood capacity (e.g., as monitored by Environment Canterbury on the Waimakariri River) would be ideal, but the reality is that such networks are expensive to maintain and are rare on the West Coast.

3.2 The importance of the river load to the coastal sediment budget

If the analysis outlined in Section 3.1 suggests that the river's gravel load connects with the coast and the take will cause a significant (say 10 per cent) reduction in the time-averaged gravel delivery to the coast (or a reduction of the order of the annual load in any single year – as per the Fox example), then the next step is to evaluate the potential impact on the coast. The things to be considered are:

- the coastal beach gravel budget
- the configuration, character and stability of the coast up- and down-drift from the river mouth, and
- the assets and infrastructure potentially at risk from shore erosion.

3.2.1 Coastal beach gravel budget

Coastal sediment budgets are useful for establishing if spans of beach shore are stable, accreting, or eroding. The budget accounts for sediment sources (rivers, wave-driven littoral drift from alongshore, rocky backshore erosion, shells) and losses (littoral drift away from the beach, wind-blow inland, abrasion, offshore transport). As discussed in Section 2, while gravel may only form part of a beach, by being concentrated on the upper foreshore it serves a very useful purpose in protecting the shore against storm waves, and thus depleting the beach gravel stock is a recipe for shore retreat and backshore flooding.

Where gravel budget estimates exist, then the relative contribution of the river to the total gravel supply should be assessed. If the river is a significant source (e.g., supplies more than, say, 20 per cent), then any significant reduction in the river's gravel load due to extraction should be of concern. Unfortunately, there are few locations on the West Coast where gravel budgets have even been estimated, let along established reliably[7]. Thus geomorphic evidence is required to assess the relative importance of a particular river's gravel load to the adjacent coast. Again, a key resource for geomorphic assessment of the coastal setting is aerial or satellite imagery (e.g., from Google Earth), but field knowledge and coastal profile or shoreline surveys are also important.

[7] One example where a gravel budget has been estimated is for the Hokitika River. Hicks (2003) estimated that the coarse sand and gravel supply from the Hokitika River to the beach fronting Hokitika township was ~ 190,000-390,000 m^3/yr, while Gibb (1987) estimated that 230,000-250,000 m^3/yr of gravel and coarse sand was transported northward alongshore past Hokitika above the MLWS level – which suggests that the Hokitika River is the dominant source of foreshore sediment at Hokitika.

3.2.2 Coastal configuration, character and stability

The first consideration is the coastal configuration and character at the river mouth. Questions to ask include:

- On a long span of beached coast or in a long embayment, does the shoreline trend bulge seaward at the river mouth (showing a wave-dominated delta planform)? If so, then the river likely contributes a significant beach sediment supply to the local beach sediment budget, and reducing its sediment load may lead to erosion both downdrift and updrift of the river mouth (e.g., Hokitika River, Mokihinui River – see Figure 2-1).
- Is the river mouth in an embayment bound by relatively short headlands, is there a reasonably well-stocked beach updrift from the river mouth, and/or is there a spit across the river mouth (probably from the south side)? If so, then the river is likely a subordinate source of beach sediment compared with the littoral drift supply (e.g., Pororari River and Punakaiki River – see Figure 3-1).
- Is the river mouth in the downdrift shelter of a large rocky headland and has a beach immediately north of it? If so, then the location is unlikely to be nourished by littoral drift from the south (in such situations, littoral drift is likely to bypass the river mouth on the inner shelf) and the river is likely the dominant source of beach sediment (e.g., Mahitahi River and Fox River – see Figure 3-2). If there is no beach north of the river mouth then it is not a significant beach sediment source.
- Is there any evidence that the shore adjacent to the river mouth is eroding - such as evident from historical aerial/satellite imagery (e.g., Google Earth historical imagery), photogrammetry-based shoreline mapping, beach profiles, geomorphic features such as erosion scarps, anecdotal knowledge? If so, then any reduction in river beach sediment delivery is likely to exacerbate the erosion.

3.2.3 Coastal assets

The consequences of any shore erosion/flooding exacerbated by river gravel extraction will depend on what assets (e.g., buildings) or infrastructure (e.g., roads, utilities such as sewage, power, or water lines) lie in the coastal hazard zone.

Areas on the West Coast with assets already considered at some risk from coastal hazards have been mapped into Coastal Hazard Areas (NIWA 2012, WCRC 2016 Schedule 3C, Table 3-1), thus any extraction from rivers within or adjacent to a Coastal Hazard Area should automatically be subject to elevated scrutiny.

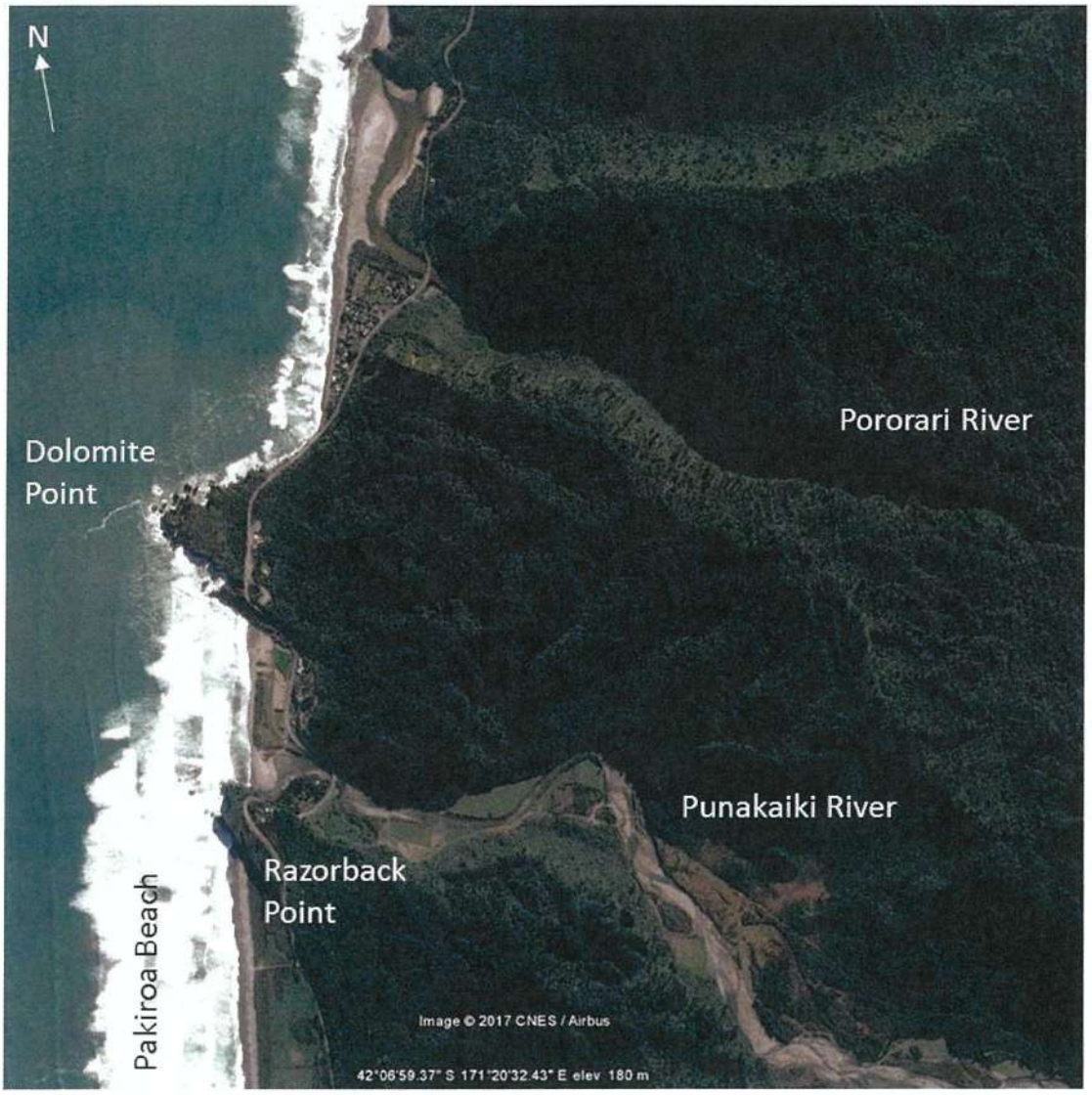

Figure 3-1: Punakaiki and Pororari River mouths at Punakaiki. The Punakaiki River has semi-braided gravel channel connecting to the coast, but its beach is separated from Pakiroa Beach by only a short headland (Razorback Point) and there is a spit across the river mouth, suggesting it is dominantly stocked by littoral drift from the south. Nonetheless, the shore fronting Punakaiki Village north from Dolomite Point is retreating, hence significant extraction from the Punakaiki River would not help this situation. The Pororari River appears to carry relatively little gravel load and its mouth is spanned by a spit built from the south, indicating the main beach sediment source is littoral drift passing Dolomite Point.

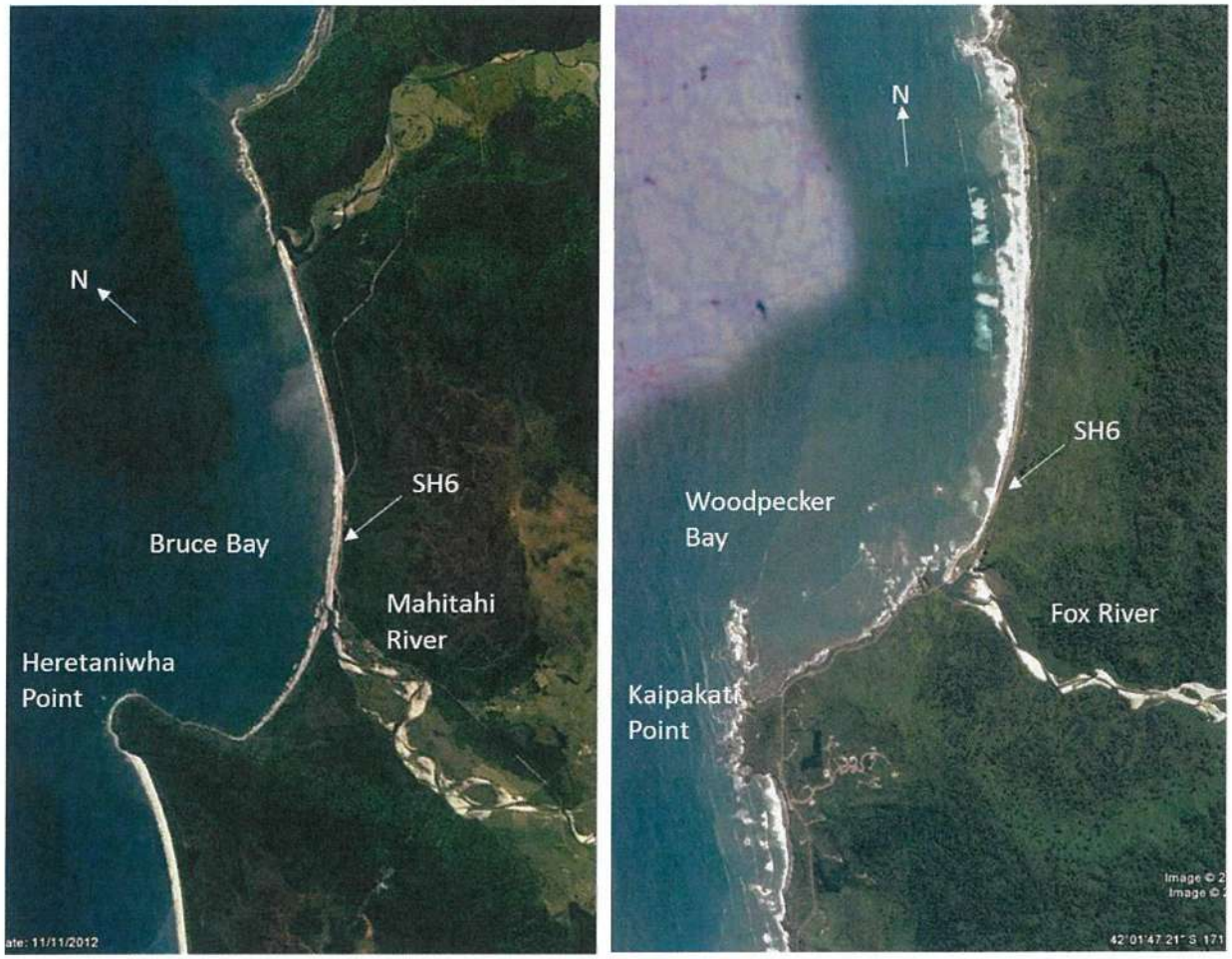

Figure 3-2: Mahitahi River and Fox River mouths. Both rivers have semi-braided channels connecting their gravel loads to the coast and their mouths are located close downdrift (north) of a large headland (that likely diverts littoral drift offshore from the river mouth), thus they likely are dominant sediment sources for the beaches to their north. Also, SH6 runs along the low backshore of both so is vulnerable to any erosion. Thus extracting significant proportions of their gravel loads should be avoided, particularly at Fox River where the only access is close to the mouth.

Table 3-1: Coastal Hazard Areas on the West Coast, identifying those potentially vulnerable to reduced river gravel exports. From NIWA (2012).

Coastal hazard area	Location	Potentially impacted by river gravel supply?
CHA 1	Karamea	✓
CHA 2	Mokihinui	✓
CHA 3	Hector, Ngakawau and Granity	✓
CHA 4	Orowaiti Lagoon	
CHA 5	Carters Beach	
CHA 6	Omau	
CHA 7	Tauranga Bay	
CHA 8	Nine Mile Beach	
CHA 9	Little Beach	✓
CHA 10	Woodpecker Bay	✓
CHA 11	Maungahura Point to Meybille Bay	
CHA 12	Punakaiki Village (Pororari Beach)	✓
CHA 13	Punakaiki River Beach	✓
CHA 14	Pakiroa (Barrytown) Beach	
CHA 15	17 Mile Bluff to 10 Mile Creek	
CHA 16	Rapahoe	
CHA 17	Cobden	✓
CHA 18	Blaketown to Karoro	✓
CHA 19	South Beach to Camerons	✓
CHA 20	Taramakau to Arahura	✓
CHA 21	Hokitika	✓
CHA 22	Ōkārito	
CHA 23	Hunts Beach	✓
CHA 24	Bruce Bay	✓
CHA 25	Okuru to Waiatoto	✓
CHA 26	Neils Beach	✓

4 Guidance for assessing effects of extraction on coastal erosion

The questions posed in Sections 3.1 and 3.2 have been collated into a decision-tree for assessing effects of extraction on coastal erosion (Figure 4-1).

A worked example is provided here for the lower Mokihinui River (Figure 2-1). The consented gravel extraction totals 15,000 m^3/yr from four sites over the next 5 years. Based on my previous work for the Mokihinui HEP investigations using a bedload formula with channel hydraulic and substrate size data, I estimated that the Lower Mokihinui's bedload is approximately 20,000 m^3/yr. The consented extraction amounts to 37.5% of this if the 5 years of extraction are averaged over 10 years, thus the extraction amounts to a substantial portion of the bedload. Moreover, the gravel load connects to the coast (there are no aggrading reaches in between), and the coast is known to be eroding on both sides of the river mouth and is a Coastal Hazard Area. Thus, this extraction ticks all the "yesses" on Figure 4-1, leading to the conclusion that significant coastal effects are likely to result from this extraction.

We are not aware of any other New Zealand guidance specific to river gravel extraction that includes coastal effects. While river gravel extraction is covered in the River Managers Guide e-book (NIWA 2010), the page on coastal effects in that document is empty.

This lack of national guidance likely reflects a general difficulty in unequivocally linking coastal erosion to specific causes such as reduced river gravel supply. However, there are a few New Zealand cases where river gravel extraction (or at least reduced gravel load) has been considered a contributing factor to coastal erosion. These include the:

- Tukituki River and Haumoana coastline in Southern Hawkes Bay. This situation is currently under active investigation and management, but the current situation is that extraction has ceased from the lower reaches of the Tukituki River (R Measures, NIWA, pers. comm.).
- Waipara and Kowai Rivers and Amberley Beach, Pegasus Bay in North Canterbury. Excessive gravel extraction in the Kowai and Waipara Rivers has been linked to erosion of Amberley Beach at the north end of Pegasus Bay in Canterbury. This beach changed from a trend of historical accretion to erosion coincident with the extraction and required artificial beach nourishment (Geotech Consulting 2000, Environment Canterbury 2012).
- Waitaki River and coast, South Canterbury. Dams and HEP-related damping of the natural flood regime have reduced the delivery of gravel from the Lower Waitaki River to its mouth, and this is acknowledged to have contributed to increased erosion of the South Canterbury coast (Hicks 2011). While unrelated to gravel extraction, this nonetheless provides an example of the effects of reduced coastal gravel delivery.
- Motueka River and Tasman Bay. There has been concern that gravel extraction in the Motueka River has contributed to erosion of the Tasman Bay coast, and it has certainly contributed to lowered river bed levels (Fuller et al. 2014).

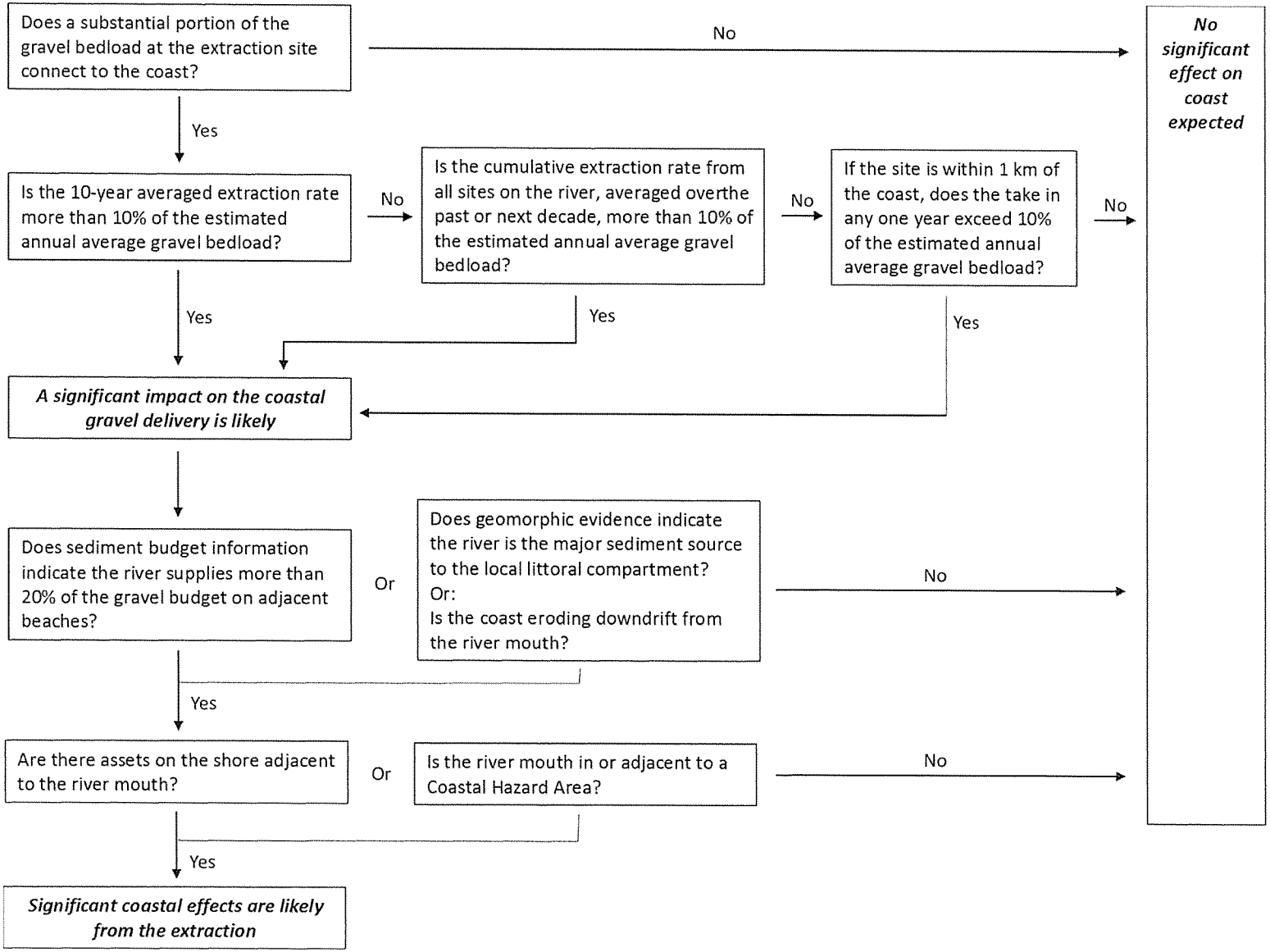

Figure 4-1: Decision-tree for assessing if river gravel extraction could have significant effects on coast.

5 Conclusions

The main conclusions from this investigation are as follows:

- West Coast beaches are typically formed of sand and gravel which is sourced at least in part from rivers. While the gravel may only form part of a beach, it is usually concentrated on the upper foreshore where it protects the shore against storm waves. Depleting a beach gravel stock is a recipe for shore retreat and backshore flooding. Another good reason for preserving beach sediment stocks (and their sources) is to mitigate the effects of rising sea level, which is expected to accelerate in the coming decades and most shores are expected to erode as a consequence.
- The extent and timing of the effect of a river gravel extraction operation on gravel delivery to the coast depends on the extent that the extraction site is 'connected' to the coast and how far upstream it is. Only connected gravel pathways will induce coastal effects, and these effects will be more delayed and diffused over time the further upstream the extraction site is. If the site is close to the coast, even a short phase of extraction may cause a substantial albeit temporary reduction in the gravel delivery to an adjacent beach, increasing the risk that the beach backshore may experience erosion and/or flooding.
- When assessing the potential effects of any particular river gravel extraction proposal on coastal stability, two key considerations are: (i) the impact on the load delivered to the mouth; and (ii) the river load contribution to the beach sediment budget. Assessing the impact on the gravel load delivered to the river mouth should consider: the delivery of the load from the extraction site to the river mouth; the proportion of the load passing the extraction site that is intercepted by the extraction; the term of the extraction; the distance from the coast; and the cumulative effects of multiple extractions on the same river, whether current or past. Assessing if the river gravel load makes a significant contribution to the beach sediment budget is straight-forward where information on the coastal gravel budget exists, however, this is rarely the case and so geomorphic evidence is required. The last step is assessing the coastal hazard associated with any increased risk of coastal erosion due to the river gravel extraction, and extra scrutiny should automatically be given to cases where rivers discharge gravel to existing Coastal Hazard Areas.
- Beyond the guidance provided in this report, there does not appear to be any national scale guidance directed at assessing coastal effects of river gravel extraction. However, there are several case examples where river gravel extraction (or at least reduced gravel load) has been considered a contributing factor to coastal erosion.

6 References

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THE WEST COAST REGIONAL COUNCIL

Prepared for: Resource Management Committee Meeting 8 May 2018
Prepared by: Emma Perrin-Smith, Senior Surface Water Quality Technician
Date: 27 April 2018
Subject: Contact Recreation Water Quality Sampling Update

The West Coast Regional Council carries out regular sampling for faecal indicator bacteria (*E.coli* or Enterrococci) at popular contact recreation sites over the summer period, from November through to March. Sampling is currently undertaken at 18 locations, twice per month, with 5 sites this season being sampled weekly – Buller River at Marrs Beach, Buller River at Shingle Beach, Grey River at Taylorville Swimming Hole, Nelson Creek at Swimming Hole Reserve and Lake Brunner at Moana. The table below presents the results of sampling for this season.

In the last round of sampling Buller River at Marrs Beach and Grey River at Taylorville Swimming Hole were in the low risk category following heavy rainfall in the week prior to sampling. Sampling has now been completed for the 2017/18 summer monitoring season.

SITE	Nov	Nov	Nov	Nov	Dec	Dec	Dec	Jan	Jan	Jan	Jan	Jan	Feb	Feb	Feb	Feb	Mar	Mar	Mar	Mar
Carters Beach at campground beach access	☺*•		☺*•		😐*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•	
North Beach at tip head road steps	☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•	
Buller River at Shingle Beach	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	😐*•	☺*•	☺*•	☺*•	☺*•
Buller River at Marrs Beach	😐*•	☺*•	☺*•	☺*•	☺*•	😐*•	☺*•	☺*•	☺*•	😐*•	☺*•	☺*•	☺*•	☺*•	☺*•	😐*•	☺*•	☺*•	☺*•	😐*•
Rapahoe Beach at end of Statham St	☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•	
Seven Mile Creek at SH6 Rapahoe	☺*•		☺*•		☺*•		😐*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•	
Nelson Ck at Swimming Hole Reserve	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	😐*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•
Grey River at Taylorville Swimming Hole	☹*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	😐*•	☺*•	☺*•	☹*•	☺*•	☺*•	☺*•	☺*•	☺*•	😐*•
Cobden Beach at Bright Street West end	☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		😐*•		☺*•		☺*•	
Blaketown Beach at South Tiphead	☺*•		😐*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•	
Lake Brunner at Cashmere Bay Boat Ramp	☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•	
Lake Brunner at Iveagh Bay	☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•	
Lake Brunner at Moana	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☹*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•	☺*•
Karoro Beach at Surf Club	☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•		☺*•	
Hokitika Beach at Hokitika	😐*•		☺*•		☺*•		☺*•		😐*•		☺*•		☺*•		☺*•		☹*•		☺*•	
Kaniere River at Kaniere Kokatahi Rd	☺*•		☺*•		😐*•		☺*•		☹*•		☺*•		☺*•		☺*•		☹*•		☺*•	
Lake Mahinapua at Shanghai Bay	☺*•		☺*•		☺*•		☺*•		☹*•		☺*•		😐*•		☺*•		☺*•		☺*•	
Arahura Rv @ SH6	☺*•		☺*•		☺*•		☺*•		☹*•		☺*•		☺*•		☺*•		☺*•		☺*•	

Rainfall past 24hrs	Rainfall past week	
*	•	0-10 mm
*	•	10-30 mm
*	•	30-60 mm
*	•	>60 mm

☺	Very Low Risk	<260 *E.coli*/100ml or <140 Enterococci/100ml
😐	Low Risk	260-550 *E.coli*/100ml or 140-280 Enterococci/100ml
☹	Moderate to High Risk	>550 *E.coli*/100ml or >280 Enterococci/100ml

RECOMMENDATION

That the report is received.

Hadley Mills
Planning, Science and Innovation Manager

THE WEST COAST REGIONAL COUNCIL

Prepared for: Resource Management Committee Meeting - 8 May 2018
Prepared by: Stefan Beaumont – Team Leader Hydrology.
Date: 30 April 2018
Subject: HYDROLOGY & FLOOD WARNING UPDATE

Flood Warning

Site	Time of Peak	Peak level	Warning Issued	Alarm Threshold
Waiho River at SHB	17/04/18 04:45	7344 mm	17/04/18 04:45	7250 mm
Hokitika River at Gorge	17/04/18 06:30	4017 mm	17/04/18 06:10	3750 mm

RECOMMENDATION

That the report is received.

Stefan Beaumont
Team Leader Hydrology

THE WEST COAST REGIONAL COUNCIL

Prepared For: Resource Management Committee – 8 May 2018
Prepared By: Cameron Doake – Biosecurity Officer
Date: 26 April 2018
Subject: **Regional Pest Plant Management Plan**

Purpose
The purpose of this Report is to advise the outcome of the notification of Council's decisions on the Regional Pest Plant Management Plan (RPPMP), and to make this Plan operative.

Background
Decisions on the RPPMP were publicly notified on 16 April 2018. As consultation was undertaken by way of public notification of the proposal with receipt of written submissions, only people who submitted on the proposed plan were eligible to lodge an appeal to the Environment Court. All submitters were notified when the decisions were publicly notified, and at the time of writing this report, no appeals had been received.

Making the RPPMP operative
If no applications for appeal have been received by 7 May 2018, Council is required under the Biosecurity Act to make the RPPMP operative. This is achieved by affixing the Council's seal to the Plan as required under section 77 of the Act. Council is then required to publicly notify the Plan as operative and its commencement date. Council can also withdraw the Regional Pest Plant Management Strategy 2010 as this Plan replaces it.

Implementation of the Plan
As there is a significant difference between the existing Pest Plant Management Strategy and the new Plan, to enable a smooth transition to the new plan staff will:

- Replace the existing Pest Plant Management Strategy with the new Plan on the Council Website.
- Replace the available information around pest plants on the Council website. Updated information sheets have been created for all the pest plants contained within the plan.
- Call a meeting of all interested parties including District Councils, the Department of Conservation, Iwi, and Contractors within the region to highlight rule changes and discuss implementation timeframes.

RECOMMENDATIONS

1. *That the report is received.*
2. *That Council publicly notifies the operative status of the Regional Pest Plant Management Plan 2018-2028 as per Section 77 of the Biosecurity Act 1993; and*
3. *That Council withdraws the Regional Pest Plant Management Strategy 2010.*

Randal Beal
Operations Manager

THE WEST COAST REGIONAL COUNCIL

Prepared for: Resource Management Committee - 8 May 2018
Prepared by: Cassidy Rae – Consents and Compliance Administrator
Date: 26 April 2018
Subject: CONSENTS MONTHLY REPORT

One Consents Site Visit was undertaken 27 March 2018 – 26 April 2018

28/03/2018	RC-2018-0023 Waiho River, Diversion of Channel, West Coast Regional Council	Visit was undertaken with Council engineer and contractors undertaking the work. Works were commenced prior to the consent being granted as emergency works and site visit was to view the progress of the works.

2 Non-Notified Resource Consents were Granted 27 March 2018 – 26 April 2018

CONSENT NO. & HOLDER	PURPOSE OF CONSENT
RC-2018-0024 AJ Cameron Woodstock/Rimu	To undertake earthworks associated with humping and hollowing/flipping/contouring/v-blading activities, Rimu. To undertake land based gravel/rock extraction, Rimu.
RC-2018-0025 TF Condon Mahitahi	To undertake earthworks associated with contouring/flipping activities, Mahitahi.

1 Change to and Reviews of Consent Conditions was Granted 27 March 2018 – 26 April 2018

CONSENT NO. & HOLDER	PURPOSE OF CHANGE/REVIEW
RC-2017-0078-V1 GM & AM Husband The Strand, Okarito	Changes to sewage discharge system, Okarito.

No Limited Notified and Notified Resource Consents were granted 27 March 2018 – 26 April 2018

Public Enquiries

36 written public enquiries were responded to during the reporting period. 32 (88%) were answered on the same day, and the remaining 4 (12%) within the next twenty days.

RECOMMENDATION

That the May 2018 report of the Consents Group be received.

Heather McKay
Consents & Compliance Manager

Prepared for: Resource Management Committee – 8 May 2018
Prepared by: Heather McKay – Consents & Compliance Manager
Date: 26 April 2018
Subject: **COMPLIANCE & ENFORCEMENT MONTHLY REPORT**

Site Visits

A total of 57 site visits were undertaken during the reporting period, which consisted of:

Activity	Number of Visits
Resource consent monitoring	2
Mining compliance & bond release	15
Complaint/Incident related	10
Dairy farm	30

- A total of 15 complaints/reported incidents were received, with 10 resulting in site visits.

Non-Compliances

Note: These are the activities that have been assessed as non-compliant during the reporting period.

A total of nine non-compliances occurred during the reporting period.

Activity	Description	Location	Action/Outcome	INC/Comp
Earthworks	Council staff observed that earthworks were being undertaken within the Greymouth earthworks erosion control area	Tasman View	The site was investigated and it was found that earthworks were being undertaken to prepare a building site. The activity required a resource consent so the property owner was required to apply for a consent retrospectively.	Incident
Discharge to land	Complaint that someone has done land development which has caused the stormwater runoff to increase resulting in a public road culvert not coping with the increased flow.	Arahura Valley	The site was investigated and found that the area in question had been humped and hollowed. The property owner has since done remedial work to decrease the flows directed to the culvert.	Complaint
Discharge to water	This incident relates to a Council compliance officer observing that a creek was discoloured with sediment.	Notown Grey Valley	The site was investigated and established that a gold mining operation had an unauthorised discharge of sediment laden water. The operator had undertaken remedial work and ceased the discharge at the time of the inspection. Enquiries are ongoing awaiting analysis of the water samples taken during the inspection.	Incident

Dairy Effluent	Compliance inspection establishes that a dairy farm has not completed its effluent system upgrade as required by its resource consent.	Inchbonnie	Enquiries are ongoing	Incident
Dairy Effluent	Compliance inspection establishes that a dairy farm has not completed its effluent system upgrade as required by its resource consent.	Inchbonnie	Enquiries are ongoing	Incident
Dairy Effluent	Compliance inspection establishes that a dairy farm has not completed its effluent system upgrade as required by its resource consent.	Rotomanu	Enquiries are ongoing	Incident
Dairy Effluent	Compliance inspection establishes that a dairy farm has not completed its effluent system upgrade as required by its resource consent.	Rotomanu	Enquiries are ongoing	Incident
Dairy Effluent	Compliance inspection establishes that a dairy farm has not obtained a producer statement regarding its effluent system upgrade as required by its resource consent.	Rotomanu	The Council has required the farmer to supply the document.	Incident
Dairy Effluent	Compliance inspection establishes that a dairy farm has exceeded its consented stock numbers	Ahaura	The farmer will be required to apply for a variation to his resource consent	Incident

Other Complaints/Incidents

Note: These are the other complaints/incidents assessed during the reporting period whereby the activity was not found to be non-compliant or compliance is not yet established at the time of reporting.

Activity	Description	Location	Action/Outcome	INC/Comp
Stock access to water	Complaint regarding cows accessing the Karamea River bed.	Karamea	It was established that there was no breach of the regional rules.	Complaint
Discharge to land	Complaint regarding a truck fuel station discharging diesel to land.	Springs Junction	The site was investigated and at the time of the inspection there were no issues.	Complaint
Discharge to air	Complaint regarding the discharge of smoke from a trade premises that is burning coal.	Westport	Enquiries are ongoing.	Complaint
Discharge of storm water	Complaint regarding the discharge of Stormwater causing issues to a property.	Ross	Enquiries are ongoing.	Complaint

Activity	Description	Location	Action/Outcome	INC/Comp
Flood protection work	Complaint regarding a flood protection structure that may potentially cause an issue to an adjoining land owner.	Taramakau Settlement	Enquiries are ongoing.	Complaint
Works in the bed of a river	Complaint regarding a digger doing works within the bed of a river.	Blackwater	The site was investigated and established that the operator was doing bank reinstatement after a flood event. The activity complied with the relevant rules.	Complaint

Update on Previously Reported Ongoing Complaints/Incidents

Note: This section provides an update on complaints and incidents from previous reporting periods where enquires were not yet complete.

Activity	Description	Location	Action/Outcome	INC/Comp
Rubbish	Ongoing complaint where an old campsite used by Whitebaiters is being eroded into the Mahitahi River.	Bruce Bay	The person responsible for the camp site has been asked to clear the area by 1 May 2018 to prevent further rubbish being eroded into the river during flood events.	Complaint
Discharge to land	Ongoing situation regarding an old dump site that has been uncovered by heavy seas.	Granity	The WCRC and the BDC are working together to find a permanent solution while in the meantime some cleanup of the site has occurred.	Complaint
Discharge to water	Discharge from the Franz Josef Waste Water Treatment Plant	Franz Josef	A further inspection was undertaken to check to see if the un-authorised discharge that had been observed in late March had been remediated. It was established that the discharge was still occurring. An abatement notice was issued to cease the discharge, enquiries are ongoing.	Incident

Formal Enforcement Action

Abatement Notices One abatement Notice was issued during the reporting period.

Activity	Location
Waste Water Treatment Plant – cease unauthorised discharge	Franz Josef

Mining Work Programmes and Bonds

No work programmes were received during the reporting period.

The following bonds were received

Mining Authorisation	Holder	Location	Amount
RC-2016-0138	Brownsgold Limited	Waimea Forest	$12,000
RC-2016-0015	Ross Beach Mining Limited	Goldsborough	$18,000

The following bonds are recommended for release

Mining Authorisation	Holder	Location	Amount
RC12164	Madden Mining Limited	Chesterfield	$18,000
RC12035	TLD Investments Limited	Buller Gorge	$12,000
RC04058	Alan Spriggs	10 Mile	$5,000

RECOMMENDATIONS

1. *That the May 2018 report of the Compliance Group be received.*
2. *That the bonds for Madden Mining Ltd, TLD Investments Limited and Alan Spriggs are released.*

Heather McKay
Consents and Compliance Manager

COUNCIL MEETING

THE WEST COAST REGIONAL COUNCIL

Notice is hereby given that an **ORDINARY MEETING** of the West Coast Regional Council will be held in the Offices of the West Coast Regional Council, 388 Main South Road, Greymouth on **Tuesday, 8 May 2018** commencing on completion of the Resource Management Committee Meeting

A.J. ROBB
CHAIRPERSON

M. MEEHAN
CHIEF EXECUTIVE OFFICER

AGENDA NUMBERS	PAGE NUMBERS		BUSINESS
1.			**APOLOGIES**
2.			**PUBLIC FORUM**
3.			**MINUTES**
	1 – 4	3.1	Minutes of Council Meeting 10 April 2018
4.			**REPORTS**
	5 – 8	4.1	Engineering Operations Report
	9	4.2	Corporate Services Manager's Monthly Report
5.	10		**CHAIRMAN'S REPORT**
6.	11		**CHIEF EXECUTIVE'S REPORT**
7.			**GENERAL BUSINESS**

THE WEST COAST REGIONAL COUNCIL

MINUTES OF THE MEETING OF THE COUNCIL HELD ON 10 APRIL 2018, AT THE OFFICES OF THE WEST COAST REGIONAL COUNCIL, 388 MAIN SOUTH ROAD, GREYMOUTH, COMMENCING AT 11.35 A.M.

PRESENT:

A. Robb (Chairman), N. Clementson, T. Archer, P. Ewen, P. McDonnell, A. Birchfield, S. Challenger

IN ATTENDANCE:

M. Meehan (Chief Executive Officer) R. Mallinson (Corporate Services Manager), R. Beal (Operations Manager), H. Mills (Planning Science and Innovation Manager), N. Costley (Strategy & Communications Manager), T. Jellyman (Minutes Clerk), The Media.

1. APOLOGY:

There were no apologies.

2. PUBLIC FORUM

There was no public forum.

3.1 CONFIRMATION OF MINUTES

Moved (McDonnell / Clementson) *that the minutes of the Council Meeting dated 13 March 2018, be confirmed as correct.*

Carried

Matters arising

Cr Ewen requested that that he had asked that engagement with NZTA and KiwiRail is included in the minutes relating to Kiwi Quarry.

Moved (Ewen / Clementson) *That the above amendment is made to the minutes.*

Carried

Cr Challenger advised that he had a meeting with M. Meehan last Friday to discuss that issues he raised at the last Council meeting.

Cr Archer drew attention to page 2 of the minutes, under the Coastal Erosion report, recommendation 3, he requested that once process is evolved to consents granted, that Council engages with the communities and tells them what has actually been done. M. Meehan advised that engineering staff usually liaise with these communities especially those that are already in a rating district. He advised that these type of matters will be raised via the LTP process to ensure there is a resource in place to work through community liaison issues. Cr Archer stated that it is important that everyone is on the same page and gets the same message as communication is the secret to the whole issue.

Cr Ewen requested that the work "should" is changed to "is" on page 2 of the minutes under the heading "Draft Compliance and Enforcement Policy."

Moved (Ewen / Challenger) *That the above amendment is made to the minutes.*

Carried

REPORTS:

4.1 ENGINEERING OPERATIONS REPORT

R. Beal spoke to this report and advised that work in the Punakaiki rating district has been completed with the tender being accepted at $29,949.
R. Beal reported that the Franz Josef river training work was completed and the river is in the channel. He stated he will have a further report on this for the May Council meeting.
R. Beal advised that Council's River Engineer is working with BDC's Engineer on the bund design for Carters Beach. R. Beal advised that the funding application submitted last year for soft engineering design work has been declined. R. Beal advised that once costs are to hand a further meeting will be arranged with the Domain Board. R. Beal answered questions from Councillors.
Discussion took place on future options for Franz Josef.

Moved (Clementson / Challenger) *That the report is received.*

Carried

4.2 COST SHARING FOR SOUTH ISLAND REGIONAL TRANSPORT COMMITTEE CHAIRS GROUP PROJECTS

N. Costley spoke to this report and took it as read. She advised that Environment Canterbury is the primary contributor followed by Otago and other regions at a lesser level. N. Costley advised that a $5,000 contribution from this Council is being sought in this current financial year to progress some of this work. N. Costley stated that K. Stratful has been very helpful in setting the framework for visitor numbers but there is more that could be done in this space.
Extensive discussion took place on funding. Cr Ewen feels that funding is not equitable and he is concerned that this is a way of funding tourism data and he is not in favour of this. Cr Archer stated that he understands the principle and he shares Cr Ewen's concern about population based funding formula. Cr Archer asked what Council would get in return for funding this. The Chairman advised that all information gathered would be available to Regional Transport Committees which follows through to regional councils. The Chairman advised that Freight Mode Shift is s work stream which is being worked through and includes resilience and access to markets. He stated that this is not just road transport but all types of transport. The Chairman spoke extensively of the benefits of working collaboratively together with South Island organisations. Cr Archer stated that the FAR rate has decreased over the years. Cr Birchfield agreed with Cr Archer's comments. N. Costley advised that the new government is not focussing on roads and is more interested in ports and rail. She advised that if there is scope to target funds in those areas then freight work will lead onto this. She agreed that population based funding is a disadvantage but noted that the West Coast roading network stretches from Karamea to Haast and is significantly longer than any of the other road networks throughout the country. N. Costley spoke of tourism work and advised that this will flow though and raise safety, mobile coverage and this is all part of this project. Extensive discussion took place. Cr Archer stated that he will support the motion, recognising that the $10,000 funding is yet to be determined via the Long Term Plan process. It was agreed that a time limit would be put on the 3rd recommendation of three years and is subject to robust reporting outcomes.

Moved (Archer / McDonnell)

1. *That Council receives this report.*

2. *That Council contributes $5,000 towards projects undertaken by the South Island RTC Chairs Group for the 2017/18 year.*

3. *That Council considers, through the Long Term Plan process, funding $10,000 per year to future projects undertaken by the South Island RTC Chairs Group, for a period of three years and includes robust reporting outcomes.*

Crs Birchfield and Ewen against
Carried

4.3 CORPORATE SERVICES MANAGER'S MONTHLY REPORT

R. Mallinson spoke to this report and advised that this is the eight month financial report. He advised that the surplus is $23,000 for this period and has dropped back from the just over $0.5M reported in December. R. Mallinson outlined the reasons for the decline in the surplus. R. Mallinson reported that total investment income amounted to just under $693,000. R. Beal advised that there is a reasonable chance that VCS will reach the financial target as per the Annual Plan. R. Mallinson explained the short term borrowing to the meeting.

Moved (Ewen / McDonnell) *That the report be received.*

Carried

5.0 CHAIRMANS REPORT

The Chairman spoke to his report. He stated that the One Coast One Voice Draft Strategy campaign has changed to One Coast One Message in order to align messaging for all organisations representing the West Coast.
The Chairman distributed copies of information from the Local Government Commission which is being released today.
The Chairman advised that were no big changes revealed during the recent Visiting Drivers conference call. He stated that training on aeroplanes and new apps were discussed. Cr Ewen commented that he has noticed a lot more direction arrows on roads recently. The Chairman stated that the number of slow vehicle bays are also increasing, as well as rest areas now being developed in better and safer places. He stated that 70% of visiting drivers plan their trips on line prior to departure.
The Chairman spoke of Friday's visit by Hon David Parker. He stated that the Chief Executive, Cr Birchfield and staff attended. RMA matters were discussed, and a further meeting was held with the Mayors and Chairs members. The Chairman stated that the Minister gave a clear message that all districts need to be singing from the same song sheet with regard to economic development to tap into the provincial growth fund and to work together. The Chairman stated that all present were in agreement. He stated that he is hopeful that everyone is now working in the right direction and that there will be some benefits taken from the provincial growth fund. The Chairman spoke of his disappointment with recent media interest lately.

Moved (Robb / Archer) *That this report is received.*

Carried

6.0 CHIEF EXECUTIVE'S REPORT

M. Meehan spoke to his report and spoke of the recent meetings he attended. He stated that the TAG group for Civil Defence that was recently formed has also formed further reference groups.
M. Meehan advised that Minister Parker's primary reason for his visit was in his role as primary decision maker for the Waitaha Hydro Proposal. M. Meehan spoke of matters discussed during Minister Parker's visit, including natural hazards, Franz Josef, coast erosion and planning, appeals and decision making. Cr Archer agreed with M. Meehan's comments. Cr Birchfield stated he was quite happy with Minister Parker's visit apart from his comments relating to sea level rise.

Moved (Archer / Clementson) *that this report is received.*

Carried

GENERAL BUSINESS

Cr Ewen stated that it is important that the possibility of a tourism rate is put to bed now. He stated he is getting a lot of queries regarding this, as there has been no rebuttal from this Council on this matter. Cr Ewen stated that Council is stepping out of its boundaries as an environmental group. The Chairman stated that there is no proposal to discuss but should this matter go into the Annual Plan then any member of the community can ask for this to be considered. Cr Ewen asked where Development West Coast (DWC) got this idea from. The Chairman advised this came from the Third Bearing (consulting group) report, where it was recommended that economic development be moved into DWC along with Tourism West Coast (TWC). Third Bearing's suggestion was that if there was going to be a tourism rate collected it would be best to be collected by the regional council. The Chairman advised this was only a recommendation and does not mean that Council agrees to do it, as

it would still have to be put to the community. The Chairman stated that Third Bearing did some community consultation when they formed their report. M. Meehan advised explained that to avoid any issues DWC would pick up the funding of TWC for the next financial year, then have a conversation with the Councils to see if they need any other rate a conversation would be had and DWC would ask for this. M. Meehan stated that he is not sure where this is at as the district councils have committed to providing the $100,000 per year to TWC. He stated that tourism is included in economic development, he stated there would be some savings with TWC going in with DWC but this would need to be talked about. M. Meehan stated that he feels the open letter from The Chairman went a long way to confirming what has been discussed. The Chairman stated that this matter has been discussed at Mayors and Chairs but as yet there is nothing to put to Council. Cr Archer stated that to him, it looks like everyone is on the same page. M. Meehan stated that community consultation needs to take place prior to any decisions being made.

The meeting closed at 12.36 pm.

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Chairman

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Date

THE WEST COAST REGIONAL COUNCIL

Prepared for: Council Meeting – 8 May 2018
Prepared by: Paulette Birchfield – Engineer, Brendon Russ - Engineer
Date: 24 April 2018
Subject: **ENGINEERING OPERATIONS REPORT**

WORKS COMPLETED AND WORKS TENDERED FOR

Punakaiki Rating District

MBD Contracting Ltd was the successful tenderer for the emergency works at Punakaiki. The work involved the reshaping of the lee-side batter slope of the south end of the Punakaiki Rating District seawall to Mabel Street, placement of geofabric in the worst affected areas, and topping with rubble sized riprap.

In addition, some of the larger rocks were used to fill in minor gaps in the front face of the seawall. The crest of the wall between Mabel Street and Webb Street was rebuilt with rubble. Along this section wave washover had eroded behind the rocks on the front face of the seawall from the retreating swash and the rubble was used to fill the low sections.

In addition to the work above, larger toe-sized rocks were placed at the northern end of the seawall extension to diffract waves from reaching the end of the wall. This will also help to prevent seawater from scouring out an historic channel to the Porarari River.

The total cost, including the additional work was $24,949.

Looking south along Dickinson Parade.

Looking south. Crest reformed and placement of riprap.

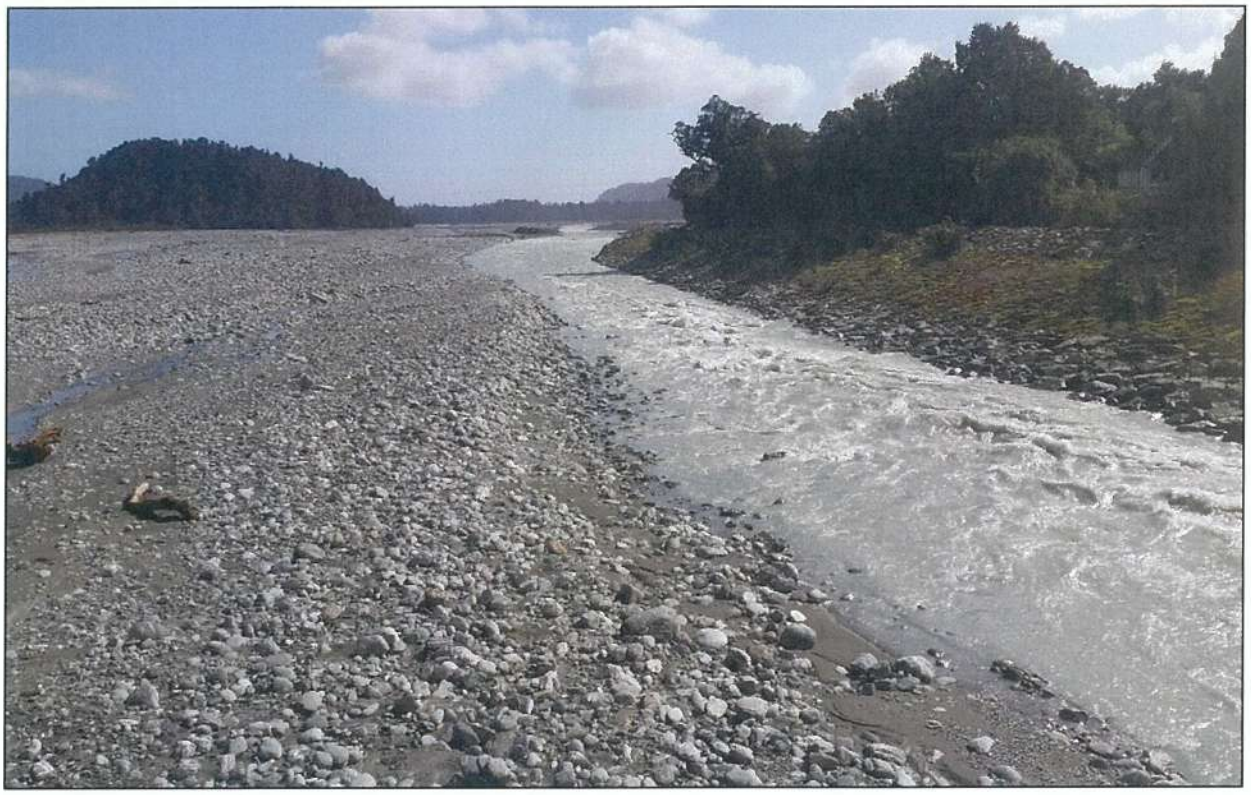
Wanganui River

Emergency works are being carried out on the Wanganui River where the river has cut into a location where the rating district has 2000T of rock stockpiled. A few rocks from the stockpile have already fallen into the river.

To stop the erosion into the stockpile area and rating district stopbank, rock from the stockpile is being used to construct riprap along a currently unprotected section of the stopbank. This is capital works and the property owners who benefit from this work will pay all costs. The remainder of the stockpile will be relocated to a different location and will be resupplied up to a 2,000T stockpile.

Franz Josef Rating District

River training in the Waiho River with the D11 Dozer was completed on 5 April 2018 at a cost of $100,000+GST. Since the completion of this work the river has stayed in the river training channel, there will be ongoing monitoring to measure the cost efficiency and effectiveness of this work as a short to medium term management tool.



ONGOING WORKS

Rapahoe Resource Consent
Consultation with Grey District Council and Department of Conservation has been completed with agreement on the wording for the material to be spread on the beach at Rapahoe. The wording "natural rock material with natural gravels and soil with allowance for vegetation" will be used for the beach nourishment consent application.

Work will now be carried out on the resource consent application and submission.

Granity/Ngakawau/Hector Erosion
No progress.

Buller River Flood Consultation
No progress.

Carters Beach
Surveyors have been engaged to carry out a topographical survey of the existing sand dunes along Carters Beach from Golf Links Road to Bradshaws Road.

Okarito
Surveyors have been engaged to carry out a topographical survey of the existing sand dunes along the airport frontage and along to the end of The Strand.

QUARRIES

Rock movements 1 March 2018 – 31 March 2018

Quarry		Opening Stockpile Balance	Rock Sold	Rock Produced	Closing Stockpile Balance
Camelback	Small/medium	11,943	0	0	11,943
	Large	4,646	0	0	4,646
Whataroa	Small/medium	6,016	0	0	6,016
	Large	11,731	0	0	11,731
Blackball		850	0	0	850
Inchbonnie		11,300	0	15,000	26,300
Kiwi		2,109	0	0	2,109
Miedema		0	0	0	0
Okuru		400	0	0	400
Whitehorse		1,334	0	0	1,334
Totals		**50,329**	**0**	**15,000**	**65,329**

RECOMMENDATION

That the report is received

Randal Beal
Operations Manager

THE WEST COAST REGIONAL COUNCIL

Prepared for: Council Meeting 8 May 2018
Prepared by: Robert Mallinson – Corporate Services Manager
Date: 1 May 2018
Subject: Corporate Services Manager's Monthly Report

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1. Financial Report 1 July to 31 March 2018

This will be circulated electronically later in the week.

2. Investment Portfolio

31 March 2018	Catastrophe Fund	Major Portfolio	TOTAL
Opening balance 1 March 2018	$ 1,058,509	$ 10,973,572	$ 12,032,081
Income	-$ 10,210	-$ 142,292	-$ 152,502
Deposit			
Withdrawl		$ -	$ -
Closing balance 31 March 2018	$ 1,048,299	$ 10,831,280	$ 11,879,579
Total income year to date to 31 March 2018	-$ 10,621	$ 395,064	**$ 384,443**

3. Representation Review

Following the March meeting the Council Representation proposals (no change to existing arangements) were publicly notified with a closing date for submissions of 24 April 2018.
No public submissions were received on Council's proposals. Given that no public submissions were received, the Council proposals are now final.

I will now notify the various parties which include:

- Local Government Commission
- Surveyor General
- Government Statistician
- Remuneration Authority
- Buller District Council
- Grey District Council
- Westland District Council

RECOMMENDATION

That the report be received.

Robert Mallinson
Corporate Services Manager

5.0

THE WEST COAST REGIONAL COUNCIL

Prepared for: Council Meeting- 8 May 2018
Prepared by: Andrew Robb – Chairman
Date: 30 April 2018
Subject: **CHAIRMAN'S REPORT**

Meetings Attended:

- I attended the OSPRI Stakeholders meeting on 19 April.
- I attended the Zone 5 & 6 meeting in Nelson on 20 April.
- The Chief Executive and I met with Hon Jonathon Young on 23 April.
- I attended the Governance Group meeting on 1 May.
- I met with Rodger Findlay, Chairman of the Provincial Growth Fund on 1 May.
- I will be attending the Regional Sector Group meeting in Wellington on 4 May.

RECOMMENDATION

That this report be received.

Andrew Robb
Chairman

THE WEST COAST REGIONAL COUNCIL

Prepared for: Council Meeting 8 May 2018
Prepared by: Michael Meehan – Chief Executive
Date: 30 April 2018
Subject: **CHIEF EXECUTIVE'S REPORT**

Meetings attended:

- I attended the Regional Chief Executives meeting in Wellington on 17 April.
- I met with Grace Hall from LGNZ on 18 April to discuss natural hazards and climate change.
- I met with Bruce Parkes, Deputy Director General for DoC and Mike Shaffrey from MBIE on 18 April.
- The Operations Manager and I met with DoC staff on 20 April to discuss the Katahitanga mo te Taiao Alliance project.
- The Chairman and I met with National Members of Parliament; Jonathon Young, Maureen Pugh and Andrew Falloon on 23 April.
- I took part in the initial meeting for the Local Government Reference Group on the Civil Defence TAG review on 27 April.
- I hosted the West Coast Chief Executives meeting on 30 April.
- I attended the Governance Group meeting on 1 May.
- The Chairman and I met with Rodger Findlay, Chairman of the Provincial Growth Fund on 1 May.
- The Civil Defence Regional Director and I will be attending a meeting with DHB staff to discuss the re-build of the Buller Hospital on 3 May.
- I will be attending the Regional Sector Group meeting in Wellington on 4 May.

RECOMMENDATION

That this report be received.

Michael Meehan
Chief Executive

THE WEST COAST REGIONAL COUNCIL

To: Chairperson
West Coast Regional Council

I move that the public be excluded from the following parts of the proceedings of this meeting, namely, -

Agenda Item No. 8.

12 – 14	8.1	Confirmation of Confidential Minutes 10 April 2018
	8.2	Overdue Debtors Report (to be tabled)
15 – 21	8.3	Quarry Report
	8.4	Response to Presentation (if any)
	8.5	In Committee Items to be Released to Media

Item No.	General Subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 7 of LGOIMA for the passing of this resolution.
8.			
8.1	Confirmation of Confidential Minutes 10 April 2018		
8.2	Overdue Debtors Report (to be tabled)	Privacy of natural person	Clause 7 subclause 2 (a)
8.3	Quarry Report	Commercial Sensitivity	Clause 7 subclause 2 (i)
8.4	Response to Presentation (if any)		Clause 7 subclause 2 (i)
8.5	In Committee Items to be Released to Media		Clause 7 subclause 2 (f) (ii)

I also move that:

- Michael Meehan
- Robert Mallinson
- Randal Beal
- Hadley Mills
- Heather McKay
- Nichola Costley

be permitted to remain at this meeting after the public has been excluded, because of their knowledge on the subject. This knowledge, which will be of assistance in relation to the matter to be discussed.

The Minutes Clerk also be permitted to remain at the meeting.