Committee Members

Chair: Cr Brett Cummings
Cr Andy Campbell
Cr Chris Coll
Cr Peter Ewen
Cr Peter Haddock
Cr Mark McIntyre
Representative Te Rūnanga o Ngāti Waewae
Representative Te Rūnanga o Makaawhio

WEST COAST
REGIONAL COUNCIL

PUBLIC COPY

Meeting of Operations Committee

(Te Huinga Tu)

Tuesday 15 April 2025

Following the completion of the Corporate Services Committee Meeting

West Coast Regional Council Chambers

388 Main South Road, Greymouth

and

Live streamed via West Coast Regional Council's YouTube Channel: @westcoastregionalcouncil5171

Operations Committee Meeting

(Te Huinga Tu)

AGENDA

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D. Lew
Chief Executive

Purpose of Local Government

The reports contained in this agenda address the requirements of the Local Government Act 2002 in relation to decision making. Unless otherwise stated, the recommended option promotes the social, economic, environmental, and cultural well-being of communities in the present and for the future.

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5	**Operations Committee Meeting Minutes - 18 March 2025**
Author	Dearne Thompson, Principal Governance Advisor
Authoriser	
Public Excluded	No

Report Purpose

The purpose of this report is to receive the minutes of the Operations Committee meeting of 18 March 2025.

Recommendation

It is recommended that the Committee resolves to:

1. *Confirm that the minutes of the Operations Committee meeting held on 18 March 2025 are a true and correct record.*

Attachments

Attachment 1: Minutes of the Operations Committee meeting held on 18 March 2025

WEST COAST REGIONAL COUNCIL

MINUTES OF THE OPERATIONS COMMITTEE MEETING HELD ON TUESDAY 18 MARCH 2025 AT THE OFFICES OF THE WEST COAST REGIONAL COUNCIL 388 MAIN SOUTH ROAD, GREYMOUTH, COMMENCING AT 12.51PM

PRESENT: B. Cummings (Chair), A. Campbell, C. Coll, P. Ewen, P. Haddock, M. McIntyre.

IN ATTENDANCE: D. Lew (Chief Executive), J. Field (Group Manager Office of the CE), P. Miller (Group Manager Corporate Services), G. Palmer (Acting Group Manager Catchment Management), C. Mills (Project Accountant), M. Beavon (Business Unit Manager), G. McGlinn (McGlinn Consulting Group), C. Brown (Manager West Coast Emergency Management), K. Renshaw (EMO, Westland), P. Gurney (EMO – Partnerships), P. Blackwood (Chief Engineer – Catchment Management – via Zoom), T. Wyndham-Smith (Principal Communications and Engagement Advisor), D. Thompson (Principal Governance Advisor), S. Hoare (Inovo Programme Manager – via Zoom).

1. Welcome *(Haere mai)*

The Chair welcomed everyone and opened the meeting.

2. Apologies *(Ngā Pa Pouri)*

Moved (Haddock / Campbell) *apologies for F. Tumahai (Te Rūnanga o Ngāti Waewae) and P. Madgwick (Te Rūnanga o Makaawhio) be accepted.*

Carried

3. Declarations of Interest

The Chair called for declarations of interest.

Cr Haddock declared interest relating to Franz Josef and Greymouth.
Cr Campbell declared interest relating to Wanganui.

4. Public Forum, Petitions and Deputations *(He Huinga tuku korero)*

There were no public forums or deputations.

5. Confirmation of Minutes (Whakau korero)

5.1 Minutes of Operations Committee Meeting 18 February 2025

The Chair invited corrections to the minutes of the 18 February 2025 meeting. No corrections were noted.

Moved (Haddock / McIntyre*) that the minutes of 18 February 2025 be accepted as a true and correct record.*

Carried

Matters Arising

There were none.

6. Actions list

The actions list was reviewed and the following updates were noted.

- Item 1 – Complete; in this agenda. Item can be removed from list.
- Item 2 – Ongoing; April meeting.
- Item 3 – Ongoing; April meeting.
- Item 4 – Ongoing; April meeting.
- Item 5 – Complete; item can be removed from the list.
- Item 6 – Ongoing.

Moved (Campbell / Haddock) *that the Council receives the Actions List and noted information.*

Carried

7. Chairs report (verbal update)

The Chair reported on several recent meetings he had attended:

- The Raft Creek meeting which received a proposal to put the rating district into abeyance. The Chair noted this went well and was a good outcome for the rating district, particularly considering the rising costs of insurance.
- The Wanganui meeting, which the Chair felt had a good outcome. There was a positive atmosphere among attendees and good discussions took place.

- Waimea catchment group - the Chair was impressed with the efforts of S. Morgan and J. Horrox and the rest of the team. There was a reasonable turnout and those present expressed interest in continuing and potentially establishing a proper catchment group scheme. The Chair suggested it might be beneficial to include a wider group of people who also have interests in management of the catchment.

Moved (McIntyre / Ewen) *that the Council receives the Chairs update.*

Carried

8. Reports

8.1 Monthly Catchment Management Report

D. Lew presented the report, noting that T. Hopkins was on leave. He highlighted several key points:

- Progress has been made in rebuilding trust and confidence with rating schemes across the West Coast, which represent key stakeholder relationships. This has been achieved through recovery of the organisation's finance function, understanding finances and employing new engineers.
- Only one rating district meeting remains to be held - the Westport Joint Committee scheduled for 2 April 2025. Cr Coll has been welcomed as the new constituent representative.
- Good work was acknowledged from P. Birchfield, Area Engineer for the Central Area, regarding the Cobden cut and the opening of the New River mouth.
- The asset management project continues to be implemented successfully. At the recent regional CEOs meeting in Wellington, all regional CEOs adopted the nationally consistent asset management system on behalf of Te Uru Kahika, the regional council collective, for river and coastal assets. This means all regional councils are now working to the same system, with the West Coast Regional Council benefiting from shared system documentation, methodologies and condition assessment approaches.
- The natural hazards work programme continues to progress. The Council is awaiting the new National Policy Statement for Natural Hazards, which will largely determine future work programmes. A land instability study for the West Coast from the Geological and Nuclear Sciences (GNS) is currently undergoing peer review, which

will be a critical part of information to be provided to district councils for Land Information Memoranda (LIMs).
- Work on the Taramakau rating scheme was confirmed to have commenced the previous week with contractors engaged and on site. The work includes lining work and addressing low spots, with rating members reportedly satisfied with progress.

P. Blackwood joined the meeting and provided the following additional updates:

- Construction of the McKenna stopbank is nearing completion, forecast to be finished by the end of March.
- Further 2D modelling of the bridge has been commissioned to address issues with the Carter's Beach stopbank, where water diverted from the town can cause flooding at Carter's Beach.
- Geotechnical investigations for the Upper Buller Reach have been completed, with seepage modelling and stability analyses now underway.
- Work on the Floating Lagoon continues, with ground penetrating radar survey completed and discussions held between the surveyor, WSP and the Council. Several options are being considered for the bund.
- Additional work has commenced on the section from Tally's building to the State Highway 67 bridge, with WSP engaged to do a scoping report on solutions.
- For Avery's, the final civil and geotechnical design and plans are expected this week. A decision has been made to construct a stopbank alongside the road instead of a flood wall, which will be more cost-effective despite requiring additional culvert sections.
- Consultation with Tangata Whenua continues regarding intrusion into the coastal marine area, with mitigation mechanisms being discussed, such as walkways over the bank to access the estuary.

Moved (McIntyre / Campbell) *that the Committee receives the report.*

Carried

8.2 **Update from West Coast Emergency Management Joint Committee**

C. Brown introduced two new members of her team:

- K. Renshaw has been appointed as Senior Emergency Management Officer for Westland District, focusing on preparedness.
- P. Gurney has been appointed as Emergency Management Officer for partnerships and lifelines, working across the entire West Coast region to connect with infrastructure organisations.

C. Brown provided an update from the West Coast Emergency Management Joint Committee meeting held in February. She highlighted several key areas of progress:

- Alignment of performance measures across district councils and the regional council is progressing well, with positive uptake from district councils. This aims to create consistent levels of service for emergency management across the region.
- J. Curtis has been approved as a new Local Controller for the Buller District.
- The co-location project with Fire and Emergency New Zealand (FENZ) in Greymouth is progressing. FENZ has lodged a consent with Grey District Council, with the next step being completion of the tender process to engage contractors.
- The Group Plan is currently under review, with plans to have it available for public submission by mid-year before submission to the Minister for approval.
- A comprehensive training programme for 2025 has been established and commenced, including various exercises to test emergency response capabilities.
- P. Gurney has been working on enhancing connections with critical infrastructure agencies. Five diesel fuel tanks from Hawke's Bay (following Cyclone Gabrielle) are being transported to the West Coast, with cooperation from KiwiRail who is funding the cost of transport across Cook Strait. These diesel tanks will be strategically placed across the region:
  - One 15,000L tank
  - One 5,000L tank
  - Two 2,500L tanks

  The tanks will be maintained by Buller District Council, Westland District Council, Hokitika Airport and Health NZ (in the Grey District), with an MOU ensuring emergency management has first access during emergencies.

Discussion was then held, with the main points being:

- Councillors suggested including Okarito in evacuation planning due to its isolation, tsunami risk and lagoon flooding issues affecting exit routes.
- Maintenance of emergency equipment, with suggestions to approach corporate entities for assistance with maintenance costs and fuel rotation.
- Significant progress was noted in emergency management over the past couple of years, particularly with the generators and emergency fuel storage facilities.
- Councillors thanked C. Brown and her team for being prepared for an event.

Moved (Campbell / Ewen) *that the Committee receives the report.*

Carried

8.3 **Management Approach to Non-Council Managed Flood and Coastal Assets**

D. Lew presented the report and explained that there are three classes of flood protection and drainage assets:

1. Assets administered by the Regional Council through rating districts and flood schemes.
2. Assets clearly not managed by the Council (privately owned by farmers or landowners).
3. Assets where ownership or management responsibility is unclear.

The report focused on the third category, where historical records may be unclear about whether assets were administered or owned by the former Catchment Board, now the Regional Council. D. Lew explained that historically, some funding came through from NWASCA to catchment boards as 'Catchment Works' - this was funding provided to landowners for work that was never owned, administered, or maintained by catchment boards.

D. Lew outlined that the Council has developed a procedure to systematically work through assets where ownership is unclear. He cited the Reefton Banks as an example where ownership is not clear. He emphasised that staff would not be deployed to search for these assets throughout the region but would address them as they come to the Council's attention and report back to the Committee.

G. Palmer highlighted the important distinction between ownership and responsibility, noting that in some situations the Council may not own an asset but might have

responsibility by virtue of how it has conducted itself. D. Lew added that if the Council does design work or supervises construction on an asset it doesn't own, it can still attract liability.

D. Lew clarified that unless there is an established scheme with targeted rates, the Council would not take action on these assets, in line with the Council's funding policy that flood protection works are 100% user-benefit funded.

Moved (Ewen / Campbell) *that the Committee:*

1. *Receives the report; and*
2. *Notes the approach staff have adopted in respect to orphan flood and coastal protection assets.*

Carried

9. Project Status Reports

9.1 Franz Josef Stage 1 Operations Committee Project Status Report February 2025

S. Hoare provided an update on the Franz Josef Stage 1 project. Key points included:

- Survey documentation has been received which highlighted several low points on the new banks that will require remediation by the contractor.
- The survey information will inform the as-built documentation and help finalise the account in terms of final quantities.
- A small amount of fencing work at the heliport remains to be completed following the conclusion of works on the bank.
- The team is working with Tetratech Coffey to develop options for resolving the stormwater issue. Tetratech has reviewed the situation and is expected to provide options with costings this week.
- A meeting with NZTA is being arranged (when T. Hopkins returns) to discuss their funding contribution and the protection of the bank on the south side.
- A reconciliation meeting has been held with P. Miller and the finance team regarding all transactions to date, ensuring alignment on project expenses.
- The project is now in the closeout phase and progressing well towards resolution.

Moved (Ewen / McIntyre) *that the Committee receives the report.*

Carried

9.2 **Franz Josef Stage 2 Operations Committee Project Status Report February 2025**

S. Hoare provided an update on the Franz Josef Stage 2 project. Key points included:

- Tetratech Coffey had provided advancements of the design for the first three sections of the Franz Josef Stage 2 project. These sections include:
  - The lined rubbish dump stop bank
  - The unlined section of the rubbish dump stop bank
  - The Miltons' and others repair
- In response to a question about the completion date, S. Hoare advised that works must commence prior to June, with a target completion date of September 2025, assuming a good run with the project. He identified potential difficulties with the Havels bank but expressed confidence that the September timeframe was achievable. The first package of works had drawings ready to go, pending tender and procurement processes. D. Lew added that he was confident they would meet the start line required by Kānoa Ministers before 30 June, with the main issue being working through community concerns with the Joint Committee and Westland District Council regarding works on the other side.

Moved (McIntyre / Coll) *that the Committee*:

1. *Receives the report; and*
2. *Provides any feedback or queries via the WCRC Capital Works Project Manager.*

Carried

9.3 **Greymouth Operations Committee Project Status Report February 2025**

S. Hoare presented the report. He reported that Stages 1 and 3 are practically complete, with defects being closed out. The power pole relocation has been completed and the project team is now in the process of finalising accounts for these sections of work.

The only section remaining to be completed is the Westland Mineral Sands (WMS) section. All other works within these stages have been completed.

In response to a question regarding future works, S. Hoare explained that the next phase of wall construction would depend on Tranche 2 funding. He confirmed that once funding is secured, remaining sections could be completed in any order, with the possibility of

working on Stage 5 (Cobden) simultaneously with Stages 2 or 4, depending on available resources.

Moved (Coll / Ewen) *that the Committee receives the report.*

Carried

9.4 Hokitika River Walls Operations Committee Project Status Report February 2025

S. Hoare provided an update on the Hokitika River Walls project.

The contractor has worked well on closing out Stage 1B. Survey information has been received and is currently under review. As part of the resource consent conditions, cross-sections need to be provided to KiwiRail, which are being reviewed and will be sent to KiwiRail for their assessment.

S. Hoare noted that discussions have taken place with the operations team regarding the potential installation of additional head walls on the stormwater outlet. This matter is being worked through at two locations. He confirmed that most of the other defects for Stage 1B have been completed.

Currently developing the programme for stakeholder engagement and design for Stage 3.

Moved (Haddock / Campbell) *that the Committee receives the report.*

Carried

10. General Business

There was no general business.

Public Excluded Business

Moved (Haddock / McIntyre) *that*:

1. *The public be excluded from the following parts of the proceedings of this meeting, namely – **agenda items 11-13** (all inclusive) due to privacy and commercial sensitivity reasons; and that*
2. *D. Lew, J. Field, P. Miller, G. Palmer, C. Mills, M. Beavon, G. McGlinn and S. Hoare are permitted to remain at this meeting after the public have been excluded due to their knowledge of the subjects. This knowledge will be of assistance in relation to the matters to be discussed; and that*
3. *The minute taker also be permitted to remain.*

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***
11.1	*Operations Committee meeting public excluded minutes – 18 February 2025*	*The item contains information relating to commercial, privacy and security matters*	*To protect commercial and private information and to prevent disclosure of information for improper gain or advantage (s7(2)(a), s7(2)(b), and s7(2)(j)).*
12.1	*Actions List – public excluded*	*The item contains information relating to commercial, privacy and security matters*	*To protect commercial and private information and to prevent disclosure of information for*

			improper gain or advantage (s7(2)(a), s7(2)(b), and s7(2)(j)).
13.1	*Monthly Quarry Report*	*This item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*
13.2	*Vector Control Services – Quarterly Report*	*This item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*
14.1	*Franz Josef Stage 1 Operations Committee Project Status Report February 2025 - Financial Public Excluded*	*The item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*
14.2	*Franz Josef Stage 2 Operations Committee Project Status Report February 2025 - Financial Public Excluded*	*The item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*
14.3	*Greymouth Operations Committee Project Status*	*The item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*

	Report February 2025 - Financial Public Excluded		
14.4	*Hokitika Operations Committee Project Status Report February 2025 - Financial Public Excluded*	*The item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*

Carried

The meeting moved into a public excluded session at 1.58pm.

Council Resumes in Public Meeting

Closure or ratification of decisions in public meeting.

The meeting concluded at 2.48pm.

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Chair

.....

Date

6	**Actions List**
Author	Dearne Thompson, Principal Governance Advisor
Authoriser	
Public Excluded	No

Report Purpose

This report is a summary of items that require actions.

The responsible managers have updated the list and will address their respective action items.

Recommendation

It is recommended that the Committee resolve to:

1. Receive the report and the information noted.

Attachments

Attachment 1: Actions List

ACTIONS LIST

Item No.	Reference	Date of Meeting	Item	Officer	Update
1.	ACT0006	17 Dec 2024	To investigate the details about the funding availability for Wanganui and clarify on the status.	Group Manager – Catchment Management	**Complete.** A paper was presented to the Rating District AGM on 14 March 2025, with a follow up paper for Councillors to be presented at the Operations Committee meeting on 15 April 2025.
2.	ACT0007	17 Dec 2024	Wanganui Rating Scheme capital upgrade proposal to be presented to the Councillors and to the RD.	Group Manager – Catchment Management	**Complete.** A paper was presented to the Rating District AGM on 14 March 2025, with a follow up paper to be presented to Councillors at the May Operations Committee meeting.
3.	ACT0011	17 Dec 2024	To present a paper outlining all the river mouths opening and their status and what is in place operations wise and in communicating to the contractors.	Group Manager – Catchment Management	**Complete.** This paper will be presented to Councillors for the April 2025 Operations Committee meeting.
4.	ACT0039	18 Feb 2025	Provide a register of known orphan assets to councillors.	Group Manager – Catchment Management	**Ongoing.** The register will be developed as part of the Asset Management System implementation and in accordance with the process outlined in the paper to be presented at the Operations Committee meeting of 18 March 2025.

REPORTS

8.1	**Monthly Catchment Management Report**
Author	Tom Hopkins, Capital Programme Manager; Paulette Birchfield, Area Engineer (Northern); Adhikar Haridwal, Area Engineer (Central); Wayne Spencer, Area Engineer (Southern); Kathryn Watson, AMS Project Manager; Sharon Hornblow, Natural Hazards Analyst; Chantel Mills, Project Accountant; Peter Blackwood, Chief Engineer and Westport Flood Protection Scheme Project Manager
Authoriser	Darryl Lew, Chief Executive
Public Excluded	No

Report Purpose

The purpose of this report is to provide the Committee with an overview of the work undertaken by the Catchment Management team between 20 February and 20 March 2025.

Report Summary

This period the Catchment Management team have focused on prioritising and implementing actions arising from the last round of rating district and Joint Committee meetings, continuing work on the Asset Management System project including asset inspections and measurements, undertaking natural hazards investigations, progressing inspections, maintenance and repair work in various rating districts and managing major capital works projects co-funded with central government.

Recommendation

It is recommended that the Committee resolves to:

1. Receive the report.

Issues and Discussion

Background

The WCRC Catchment Management team undertake a variety of work:

- Managing significant co-funded capital infrastructure projects in Westport, Greymouth, Hokitika and Franz Josef.

- Managing flood and erosion risk and land drainage within 23 rating districts through the maintenance of assets and the management of river form (morphology).
- Gathering and analysing natural hazard information and disseminating this to the public and stakeholders including the territorial authorities.

1. Managing Flooding, Erosion and Drainage within Rating Districts

The annual round of rating district and Joint Committee Annual General Meetings (AGMs) is complete, with the exception of the Westport Joint Committee meeting which has been deferred to 2 April 2025. Over the reporting period the Raft Creek and Wanganui Rating District AGMs have been completed.

Where there have been resolutions endorsed by the rating districts and Joint Committees that require Council approval, we will collate these and bring them to the Operations Committee for the May 2025 meeting. In the meantime, staff are progressing the actions that do not require decisions of Council.

Good progress has been made with the completion of seven actions generated from the Annual Rating District Meetings in the Southern Region. Neils Beach residents had a concern regarding vehicles on the beach. Investigation has confirmed that beaches are designated as roads and managed by the relevant roading authority.

The Matainui Rating District asked about the possibility of NZTA contributing towards the cost of rock placement in the scheme. The Area Engineer met with NZTA representatives and was advised that their responsibility was primarily with the channel alignment and management immediately adjacent to the state highway bridge and not further upstream or downstream. They would only consider assistance if there was an imminent risk of a road failure due to a river realignment. A request for drone imagery was made by the Matainui Rating District. This is now programmed for the second week of April.

1.1 Greymouth Rating District - New River and Saltwater Creek

On 17 February 2025 the blocked New River and Saltwater Creek tidal river system was reopened to the sea downstream of the New River Bridge (Figure 1). The outlet has remained open through March, although high tides from 9 to 14 March 2025 caused water levels in the lagoon to remain high for several days.

Water levels in the lagoon and Saltwater Creek can vary in height by 1-2m or more, depending on the ever-changing hydrodynamics of the system. At times the inflow of seawater will balance or exceed the outflowing freshwater, and seawater can intrude many kilometers upstream.

Figure 1: View of New River Mouth Opening on 17 February 2025

1.2 Mokihinui Rating District – Coastal Spurs

The Council was approached by members of the Mokihinui Rating District in mid-2024 to construct an additional two coastal spurs fronting the Mokihinui Domain. The four existing coastal spurs fronting the sacrificial seawall were placed in 2018 (3 spurs) and 2022 (1 spur) (Figure 2). There is general agreement that the existing spurs are fulfilling their intended role of providing additional protection to the sacrificial seawall.

A current resource consent permits the construction of a total of twelve spurs. Historically, Mokihinui Rating District members have agreed to complete the construction of the remaining coastal spurs only by utilising any reserve fund balance over their prudent reserve balance.

The Request for Quotes for the construction of two rock spurs at Mokihinui closed on 21 February 2025 and evaluation is underway.

Figure 2: Southern Mokihinui Spurs, April 2024.

1.3 Vine Creek - Capacity Enhancement

Enhancement (increase) of the capacity of Vine Creek is continuing. The work involves the removal of accumulated sediment. It is authorised under permitted activity rules in the Regional Land and Water Plan.

The contractor has faced delays due to adverse weather conditions and a plant breakdown. The plant issue, specifically a broken track on the 50T digger, has now been resolved, and work is progressing as planned. A LiDAR[1] flight is scheduled for 2 April 2025 ahead of a weather event to provide updated progression data, enabling a progress payment to be issued to the contractor. Following the weather event, a new baseline survey will be conducted, allowing the contractor to resume the cut.

The current scope of the tender involves the extraction of up to 23,000m³, with the potential for a contract extension and variation. The rating district is supportive of continuing the cut and potentially expanding the scope beyond the initial 23,000m³. A potential variation to the contract is being assessed by staff.

[1] Light Detection And Ranging.

Figure 3: Vine Creek works underway, 20 March 2025

1.4 Taramakau - riprap repair

An initial site inspection on 12 February 2025 revealed that the rip-rap along a section of riverbank had failed, creating a risk to the stopbank due to a direct attack from the river. Oblique drone imagery was used to generate the scope of work and the repair was initiated on 13 March 2025. The primary repair involved a 50-metre stretch of rip-rap protection that had been undermined, with a total of 1,400T of rock, including 20 metres of intermittent repairs, used to complete the work. The scope of the repair was discussed with the WCRC consents team and it was determined to be a permitted activity, as the area previously had rock rip-rap protection. The rock rip-rap repairs at Taramakau were completed on 24 March 2025.

Figure 4: Taramakau post rip-rap repair on 20 March 2025.

1.5 Taramakau - stopbank works

Concerns were raised by the Taramakau Rating District regarding the condition of the stopbank on the true right of the river. In a meeting with engineers, the rating district representatives indicated that a length of the existing stopbank had a low spot, and they were concerned that this may be a weak point in the event of a flood.

In response, the engineering team took the concerns and initiated an investigation to assess the situation. This investigation included a survey of the stopbank to identify any low spots and their locations. The survey focused solely on the stopbank, excluding the river, as the primary concern was the uneven grading of the bank. The survey was completed on 26 February 2025.

The results showed that, overall, the stopbank is generally uniformly graded, with only a few minor low-lying areas, none of which are considered significant. However, the rating district maintains that there is one critical low section where the top of the stopbank is closer to the river's water level compared to other areas. Upon further visual inspection, engineers acknowledged this may be a possibility. Without a full survey or LiDAR data for the entire area including the river, a definitive conclusion is difficult to reach.

The rating district is requesting that a 150 metre section of the stopbank be raised by 500mm, with a tapering transition to the existing bank level on either side of this raise. Investigations, design work and discussions are still ongoing to finalise the scope and proposed way forward. It is anticipated that these works will require resource consent and coordination with the consents team will be necessary. A resolution on the scope and implementation date is expected within the month.

Figure 5: Taramakau River. The suspected length of low-lying top of stopbank on 20 February 2025.

1.6 Nature Based Solutions

In 2023 the Ministry for the Environment granted Regional Councils funding to support 21 flood mitigation feasibility studies across 15 regions using Nature-Based Solutions (NBS). NBS can include restoring wetlands, planting native vegetation, and restoring old river channels. They can help to reduce and slow down floodwater and the effects of flooding such as erosion, sedimentation and loss of vegetation cover, while supporting native biodiversity.

Each project is due for completion by end of June 2025. WCRC has two projects: Multi-benefit approaches to building Westport's flood resilience; and the Cobden Nature-based Solutions for Flood Mitigation.

A workshop for NBS project managers was recently held in Blenheim. This was intended as a mid-project opportunity for project teams from across the country to compare notes and problem-solve issues, as they enter the final stages of project delivery. Paulette Birchfield presented on behalf of WCRC.

The purpose of the one-day workshop was:

- To build a NBS community of practice within the Regional Sector.
- To discuss common challenges and potential solutions.
- To understand the WHY, i.e. how each NBS project forms part of a broader flood protection management strategy within their region.

- To find opportunities to collaborate and share resources.
- To identify emerging good practice for NBS feasibility studies.
- To initiate development of a good practice guide for the future, based on the NBS pilot studies, as a starting point for the industry.
- To identify next steps and what is needed to progress the use of NBS for flood mitigation.
- To share experiences of running the NBS pilot studies, expand your network, and learn from other projects.

Following the workshop, a summary report will be produced to capture workshop outputs and suggest guidance for future project implementation.

2. Asset Management System Project

This continues to be the highest priority project within the Catchment Management team. The project has a target of inspecting no less than 60% of assets by 30 June 2025. The inspections include recording asset locations, condition and dimensions to support asset revaluation and improve the quality of the fixed asset register.

The technical system design is underway, with the main focus on establishing the core system and storing the data in a way that ensures ease of use and facilitates dashboard and reporting capabilities. Designs for the conversion of the data from the current system to the new system will commence in April.

All currently recorded linear assets have been segmented into reach blocks in accordance with national standards required for performance assessments. All currently recorded assets have been renamed using a new naming convention, that includes the river, reach block number, bank, and asset type.

The asset inspection programme has commenced. Area Engineers are planning and undertaking on-the-ground inspections, complemented by drone and LiDAR data collection in selected rating districts. Undertaking these inspections requires considerable planning and logistics. Following the inspections, a substantial workload is expected in processing the data; calculating volumetric information and updating the current system.

To support this work, weekly meetings have been established to track progress and share insights. During March, inspections were conducted at Neil's Beach, Okuru, Mohikinui and Hokitika. An external company has been commissioned to survey Greymouth assets in detail, and this work has commenced. In April, inspections are scheduled for Wanganui, Whataroa, Matainui, Waitangitaona and Punakaiki. A review

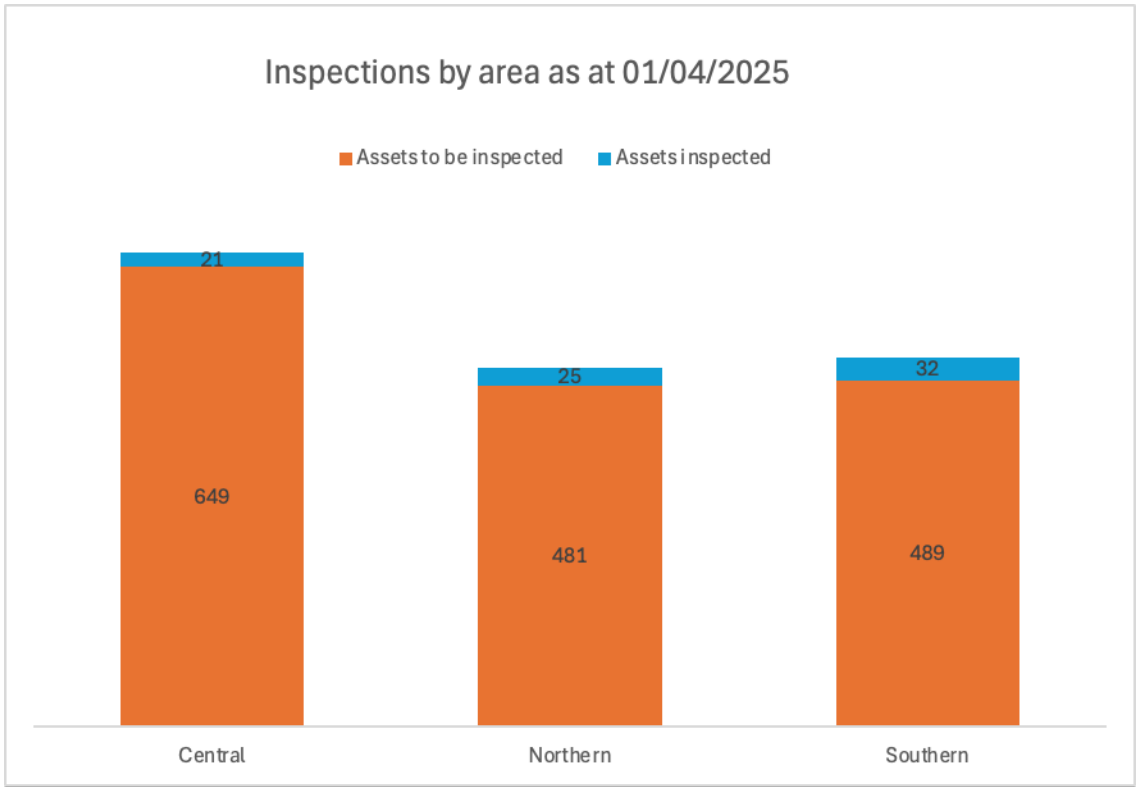
session is scheduled for April to assess completed inspections and work towards consistent condition scoring.

Programming of asset inspections and LiDAR drone surveys is now complete for the southern rating districts with all of them to have asset updates completed by the end of May 2025. This work will begin with LiDAR drone surveys at Neils Beach and Okuru during the first week in April. This will be followed by Matainui and Whataroa in the second week with Waitangitaona scheduled for completion before Easter. Records show that the Regional Council has previously collected LiDAR data for Franz Josef and Wanganui rating districts and this information will be used to update asset information in the new Asset Management System.

The Hokitika and Hokitika south side schemes were visited on 28 March 2025 where drone and visual inspections were carried out. The entire extent of the Hokitika south side scheme was walked through and investigated manually were possible. The drone coverage was used to inspect inaccessible areas. The information was collected and will be captured in the asset management system through a desktop exercise. The Hokitika main scheme was partially inspected, and further site visits will be required to fully document the assets.

Assets identified during inspections will be added to the asset register. Where ownership is unclear, the asset ownership will be set to 'Unknown' until further investigations are conducted. The process of determining ownership for assets not currently in WCRC's asset register will follow that approved by the Operations Committee in March. Defects are recorded on assets where issues are noted.

The graphs in Figure 6 are being used to track the progress of the inspection programme each week.



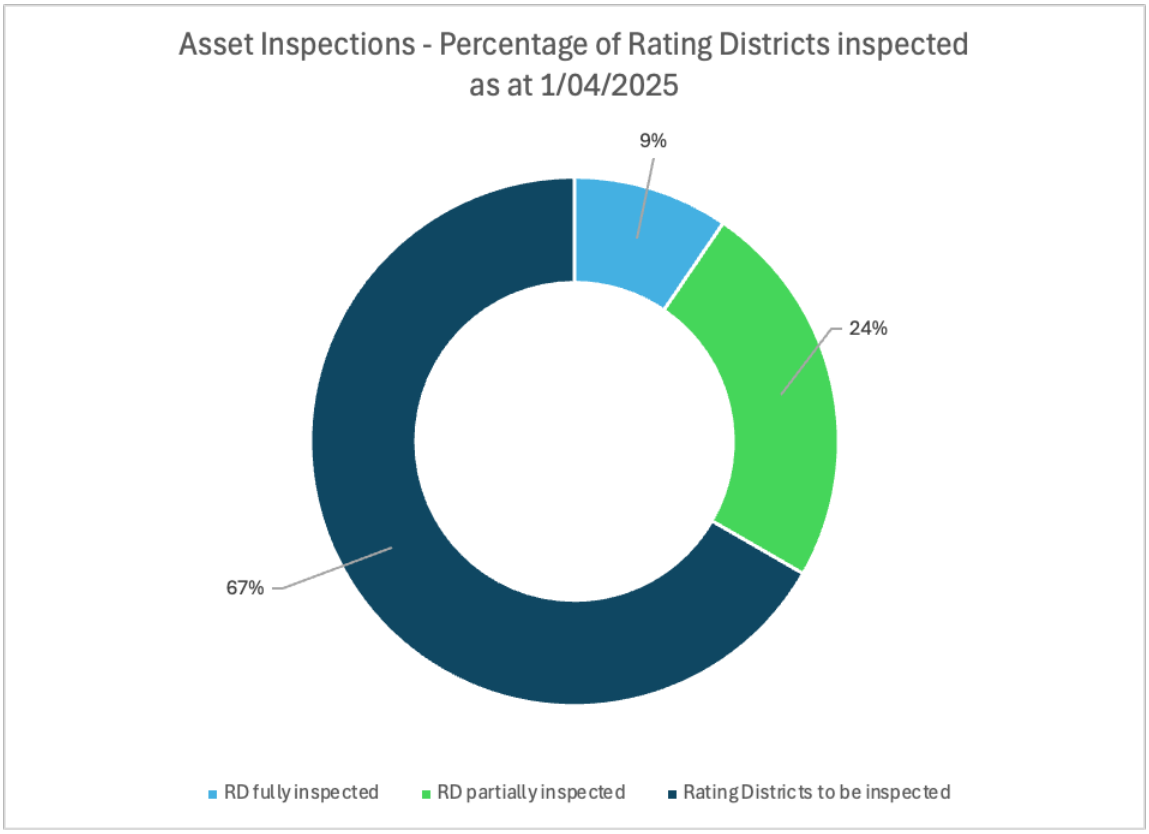


Figure 6: Progress with asset inspections to 1 April 2025.

3. Natural Hazards

The Natural Hazards Information Strategy and Implementation Plan has been reviewed by WCRC's senior leadership team and is the subject of a separate paper to the committee. In the meantime, work is underway to create a plan for aligning the current staff work plan with strategic objectives and workstreams outlined in the Strategy. Business-as-usual Natural Hazards tasks this month have included, for example, regular response to property enquiries, presentation of information and discussion with community Civil Defence groups on natural hazard risk and preparedness, and work with Council's FIRST team to assist with lifelines and evacuation planning undertaken by West Coast Emergency Management.

In addition to this, several exciting developments are taking place on a national scale in the hazard data space which have implications for future work-streams. Figure 7 to the right shows public LiDAR elevation data now available for use (e.g. applications in flood hazard modelling) on the West Coast. Capture and processing are underway for the remainder of the region. This is a huge step up in our capacity to complete detailed hazard modelling and monitoring from just 5 years ago, when only the main coastal centres and Franz Josef had LiDAR coverage.

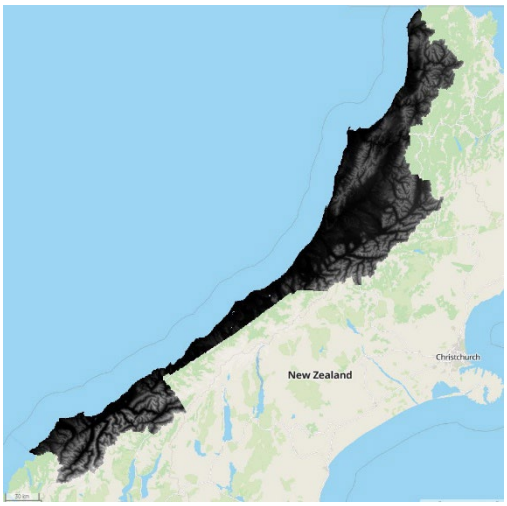


Figure 7: West Coast LiDAR elevation data publicly available via LINZ data service.

Figure 8 following is an image from a recent presentation by LINZ on their 3D coastal data capture programme. This aims to fill in the gap between terrestrial LiDAR and bathymetric data at depths navigable by large vessels; an area identified as critical to accurate coastal hazard modelling (e.g. wave run-up and inundation) but previously very expensive or impossible to capture in 3D. WCRC had some input into areas for capture, and, after consideration of budget and other stakeholder priorities, it was determined the extent should cover a continuous strip from Mokihinui to Ross, with local areas offshore of Haast and Jackson Bay also included.

Figure 8: LINZ 3D coastal mapping extents planned for capture over the next three years.

The Natural Hazards Commission (NHC, previously EQC) are undertaking work to develop their online spatial data platform to include more risk information, sourced from national models and Councils. This is in addition to the current provision of spatial data on previous EQC claims. This updates to, and promotion of this work will assist in making risks to properties transparent and easier to locate, for example for prospective buyers completing due diligence into flood hazard. These type of enquiries currently take up a not-insignificant portion of the Natural Hazards Analyst's time and this should decrease in future. It is noted that the work by NHC does not replace the need for WCRC to make natural hazards information accessible to the public through its web-based GIS platform.

Preparation is continuing for WCRC's part in the new Land Information Memoranda (LIM) requirements that commence later this year.

4. Capital projects

4.1 Westport Flood Protection Scheme Project Update

General

The many parallel tasks continue in both the design and construction field. Continued favourable progress has been made on the design of the flood mitigation works and has expanded at pace into initial design of the Lower Buller (from Bridge to the Talley's plant), North End and Eastons Road (Orowaiti River between Stephen Road and SH67) stopbanks. Construction of the McKenna's stopbank is essentially complete.

The following has been completed:

McKenna Stopbank

Rosco Contracting Ltd were commissioned on 5 November 2024 to construct the McKenna Stopbank. The first stage covers 780m. Construction has gone very well and is 99% complete, with just the fencing to complete (Figure 9).

Figure 9: McKenna Stopbank on 22 March 2025. (Credit Gerald Hateley)

Buller River Upstream of SH67 Bridge

All the ecological and landscape environmental assessments for this part of the Buller stopbank are completed and available for the resource consent application.

WSP Consultants, assisted by hydraulic modelling from Land River Sea have completed will shortly update their draft report on mitigation of flood levels at the SH67 Buller Bridge. This report will advise whether there are viable and warrantable options for mitigating flood levels at the Buller SH67 Bridge and the findings will be submitted to NZTA for their comment.

The further 2-D modelling of the most promising option has been significantly advanced and the model recalibrated. The design runs of the mitigation options

are well underway. This will enable an assessment to be made of both mitigation works and whether the lower cost Carters Beach option is achievable.

GHD Consultants have completed the initial geotechnical investigations for the upper Buller reach. The seepage and slope stability modelling is now proceeding at selected critical sections. The geotechnical assessment of this reach is critical, with the stopbanking maximum height for the whole scheme of 3.6 metres within this reach; located at a relic channel crossing of the stopbanks.

Once this work is completed, there will be a pause in this section, as it will send more water towards Carters Beach. That matter must be resolved first. Notwithstanding this the works will be designed and ready for construction.

Floating Lagoon

WSP Consultants are being commissioned for an assessment of viable options to ensure the bund at Talleys is engineeringly sound. The Ground Penetrating Radar survey was completed by NZ Stopbank Services Ltd. This will confirm likely ground layers under the bund and whether there are any other defects.

Davis Ogilvie are commencing work on the final geotechnical design report for the Floating Lagoon. They previously completed the initial geotechnical design report. Very careful design is required due to the high groundwater levels and to design safe solutions for these.

A scoping survey has been completed of the extent of contaminants from the prior railways use of this. Detailed assessments to complete the DSI are underway and a leachate investigation completed.

This work is programmed for construction starting around early in the 2025/26 financial year at earliest.

Averys

The final civil and geotechnical design has been completed and the design plans delivered.

Some final geotechnical review questions have been received from our peer reviewer. These should be accommodated with minor impact but are an important matter.

The environmental assessments are complete, with a further iteration to accommodate a shift in design from a floodwall at the culvert to a stopbank alongside. This was to maximise safety standards and minimise costs. However, front

of mind was to minimise the intrusion into the Coastal Marine Area. This is a very important matter for the tangata whenua and ecological impacts.

The resource consent application is being assembled and should be lodged soon.

WCRC have confirmed the size of the major culvert that requires replacing and are looking at pre-purchase of the major culvert pipes.

Lower Buller (Buller Bridge to Talleys)
An engineering concept report for this 2.1km length of stopbanks and floodwalls is due to be commissioned soon. This will also identify the scope of site investigations.

This is a particularly complex area that will require careful interaction within the industrial setting. It will involve an amalgam of stopbanks and floodwalls.

North End Stopbank
A preliminary engineering report for this 3.4km length of stopbanks and floodwalls is due to be commissioned soon. This will also identify the scope of site investigations.

Lower Orowaiti Stopbank (from Stephen Road to SH67 Bridge)
An engineering concept report for this 1.6km length of stopbanks and floodwalls is due to be commissioned soon. This will also identify the scope of site investigations.

WCRC have confirmed the size of the major culvert at Cats Creek/Abattoir Drain that requires replacing and are looking at pre-purchase of the major culvert pipes.

Carters Beach
Work has paused on this section, bar consultation with the golf course. Extended consultation will be required once the stopbank alignments are confirmed. The following restates the current status:

The assessment of options for flood protection of Carters Beach was costed and the estimate was high. The pricing was then re-evaluated with input from Coll Consultants and dropped to $5.71 million. They suggested one further option and this has further significant cost savings of around $1 million. It will also protect three houses that currently have no other means of viable flood protection.

As advised previously, good progress has been made with NZTA on alternative options to raising a segment of State Highway 67. One of the downsides of the further option is that it does raise flood levels at the SH67 bridge by 0.07m. Hence the need for the additional 2-D bridge modelling.

Snodgrass
Following a very intensive investigation, work has temporarily paused while other design projects proceed. It will recommence soon.

To recap, a flood mitigation report was submitted to the Snodgrass Community Group representatives on 29 January 2025 and the whole community the next day. Political representatives of both Councils and both Chief Executives also attended these meetings. The proposal would consist of a stopbank to protect 26 of the 30 vulnerable properties at a cost of $2.61 million. Options for the remaining four properties would cost $0.123 million. The design is conceived to keep overland flow paths open as far as practicable and minimise any adverse effects to reasonable limits.

Funding options for the flood mitigation work are not confirmed and need to be assessed.

4.3 Greymouth/Hokitika/Franz (Stage 1) Schemes Upgrades Update
Please refer to the Project Status Report provided by Inovo in Item 9.3 of the agenda.

4.4 Franz (Stage 2) Scheme Upgrade Update
Please refer to the Project Status Report provided by Inovo in Item 9.2 of the agenda.

Considerations

Implications/Risks
The implications from matters contained within this report and associated potential risks are generally operational and able to be managed at a management (rather than governance) level.

The delivery risk associated with the asset inspections for the Asset Management System and asset revaluations is being managed by close monitoring of progress and by considering whether to procure additional resourcing.

Significance and Engagement Policy Assessment
There are no issues within this report which trigger matters in this policy.

Any further proposals for co-funded capital flood and/or coastal protection capital projects that are not currently included in the Long-Term and Annual Plans will require consultative processes, either via the Long-term or Annual planning process OR via a special consultative process.

Tangata whenua views

Staff are not aware of any issues within this report which would impact tangata whenua.

Generally, where operational or capital work requires resource consent and tangata whenua are identified as an affected party then the West Coast Regional Council will consult with the relevant runanga on behalf of the hapu.

Views of affected parties

Operating and maintenance work implemented by the Catchment Management team is identified via condition inspections and feedback from rating district members, or in the case of crest and bed level surveys, scheduled according to the 10-Yr River and Coastal Protection Scheme Survey Strategy developed by council staff. Rating districts provide their views on proposed work programmes via the annual general meetings, and via rating district spokespeople in between times.

Where major capital projects are concerned, the views of affected parties are heard through consultation carried out with the relevant rating district, and via consultative processes associated with any consent requirements.

Financial implications

Current budget

For the 2024/25 Financial Year the operational and capital budgets for Catchment Management Group are as follows:

- Operating Budget $3,317,107
- Capital Budget $11,599,580[2]

The Catchment Management group's progress toward achieving its financial targets will be reported on via council's quarterly financial performance reporting to Councillors.

Future implications

Operating and capital budgets for the next 10 years are indicated in the Long-Term Plan and updated on an annual basis via the Annual planning process.

Legal implications

There are no matters contained within this report that have legal implications.

Attachments

None

[2] Taken from the LTP. Excludes IRG capital projects carried over from previous financial years. Updated January 2025 to include expenditure to date and forecast expenditure for 2024/25 for RIF Flood Resilience Franz Josef Stage 2.

8.2	**Management of River Mouth Openings**
Author	Paulette Birchfield, Area Engineer
Authoriser	Gavin Palmer, Acting Group Manager Catchment Management
Public Excluded	No

Report Purpose

To seek the Committee's endorsement of a proposed programme of work to improve the operational management of river mouths.

Report Summary

The report examines the operational management of river mouth openings on the West Coast, where balancing flood mitigation with environmental protection, whilst undertaking the work safely, is important. It outlines the issues, opportunities and constraints and proposes a programme of work to address these. Recommendations include developing a Standard Operating Procedure, seeking changes to the Coastal Plan and/or resource consents to allow more effective interventions, implementing water level monitoring and engaging with the territorial authorities and local rating districts to formalise outlet management.

The report highlights the impact of modifications on sediment movement, tidal hydraulics and ecological values. It describes the existing policy and regulatory framework, including the 2010 Regional Coastal Plan rule change that permitted certain clearances. Case studies from Hokitika, Karamea and New River illustrate challenges in maintaining effective openings.

Recommendations

It is recommended that the Committee resolve to:

1. *Receive the report.*
2. *Endorse the proposed programme of work for improving the operational management of river mouths.*
3. *Note that parts of the programme are subject to future decisions of Council regarding scope, funding and priorities.*

Issues and Discussion

1. Introduction

The West Coast has extensive areas of high scenic and natural values in a largely unmodified state along a varied coastline that spans a wide range of coastal hydrosystems[1], such as coastal wetlands, hapua-type lagoons, beach streams, tidal river mouths and tidal lagoons[2].

Beaches are constantly evolving. Sand moves onshore when the wave energy is lower than average, and offshore during storms so the beach profile is constantly varying around an equilibrium shape. The action of rip currents can also cause local changes to sand storage in the beach profile. A natural river mouth location is a dynamic equilibrium state between river discharge, wave action and littoral drift[3]. Many outlets have a cyclic nature to their location; seasonal and littoral drift changes in direction add-detract from the sediment budget and the river mouth moves accordingly[4]. Put simply, littoral drift of sediment in one direction may close a river mouth, while drift in another direction keeps the outlet clear.

Closure or offsetting of a river mouth is a problem from a flood risk point of view due to the backwater flooding as the river cannot effectively discharge to the sea. This elevates upstream river levels and increases the time it takes for high river levels to recede. This can impact nearby communities, farmland and infrastructure. On the other hand, mechanically opening a river mouth and the associated rapid lowering of river levels can impact on ecological values. Mechanical opening is done judiciously due to cost and the possibility that tides and flows are not satisfactory for maintaining a clear opening. Health and safety of contractors is also a factor. It is noted that in the majority of situations where Council monitors along with community members, the majority of blocked or offset river mouths are opened naturally by small to moderate floods and hence no intervention is generally required, other than monitoring and observation.

2. Managing coastal hydrosystems on the West Coast

The way in which the West Coast's coastal hydrosystems are managed range from the highly engineered breakwater structures on the Grey and Buller River mouths, rock training walls such as those found on the Karamea, Hokitika and Oparara Rivers, through to the many currently unmodified natural outlets.

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[1] Coastal features that span a gradient from near coast freshwater lakes/wetlands (lacustrine/palustrine environments) to marine environments

[2] For a full list of classifications of New Zealand's coastal hydrosystems see: https://environment.govt.nz/publications/a-classification-of-new-zealands-coastal-hydrosystems/

[3] Littoral drift, otherwise called longshore drift/longshore current is the movement of water along a coast by longshore currents, or by swash motions at an oblique angle to the shoreline: *A classification of New Zealand's coastal hydrosystems*.

[4] Allis, M. 2015 Orowaiti Cut advice note.

The extent of anthropogenic (human) modification is dependent on the necessity for management balanced with protecting the values of the coastal environment. In the case of the Grey and Buller Rivers, the outlets are controlled for flood management and to enable a navigable channel. Territorial authorities on the West Coast also manage some river outlets to protect roads and infrastructure. These locations are described later in this report. The arrangement is an historical one and has not been formally agreed between West Coast Regional Council (**WCRC**) and the territorial authorities other than through an agreement between WCRC and Grey District Council (**GDC**) that GDC are responsible for urban waterways.

When infrastructure and property are at risk, affected landowners, Councils and infrastructure managers may want to undertake work to clear river mouths or build structures to try to manage and control the position and state of the river mouth. These works can interfere with longshore movement of beach sediment, impact tidal hydraulics, cause increased erosion, and potentially impact indigenous biological diversity and the natural character of the coastal environment. Any work or structures in the coastal marine area (CMA) must be carefully planned and incorporate protective measures that avoid or minimise adverse effects. Each situation is unique and requires specific planning, however there are some common factors and enabling work that can reduce response times.

Specific examples are described as follows.

2.1 Hokitika River

The Hokitika River is a good example of a barrier beach enclosed tidal river mouth. Tidal river mouths are estuarine hydrosystems that have a permanent connection to the sea. They occur where river and tidal flows are large and persistent enough to maintain a permanent connection to the sea for most of the time.

In 2015 the southward deflection of the Hokitika River outflow channel raised concerns in the community about potential effects on flooding. A report by NIWA[5] found that a southward extending river mouth bar is not likely to significantly affect flood levels in the Hokitika River estuary. This is because the additional river path to the south side of the river mouth is not substantial compared to the direct outlet path. NIWA considered it likely that any flood would quickly enlarge the outlet channel.

[5] River mouth-related shore erosion at Hokitika and Neils Beach, Westland. 2016.

Figure 1: Bars partially blocking Hokitika River mouth, September 2015.

Although the Hokitika River mouth reopened itself naturally in the past, it was added to the Schedule of outlets that can be opened under the permitted Rule in the new proposed Coastal Plan in 2016. Blockages of the river mouth can be manually opened if backup water poses a flood hazard risk. However, the 2016 Coastal Plan was withdrawn in September 2024 and no longer has any legal effect. This means the Hokitika River needs to be re-added to the Schedule of river and creek mouths that can be opened under the permitted Rule when the new Coastal Plan is drafted.

2.2 Karamea River

The Karamea River, classed as an intermittently closed tidal lagoon by Hume et al (2016)[6], formed a sand-spit between 2013 and 2016 that forced the Karamea River mouth to naturally migrate approximately 3km south from its most direct outlet close to the township, to exit via the Otumahana Estuary. The location of the river mouth caused wide-ranging impacts from the back-up of floodwaters, deposition of silt and erosion of established estuarine islands but did not reach the trigger level set in the Coastal Plan.

Mechanical excavation of a channel through the spit was undertaken by WCRC in 2014 prior to a 6.8 year Average Recurrence Interval (ARI) flood (2690 cumecs). At this point the trigger level had been reached. The cut through the spit was made

[6] A classification of New Zealand's coastal hydrosystems. 2016.

in the most direct alignment of the river outlet opposite the town. Due to lack of summer flood flows to sustain the opening against wave-driven sand deposition, the new opening was naturally infilled and closed again in early 2015.

In December 2016 advice was sought from NIWA Coastal Engineer Dr Michael Allis. Dr Allis noted that the slow alongshore migration of river and estuary openings at Karamea is a natural response to the delicate balance of wave climate, sediment supply, and tidal and river flows[7]. The process of forming two openings is also a natural process of spit-breach during large flood flows. The Karamea River was expected to eventually breach the spit on its direct path to the sea. It was estimated that a river flood discharge in the range of 2300-2700 cumecs would be required to breach the spit.

The recommended intervention option to relieve the enhanced flooding and erosion risks associated with the single, south-located outlet was to assist the Karamea River to breach the spit directly opposite the town. The proposed methodology was to excavate 2 or 3 narrow channels through the spit in readiness for such an event that would increase the chances of a successful permanent opening. A flood discharge greater than 2300 cumecs (approximately a 5 year ARI flood event) would be required to breach the pre-weakened openings. This new opening was expected to close up again unless a sequence of flood flows maintain and deepen the new channel opening.

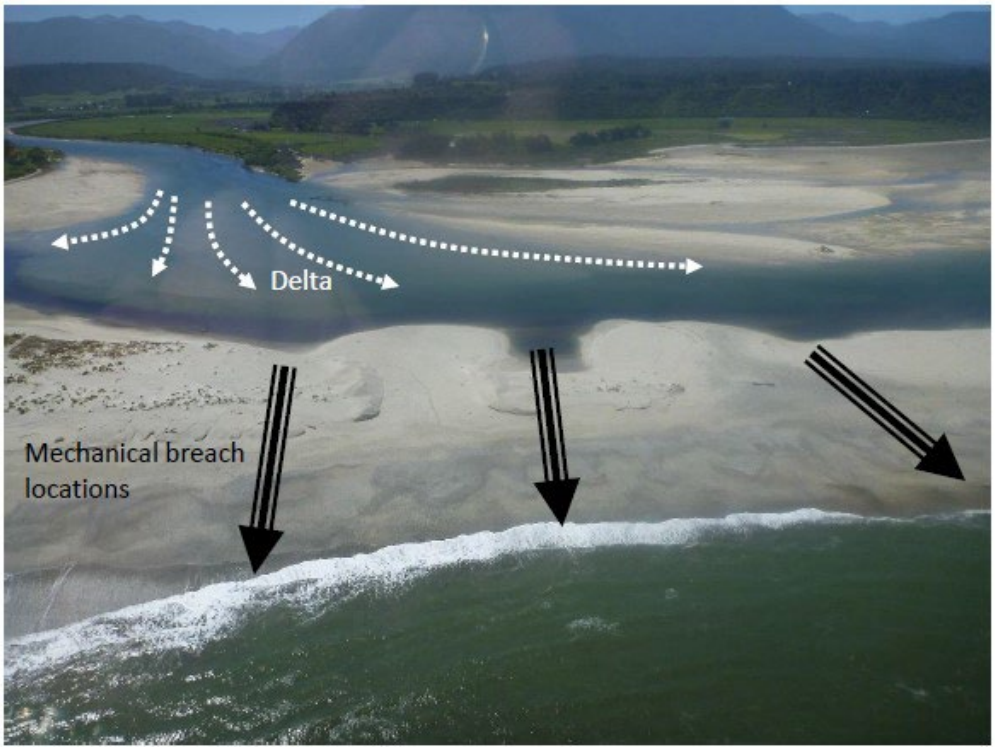


Figure 2: Proposed mechanical channel breach locations for Karamea River. 2016.

[7] Alli, M. 2016 Karamea advice letter.

In January 2017 a cut was excavated through the sand spit prior to a forecast heavy rainfall event. A subsequent flood event of over 2500 cumecs occurred on 19/20 January 2017 and the river reformed its original outlet direct to sea. This outlet is still current as at March 2025.

2.3 New River and Saltwater Creek

Figure 3: New River and Saltwater Lagoon combined outlet. January 2025.

The New River and Saltwater Creek coastal system is a good example of a tidal river mouth with a network of intermittent ribbon lagoon branchings which constitute the overall river system.

These systems are narrow, elongated and shallow and can run close to the shoreline up and down the coast for kilometres away from the main river outlet. The mouth can breach anywhere along the barrier. The position of the combined outlet has varied over a 6km stretch of the coastline at Paroa.

The New River Rating District was established in 2011 to enable the mechanical reopening of the combined river mouths of New River and Saltwater Creek. When the River flow is insufficent to keep the outlet open, the flow is blocked or restricted causing back up of floodwaters and ponding from New River to Paroa.

Where the back-up of flood waters meets the trigger level noted in Schedule 6A of the Coastal Plan 2001 (Appendix A), mechanical excavation is done under the

permitted activity rule in the Plan (Appendix B). During the 2012-2022 period there have been five mechanical reopenings of the combined systems river mouth. There is no current formalised procedure and methodology for undertaking this work. While it is understood that every flood event is different and any reopening work will be influenced by a range of competing environmental factors that must be balanced, having a Standard Operating Procedure is desirable. A Standard Operating Procedure would provide consistency, improve efficiency and ensure a more coordinated response to flood events. It would also enable the work to be done in a safe and planned manner, and expedite procurement of a suitable contractor.

2.4 Rating Districts and Asset Management Plans

The Arawhata, Pororari and Karamea Rivers are all included in Schedule 6 and are subject to periodic blockage that can impact properties and Rating District infrastructure. It is recommended that consultation be undertaken with members of the relevant Rating District's about whether to include clearing of blocked river outlets in the respective Asset Management Plans for the Neils Beach, Karamea and Punakaiki Rating Districts.

3 Lessons from Wairoa

The complexities and competing objectives of river mouth management and mechanical opening are not new issues nor are they unique to the West Coast. However the situation with the Wairoa River bar on 26June 2024 has heightened the community interest in how mouths are managed.

In August 2024 an independent operational review of the Wairoa River Bar management was reported.

The report highlighted the complexities of the river mouth opening where the standard methodology requires five key success factors to line up for the River mouth to be successfully relocated, including a 5-7 day lead time for completion of the excavation, based on forecast rainfall as well as calm sea/wave conditions.

The report recommended that a simpler method for managing the Wairoa River mouth be developed as the very specific conditions required for a mouth relocation are too restrictive, and the accuracy of long-range forecasting is not sufficient to attempt full excavation of a new channel. Two general options were proposed. These were:

1. Have a pilot cut with seaward coffer dam at the height of the beach crest at all times;
2. Lower the crest of the beach barrier in advance of a flood requiring 1-2 days work.

Both the above options are contingent on the sea conditions being favourable. The report notes that any operational response that is dependent on the sea conditions being calm will be at risk of not being functional when it is needed due to the wave action filling in excavated areas as well as the waves reducing the ability of the River to scour out a new river mouth through the beach crest.[8]

4 The Policy and regulatory setting

WCRC does not hold any consents for river mouth opening and therefore relies on the permitted activity provisions of the Regional Coastal Plan 2001. In the past, the emergency works provisions of the Resource Management Act (section 330) have been utilised when the conditions of the permitted activity rule cannot be met. However, these provisions are not intended to be used for activities that can and should be authorised by a Plan or a resource consent that can be obtained beforehand. WCRC therefore needs to ensure that it has appropriate authorisations through the rules in the Coastal Plan and/or specific resource consents.

4.1 West Coast Regional Council Coastal Plan 2001

A plan change to the Regional Coastal Plan 2001 (Coastal Plan Change 2 – effective from 8 July 2010) made disturbance of the foreshore or seabed associated with clearing the outlet of certain West Coast rivers and creeks a 'permitted' activity, provided all associated conditions are met; the conditions (of Rule 9.5.3.1A) are included in Appendix B of this Report

The rivers and creeks able to be reopened under this rule are listed in Schedule 6 Outlets permitted to be opened under Rule 5.3.1A of the Regional Coastal Plan (included as Appendix A). These waterbodies were included in the Schedule by negotiation between WCRC and Department of Conservation (**DOC**), with input from Iwi.

During the negotiation process DOC staff considered that foreshore alterations can affect lagoons or estuaries, and some were omitted from Schedule 6 in the Coastal Plan. This was mostly due to identified ecological values such as whitebait spawning sites, habitats of threatened species, or wetlands. The Department was concerned that there were no limits as to the nature of the environment, the scale, location, frequency, timing of openings and no certainty as to the circumstances when it will be used. They considered that where there are potentially significant environmental effects, that these effects need to be assessed on a case-by-case basis through the consent process and have specific conditions attached to manage effects at each location.

[8] https://www.hbrc.govt.nz/assets/Document-Library/00305-Independent-Review-Wairoa-River-Bar-Management-FINAL.pdf

The intent of Rule 9.5.3.1A is to minimise the hazard that blocked outlets can cause by enabling the re-opening of river or creek outlets which have become closed, where there is little or no surface flow to the sea, and where the closure creates a flood risk. The rivers and creeks listed were prone to blocking and have adjoining farmland, private land, or buildings that are at risk if the outlet blocks and the water backs up. Three of the Schedule A (Appendix A) rivers have defined trigger points that the flooding should reach before action is taken to reopen the outlet.

Condition (c) of the Rule only allows the opening of a river or creek outlet through the last main channel that was flowing before it became closed; i.e. relocating a river or creek outlet requires a resource consent. The intent of this condition was to restrict the use of the rule so that it would not be used to create new outlets, but this may not work in practice and can have unintended consequences - there is little point in attempting a reopening in a site that is prone to quickly reclosing, constituting additional cost, and additional environmental disturbance, for little gain.

A change to condition (c) to allow the reopening to be undertaken within the outlet's "naturally occurring zone" or similar, would allow outlets to be reinstated where they will have the most beneficial impact, i.e. reduction in flood impacts, best hydraulic efficiency and the least risk to other adjoining properties. The upcoming review of the Coastal Plan 2001 provides an opportunity to seek such a change.

With regards to the rivers with trigger points (Karamea River, Pororari River, and New River); waiting until the back-up of floodwaters reaches a set level does not take into consideration the complexities of reopening a river mouth. In the situation where the back-up of water is not quite at the trigger level but is impacting infrastructure and property, and may reach the trigger level during/following heavy rainfall (as can occur at New River and Saltwater Creek) there should be flexibility to allow for a preemptive cut prior to any forecast heavy rain, when tide timings allow, and when suitably qualified and skilled operators are available to undertake the work. This is one of the learnings of the situation with the Wairoa Bar in Hawkes Bay. The full review of the Coastal Plan provides an opportunity to potentially incorporate this flexibility into the Plan.

During the development of the new permitted Rule 9.5.3.1A and Schedule 6 of the Coastal Plan in 2008 to 2010 extensive consultation with the stakeholders such as Iwi and DOC was undertaken. The agreed list of River mouths for reopening are the rivers listed in Schedule 6 of the Coastal Plan 2001. The opportunity to consider additions to Schedule 6 could be considered in the upcoming full review of the Coastal Plan.

A 'global consent' to cover the reopening of all West Coast waterways is a potential alternative to a change to the Coastal Plan. Any 'global consent' would need to

reflect that the West Coast has extensive areas of high scenic and natural values in a largely unmodified state along a varied coastline that spans a wide range of coastal hydrosystems[9], such as coastal wetlands, hapua-type lagoons, beach streams, tidal river mouths and tidal lagoons[10]. Foreshore alterations like excavation of blocked or restricted river mouths can affect lagoons, estuaries and wetlands and the reopened river mouth may allow damaging wave energy to impact adjacent property and infrastructure. Any application for a global consent would need to be supported by a comprehensive assessment of environmental effects. Work is underway to assess whether a global consent might be worth exploring further. Assessment of a global consent versus site-specific consents versus a permitted Rule and Schedule can also be done in the Plan review process, using criteria in section 32 of the Resource Management Act 1991 (the RMA).

4.2 Other consents issued for river mouth opening

Appendix C of this Report lists current and expired consents issued by the West Coast Regional Council for opening blocked river and creek mouths.

4.2.1 Grey District Council

Grey District Council resolved in 2004 to undertake periodic clearance of urban and residential waterways discharging to the sea within the Grey District. It authorised staff to take action up to $5,000 per event for any obstructions in waterways upstream or downstream of urban areas where obstructions in the waterway are affecting the urban area. The GDC current management regime for urban waterways in the CMA discharging to the sea is periodic clearance as required. The outlets cleared are all listed in the Coastal Plan Schedule 6 and include Watsons Creek, Mill Creek, Jacks Creek and Clough Creek.

Along the stretch of coastline encompassing the above Creeks are several associated un-named drains and outlets that occasionally block up with sand, sediment, stones and driftwood pushed into them by sediment movement along beaches and material washed down the creek/drain. These also require clearance to enable them to function effectively. They are not named in Schedule 6 and therefore are not authorised by the permitted Rule 9.5.3.1A of the Coastal Plan 2001. There is another permitted Rule 9.5.3.1 in the 2001 Coastal Plan which allows clearance of blocked outfall pipes and culverts subject to conditions. However, it is unclear if Rule 9.5.3.1 also applies to un-named drains and outlets. This matter should be investigated in the full review of the Coastal Plan.

[9] Coastal features that span a gradient from near coast freshwater lakes/wetlands (lacustrine/palustrine environments) to marine environments

[10] For a full list of classifications of New Zealand's coastal hydrosystems see: https://environment.govt.nz/publications/a-classification-of-new-zealands-coastal-hydrosystems/

4.2.2 Buller District Council

Buller District Council hold a consent to undertake clearance of creeks and drains along the Granity and Ngakawau beach frontage. Cooper, Bradley, Granity and Twins Streams at Granity are listed in Schedule 6 and can be cleared and re-opened under permitted Rule 9.5.3.1A since July 2010.

4.2.3 Westland District Council

Westland District Council applied for consent for river mouth openings at Okarito Lagoon, Serpentine Creek, Waikoriri Lagoon and the Taramakau River. All consents have now expired. Serpentine Creek is listed in Schedule 6 and can be opened under permitted Rule 9.5.3.1A since July 2010. The other three Lagoons and River are not in Schedule 6 so would need a new resource consent if they needed re-opening.

5 Methods and Procedures for Undertaking Works

WCRC has no current procedures for river mouth opening. It is recommended that a Standard Operating Procedure (SOP) be developed, with specific methodology for individual outlets where required. An SOP helps ensure the work is done safely and properly. An SOP would cover the following matters:

- Assessment of water levels and urgency of opening
- Meteorological and tidal assessment
- Scheduling for effectiveness
- Draft methodology and procedures
- Design of the works (location, width, depth)
- Information and communication requirements
- Use of appropriate machinery
- Access to the site
- Contractor arrangements, Health and Safety, insurances. etc
- Ongoing monitoring

WCRC has one Scheme, Greymouth Rating District (combined with the New River Rating District) where an outlet is managed as per the Asset Management Plan. WCRC involvement is limited to only when a specific trigger level is reached. No methodology is documented for how the opening should occur but it is noted that the required lead-in time for an excavation of the New River and Saltwater Creek combined River mouth is 1-2 days and is not dependent on quiescent sea conditions. The excavation of a pilot cut to be in place at all times is not appropriate in this site as the high energy environment and significant littoral drift will quickly refill any excavation.

6 Monitoring

Sediment deposition and bar formation and movement is a natural process. It is also dynamic and cannot be reliably predicted. This requires an adaptive management approach supported by regular monitoring. At present there is no systematic monitoring of river mouths or estuarine river levels for the purposes of informing intervention actions other than the recent installation at Okuru.

When the New River and Saltwater Creek outlet is blocked, visual monitoring is undertaken by WCRC Engineers to assess the extent of the backwater flooding and the likelihood of the flooding reaching the trigger level for reopening. All other areas impacted by blocked river mouths are monitored on an ad hoc basis. It would be beneficial to provide for remote monitoring of water levels in areas where regular onsite monitoring may be difficult or hazardous.

For any new rivers proposed to be added to Schedule 6, monitoring of water levels in impacted areas would help inform the extent of outflow impedance (by noting the reduced tidal range) and after some years the record could provide guidance on how to respond to situations where the river mouth may be restricted.

7 Proposed improvement programme

To address these issues the development of a programme of work is proposed. Some of this work is likely to have hold-points to assess whether and when to continue as they may require funding that has not been provided for in the current Long Term Plan 2024/25 (LTP). Some of the work requires expert advice on the options available, for example the relative merits of a global consent versus site-specific consents. Funding for expert advice and guidance on monitoring and trigger levels may be available through the Ministry for Business, Innovation and Employment's Envirolink fund. The fund opens for applications in June 2025.

The proposed programme seeks to achieve the following objectives:

- Clarity of the respective roles and responsibilities of WCRC and the territorial authorities for river mouth management.
- Enable timely action for river mouth openings whilst not compromising health and safety of workers, contractors and the public.
- Improved monitoring of river mouth state, and appropriate triggers for taking action.
- Good practice methods for undertaking river mouth openings set out in Standard Operating Procedures (SOP).
- Assurance to affected communities about the circumstances in which river mouths will be opened, that WCRC is monitoring the situation and confidence that it has arrangements in place to enable timely intervention.

- Ensuring all necessary regulatory approvals in place (resource consents or permitted activity rules with appropriate conditions) for all foreseeable events.

Further details of the programme are set out below.

1. Engage with the territorial authorities to clarify and confirm respective roles and responsibilities for the opening of river mouths.
2. Develop a Standard Operating Procedure for the reopening of river mouths (basic methodology, approvals, notifications etc).
3. Develop specific methodology for all rivers where works may be undertaken for a rating district (currently only New River/Saltwater Creek). Include draft methodology and procedures, delegations, territorial authority notification, WCRC compliance notification, wind and barometric information, swell and tide forecasts.
4. Consult with members of Neils Beach, Karamea and Punakaiki Rating Districts regarding whether to include the clearing of blocked river outlets in their respective Asset Management Plans. This would formalise the arrangement and make it clear what is expected of WCRC.
5. Investigate establishing contracts with suitably experienced contractors in specific areas. Undertake a procurement process so that staff have access to a pre-approved panel of suitable contractors with experience in coastal river mouth openings. This includes health and safety and insurance requirements.
6. Consider requesting a change in the Coastal Plan full review process to permitted Rule 9 9.5.3.1A condition (c) to allow river mouths to be reinstated where they will have the most beneficial impact, i.e. reduction in flood impacts, best hydraulic efficiency, and the least risk to other adjoining properties. The wording should be altered to allow the reopening to be undertaken within the outlet's 'naturally occurring zone' or similar. Alternatively, consider preparing an application, with supporting information, for a global consent or consents for specific river mouths.
7. Consider requesting that the new Coastal Plan provide for situations where a pre-emptive cut is necessary prior to floodwaters reaching the set trigger points for Karamea River, Pororari River, and New River. This applies one of the learnings from Wairoa.
8. Consider requesting that the Hokitika River be added to the list of river and creek mouths that can be opened under a permitted rule when the new Coastal Plan is drafted.
9. Consider requesting that the permitted Rule 9.5.3.1 in the 2001 Coastal Plan for clearance of blocked outfall pipes and culverts be clarified in the new Coastal Plan regarding whether it applies to un-named drains and outlets.
10. Undertake monitoring of water levels in impacted areas. This would help inform the extent of outflow impedance (by noting the reduced tidal range) and after some years the record could provide guidance on how to respond to situations

where the river mouth may be restricted. Further work would be needed to scope the methods to be used, and their costs. Implementation of improved monitoring could be staged over time to minimise the impact on funding requirements.

8 Options

The Committee has three options for decision-making on this matter, as follows.

Option 1 – Status quo

With this option the current approach to managing river mouths would continue, under the existing policy and regulatory framework. The advantage of this option is that it requires no additional work. The disadvantage of this option is that WCRC's ability to effectively manage river mouth openings would continue to be constrained. There would continue to be heightened health and safety, operational and environmental risks through the absence of SOPs and formal contractor management. This option is not recommended by staff.

Option 2 – Endorse the proposed improvement programme (Recommended Option)

This option involves implementing the programme of work described in this paper. The advantage of this option is that it will increase the effectiveness of WCRC's work and enable better management of community flood risk and health and safety and environmental risks for Council. The disadvantage of this option is that it potentially requires additional funding of some of the proposed activities. Most of the activities can however be delivered as part of business of usual activity or through initiatives already underway and funded such as the review of the Coastal Plan. Staff recommend Option 2.

Option 3 – Direct staff to make changes to the proposed improvement programme

This option involves the Committee directing staff to make changes to the programme such as including additional activities or omitting or deferring some activities. The advantage of this option is that the programme is potentially enhanced. The disadvantage of this option is that it alters a programme that staff consider to be the optimal programme for responding to the issues and opportunities described in this paper. This option is not recommended by staff.

9 Next Steps

If the Committee endorses the proposed programme (Option 2) then staff will identify costs, resources and timeframes for delivering the programme. These will be reported back to Committee by 30 June 2025 and will inform development of the Draft 2027/37 Long Term Plan.

Considerations

Significance and Engagement Policy Assessment

There are no issues within this report which trigger matters in this policy.

Tangata whenua views

Staff are not aware of any issues within this report which would impact tangata whenua.

Views of affected parties

There are no issues within this report which trigger matters in this policy.

Financial implications

Not applicable.

Legal implications

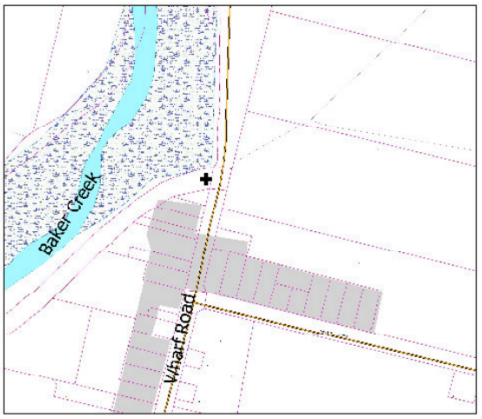
Not applicable.

Appendix A: Coastal Plan. Schedule A

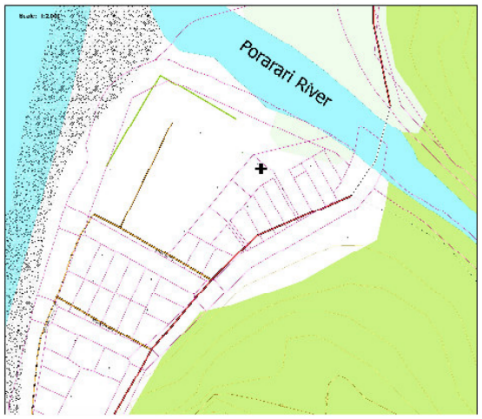
Schedule A
Stony Creek, north of Karamea
Candle Creek, north of Karamea
Break Creek, Oparara
Chatterbox Stream, Nikau
Patten Stream, Nikau
Dufty Stream, Miko
Lamplough Stream, Miko
Dean Stream, Miko
Ngakawau River, Ngakawau
Cooper Stream, Granity
Bradley Stream, Granity
Granity Stream, Granity Stream
Twins Stream, Granity
Jones Creek, Birchfield
Waimangaroa River, Waimangaroa
Deadmans Creek, Fairdown
Bull Creek, Cape Foulwind
Marris Creek, Cape Foulwind
Totara Rivers, Charleston
Punakaiki River, Punakaiki
Hibernia Creek, North Barrytown Flats
Canoe Creek, Barrytown
Granite Creek, Barrytown
Fagan/Tipperary Creek, Barrytown
Barrytown dredge ponds
Bakers Creek, South Barrytown Flats
Seven Mile Creek, Rapahoe
Range Creek, Cobden
Watsons Creek, Karoro
Mill Creek, South Beach
Jacks Creek, Paroa
Clough Creek, Paroa
Serpentine Creek, Serpentine Bend
Acre Creek, Chesterfield (west channel, not the Kapitea/Acre Creek lagoon)
Waimea Creek, Awatuna
Flowery Creek, Arahura, only where it enters into the Arahura River
Little Houhou Creek, north Hokitika
Houhou Creek, north Hokitika
Mikonui River, Ross, provided it does not adversely affect Mikonui lagoon to the north or Waikoriri lagoon to the south
Manakaiaua River, north of Bruce Bay
Mahitahi River, Bruce Bay
Arawhata River, Jackson Bay

Schedule A Rivers with trigger points

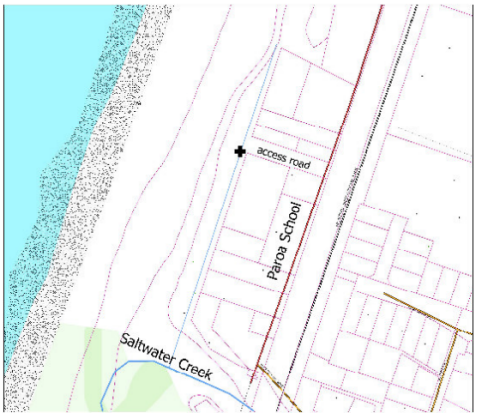
Karamea River, when the water level reaches 0.75m below Wharf Road, measured at the flood gate culvert at the north end of the residential area



Porarari River, Punakaiki, when the water level reaches the nikau palm on the north side of Lot 16, DP 1275, Blk 1, Punakaiki SD



New River, Paroa, when backup reaches the top of the culvert on the beach access road alongside the Paroa School sports field



Note:
The purpose of this rule is to minimise a hazard risk by enabling the re-opening of river or creek outlets which become closed, where there is little or no surface flow to the sea, and where the closure is creating a flood risk.

This rule only allows the opening of a river or creek outlet through the last main channel that was flowing before it became closed. Relocating a river or creek outlet requires a resource consent. The rule also does not permit clearing outlets to permanently drain lagoons or estuaries, or to allow fish passage.

Persons exercising this rule should be aware that permission may need to be obtained, at their own expense, from the legal owner or administering body of the river bed or mouth.

Where practicable, the excavation should be cut to allow release of water immediately after high tide.

For the purposes of this Rule "infrastructure" includes legal road.

Appendix B: Coastal Plan - Rule 9.5.3.1A

For the waterbodies set out in Schedule A, disturbance of the foreshore or seabed, including in Coastal Hazard Areas, associated with clearing the outlet of a river or creek is a permitted activity, provided:

a) The outlet is causing a backwater flooding hazard to adjoining land or infrastructure.
b) The disturbance is limited to the extent necessary to resume flow and remove the hazard.
c) The outlet shall be reinstated where the channel was last actively flowing prior to closure.
d) Where available, and existing access route be used and in all cases, access shall minimize disturbance to dunes, vegetation, indigenous species' nesting areas or habitat, or sites of importance to Poutini Ngai Tahu
e) The area from which the material is taken is smoothed over and the site is left tidy on completion of the work.
f) No refueling or lubrication or any mechanical repairs shall be undertaken in the coastal marine area.
g) The Regional Council is notified of which river or creek outlet is to be opened, when, and by whom, prior to the works being undertaken.
h) All equipment, machinery, and plant is removed from the coastal martin e area at the completion of works.

Appendix C: Current and expired consents held for river mouth opening

- *RCN93252: Westland District Council. Okarito Lagoon, expired 2013, 4 conditions, had a management plan with a trigger level for opening a blockage.*
- *RCN96213: Westland District Council. Serpentine Creek, expired 2016.*
- *RC02099 and RC04016: Westland District Council. Waikoriri Lagoon, conditions including a management plan with a trigger level for opening a blockage. RC04016 expired 8/2/06. RC02099 commenced 23/9/2005, and expired Sept 2040 (surrendered 2020)*
- *RC03239: Westland District Council. Taramakau River, to protect road from flooding, expired Feb 2009.*
- *RC04102: G Robinson. Flowery Creek and Kabukabuka Creek to the Arahura River.*
- *RC05170: Buller District Council. To disturb the foreshore of the beach in front of Granity, Ngakawau and Hector for the purpose of clearing creek and drain outlets of debris. Current consent expires 2026.*
- *RC-2015-0006: Department of Conservation. To permit opening of the mouth of the Kohaihai River.*

8.3	**Natural Hazards Information Strategy and Implementation Plan**
Author	Sharon Hornblow, Natural Hazards Analyst
Authoriser	Darryl Lew, Chief Executive
Public Excluded	No

Report Purpose

To introduce the Operations Committee to the recently completed Natural Hazards Information Strategy and Implementation Plan, created for the West Coast Regional Council by Corsair Consulting and seek endorsement of the Strategy and Plan.

Report Summary

This report briefly summarises the Natural Hazards Information Strategy (the Strategy) and its companion document the implementation Plan (the Plan), recently commissioned by WCRC, attached. The Strategy aims to guide WCRC in fulfilling its responsibilities under Section 35 of the Resource Management Act 1991, considering both systems and information needs throughout the various groups at WCRC and external stakeholders such as territorial authorities, which make use of Council's natural hazards information.

In brief, the Strategy outlines a problem and purpose statements and comprises five main objectives, with each aimed at addressing problems identified with WCRC's current management of Natural Hazards information. The objectives are to:

- Maximise the value of existing information
- Improve accessibility for public, stakeholders and Council
- Extend and enhance knowledge and information
- Support community and infrastructure resilience programs
- Engage in partnership research programs and relationships

In creating the Strategy and Plan, Corsair Consulting spent time investigating the current datasets and information held and the functioning of natural hazards-adjacent workstreams at Council, as well as interviewing relevant staff to gain a picture of needs and opportunities. A 'SWOT' analysis (strengths, weaknesses, opportunities, threats) was used to summarise these points and present a clear

picture of how natural hazards information is organised, utilised and shared and how this could be improved upon in future (See Appendix A).

The Implementation Plan outlines how WCRC might leverage strengths, address weaknesses, and capitalize on opportunities identified in the SWOT analysis. Supporting actions and proposed workstreams are outlined, presented in a format which aligns with the Long-Term Planning cycle and is designed to be adjustable to match resource availability, ensuring that activities are feasible within the constraints of the LTP.

Recommendations

It is recommended that the Committee resolve to:

1. *Receive this report.*
2. *Endorse the Natural Hazards Information Strategy and Implementation Plan.*
3. *Note that the Strategy and Implementation Plan will inform development of the Draft 2027/2037 Long Term Plan.*

Issues and Discussion

Background

WCRC has extensive natural hazards information but it is hard to access, incomplete and lacks a comprehensive plan. The vision of the Natural Hazards Strategy is to ensure easy access to quality, user-friendly information on all relevant natural hazards for all communities in the West Coast region.

Current situation

Accessing natural hazards information on the West Coast is currently not straightforward and the way datasets are presented is not making use of modern, spatial technology. This makes it difficult and time-consuming to ensure the public, stakeholders and territorial authorities have the information they need. Although WCRC has a dedicated webpage for natural hazards reports, some datasets which are primarily represented by spatial data (e.g. regional storm-surge modelling used to support the TTPP) and there are multiple scenarios and models which usually need to be considered. It is also not clear whether certain datasets exist in recent modelling, or historic data format and therefore where the data and information gaps are to be targeted with limited resources.

Although there is a wealth of natural hazards datasets and investigations, especially in detailed flood-modelling, there are data-gaps in the geotechnical space. For example, liquefaction susceptibility modelling is regional-scale and not detailed enough in our main centres to inform decision making, and we are yet to understand the implications of shallow groundwater and how this contributes to flooding in our coastal areas, long-term. The implementation plan outlines how these activities might be covered in our next LTP.

LTP process

As well as helping outline a pathway toward a better natural hazards information system for WCRC, the Plan will also support the next LTP planning process, ensuring that the natural hazards information strategy is integrated into broader regional planning and resource allocation. It is designed to be adjustable to match resource availability, ensuring that activities are feasible within the constraints of the LTP. The next three years' activity would be delivered with existing resource levels, making it more manageable within the LTP framework.

Options

1 – Endorse the proposed Strategy and Plan

This option involves implementing the programme of work summarised above, and more fully laid out in the attached documents described in this paper. This option will involve ensuring that the upcoming LTP process engages closely with the recommendations in the Strategy and proposed workstreams and will bring WCRC closer to a fit-for-purpose natural hazards information system over time, better supporting all of Council and stakeholders. It helps WCRC fulfil its natural hazards responsibilities including the disclosure of natural hazards information. Option 1 is the recommended option.

2 – Status quo

With this option the current approach to managing natural hazards information and responding to internal and external requests for improved access to data and modelling to inform decision-making, would continue. Overall, the Strategy has identified that the status quo is an inefficient use of the small staff resource WCRC does have, and that the current management of data and information is not needing needs of stakeholders. However, this option could be considered if directing further resource into natural hazards in the upcoming LTP is not preferred.

Considerations

Implications/Risks

Considerations at Management level: All Group Managers at WCRC have reviewed the Strategy as it touches on many aspects of Council (e.g. environmental monitoring, WCEM). Each Group has considered the budget and resources required to complete work outlined in the Strategy and Implementation Plan up to 30 June 2026.

Significance and Engagement Policy Assessment

There are no issues within this report which trigger matters in this policy.

Tangata whenua views

Staff are not aware of any issues within this report which would impact tangata whenua.

Financial implications

These are discussed in the paper.

Legal implications

The Strategy will help ensure that WCRC is legally disseminating its natural hazards information which will minimize WCRC's risk of liability through nondisclosure.

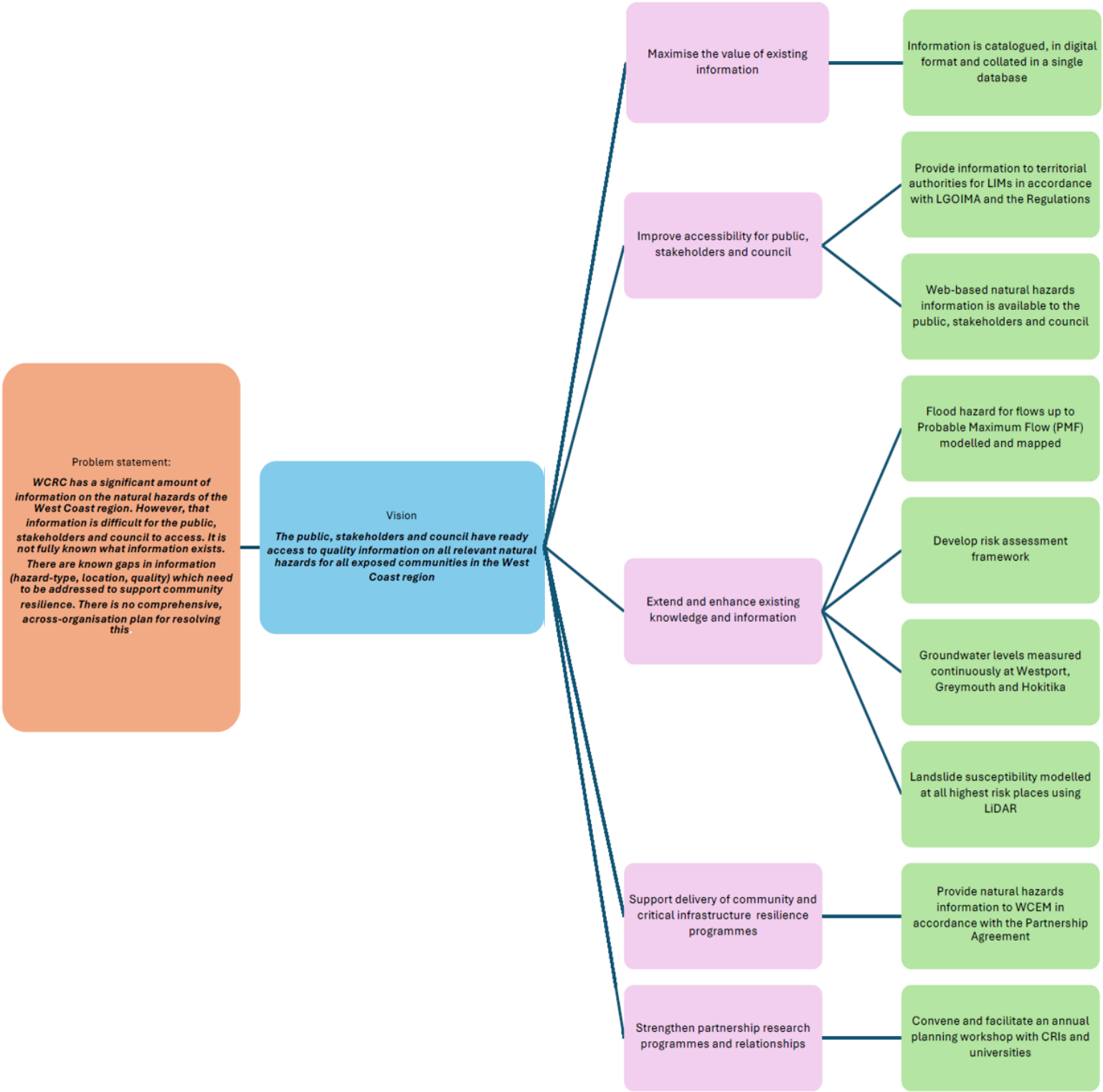
Attachments

Attachment 1: Natural Hazards Information Strategy (24 February 2025)
Attachment 2.: Implementation Plan (1 April 2025)

Appendix A: Summary of SWOT analysis for natural hazards information at WCRC

Strengths	**Weaknesses**
• Hold significant amount of valuable and unique information arising from its catchment board origins and its ongoing responsibilities under the Soil Conservation and Rivers Control Act 1941. • Legislated responsibility for this activity and therefore mandate. • Strong community and ratepayer engagement and relationships particularly through Special Rating Districts. • The commitment to planned improvements to information systems including "*a fit-for-purpose spatial platform for GIS*" over Years 1-2 of the Long Term Plan.	• Poor systems and processes especially online access and record-keeping, creating inefficiencies, liabilities and the potential for poorly or partially informed decisions on natural hazards risk management. • Potential for lack of clarity as to whether it is WCRC or WCEM and/or the Lifelines Group that leads the gathering of natural hazards information and decides priorities. • No organization-wide forward programme of information gathering and dissemination for the region. • Resourcing levels are disproportionately low relative to the level of work required.
Opportunities	**Threats**
• Heightened community interest in natural hazards risk management arising from recent weather and geological events across NZ. • Collaboration with others doing similar things, including hazards research and natural hazards portals. • Research and information gathering by others that is highly specialised and not funded by ratepayers (CRIs, University of Canterbury). • The impetus and focus given by TTPP and climate resilience (Before the Deluge) projects, and further Regional Policy and Regional Plan reviews.	• Risk and litigation if done poorly. • Multiple players increasing the complexity of the operating environment (providers of public information) whilst at the same time WCRC retains the primary statutory responsibility for natural hazards knowledge and information for its community. • The region's dynamic physical environment means that information can quickly become outdated requiring follow-up. • Knowledge and information arise from natural events that cannot be planned for with certainty.

Appendix B: The Natural Hazards Information Strategy



Appendix C: Overview of implementation Plan

Natural Hazards Information Strategy for the West Coast Region
Implementation Plan July 2024 to June 2034
v3, 1 April 2025

Workstreams are grouped by the five strategic objectives

Workstream type:
Scoping, design or engagement
Delivery

Workstream	2024/25	2025/26	2026/27	2027/28	2028/29
Maximise the value of existing information					
1 Reviews of Regional Policy Statement and Regional Land and Water Plan	Provide support to Policy Team				
2 Information for past flood events	Scoping what exists	Collate, digitise and upload layers and reports			
3 Information for past natural hazard events other than floods		Scoping what exists	Collate, digitise and upload layers and reports		
4 AF8 datasets and information		Incorporate and link to relevant information			
5 Information received through RMA and Building Act (dam safety) processes		Collate information and assess relevance			
6 Collate information held by NZTA, DOC and KiwiRail		Engage with agencies	Collate information		
Improve accessibility for public, stakeholders and council					
7 Data transfer to territorial authorities and LGOIMA LIM process	Implement new process including new LGOIMA LIM provisions				
8 WCRC GIS platform	Develop GIS platform	Upload content	Manage content		
9 Natural Hazards Portal					Scope portal and delivery options
10 Multi-hazard reporting for selected communities				Prepare report for Community 1	
Extend and enhance existing knowledge and information					
11 Modelling of flood hazard for flows up to Probable Maximum Flood (PMF)	Engage with power company project	Develop hydrology and run hydraulic models			
12 Modelling for all TTPP flood-related natural hazards overlays and for SRDs		Scoping and prioritisation		Modelling	
13 Ongoing reviews and updates of flood models (including post-event)					
14 Develop risk assessment framework as part of review of natural hazards provisions of RPS	Scoping	Develop framework			
15 Continuous monitoring of groundwater levels at Westport, Greymouth, Hokitika		Scoping and design		Stage 1 implementation	
16 GNSS monitoring of land elevation at Westport and Greymouth			Scoping	Implement Westport	
17 Coastal hazard monitoring programme			Scoping	Implementation	
18 Landslide susceptibility modelling	Complete current work	Scoping and engagement with stakeholders		Repeat using LiDAR data for highest risk places	
19 Liquefaction assessments		Scoping	Level B for Westport	Level B for Westport	Level B for Greymouth
20 Cascade hazards associated with fault rupture and severe ground shaking		Scoping		Further investigation of natural hazards	
21 Modelling of pluvial flood hazard incorporating effects of high groundwater and river levels					Modelling Westport
22 Coastal hazard assessment			Scoping		
23 Lake tsunami hazard modelling					
24 Scope natural hazards information needs for next generation District Plan(s)					
Support delivery of community and critical infrastructure resilience programmes					
25 WCCDEM Partnership Agreement 2022	Provide natural hazards information and support to WCEM in accordance with the Agreement, including community-based fact sheets				
26 Lifelines Group	Support for Lifelines Group			Technical support for updated Lifelines Study	
Strengthen partnership research programmes and relationships					
27 CRI and university relationships		Develop partnership arrangements	Implement partnership arrangements		

2029/30	2030/31	2031/32	2032/33	2033/34
				Provide support to Policy Team
	Develop portal (or hosting arrangements)		Manage portal content	
Prepare report for Community 2		Prepare report for Community 3		Prepare report for Community 4
				Review PMF estimates
	Stage 2 implementation			Stage 3 implementation
Implement Greymouth				
Level B for Hokitika	Level B or C assessments for other places			
Modelling Greymouth	Modelling Hokitika			
Dynamic modelling of inundation and tsunami				
Scoping	Lake Brunner			Lake Kaniere or Lake Mapourika
			Scoping	
Support 5-yearly review of Group Plan				Support 5-yearly review of Group Plan
				Technical support for updated Lifelines Study

Natural Hazards Information Strategy for the West Coast Region

Corsair Consulting

Natural Hazards Information Strategy for the West Coast Region

Prepared for West Coast Regional Council

Prepared by Gavin Palmer, Corsair Consulting NZ Limited

February 2025

www.corsairconsulting.co.nz

Version history

Version No.	Description	Approved by	Date
1	Draft for WCRC review.	G Palmer	19 November 2024
2	Revised based on WCRC review.	G Palmer	20 December 2024
3	Minor reformatting and updates.	G Palmer	24 February 2025

Cover photo: Grey River/Māwheranui, from Cobden Bridge, 1316hrs, 10 November 2024 (717m^3/s at Dobson).

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Executive Summary

This document presents a natural hazards information strategy for the West Coast Region. It has been commissioned by the West Coast Regional Council (WCRC). A companion document presents an Implementation Plan for the strategy.

The purpose of the strategy is to provide a framework for how WCRC will fulfil its natural hazards information responsibilities under Section 35 of the Resource Management Act 1991, over the period 2024-2034. The strategy considers systems and process requirements as well as information.

The following topics emerged from a SWOT analysis and are discussed:

- Public access to natural hazards information.
- Existing information for the priority hazard-types.
- New natural hazards information, underway or planned.
- Respective roles and interfaces with West Coast Emergency Management and Lifelines.
- Partnerships with Crown Research Institutes (CRIs) and others.

The strategy addresses the following problem statement:

WCRC has a significant amount of information on the natural hazards of the West Coast region. However, that information is difficult for the public, stakeholders and council to access. It is not fully known what information exists. There are known gaps in natural hazards information (hazard-type, location, quality) which need to be addressed to support community resilience. There is no comprehensive, cross-organisation plan for resolving this.

The following vision has been developed in response to the problem statement:

The public, stakeholders and council have ready access to quality information on all relevant natural hazards for all exposed communities in the West Coast region.

Council means staff and elected members. Relevant natural hazards include interaction between hazard-types and cascade and cumulative impacts.

The following strategic objectives are proposed for achieving the vision:

1. Maximise value of existing information.
2. Improve accessibility for public, stakeholders and council.
3. Extend and enhance existing knowledge and information.
4. Support delivery of community and critical infrastructure resilience programmes.
5. Engage in partnership research programmes and relationships.

Each of the objectives have workstreams that build on the strengths and opportunities identified through the SWOT analysis and that address the weaknesses and threats. Measures are suggested for each objective.

1 Introduction

This document presents a natural hazards information strategy for the West Coast Region. It has been commissioned by the West Coast Regional Council (WCRC). A companion document presents an Implementation Plan for the strategy[1].

The purpose of the strategy is to provide a framework for how WCRC will fulfil its natural hazards information responsibilities under Section 35 of the Resource Management Act 1991 (RMA), over the period 2024-2034.

There is no statutory requirement for a regional council to have such a strategy and at present WCRC does not have one. However, a strategy helps ensure that statutory requirements relating to information gathering and disclosure, and the work they support, are met. This is important for WCRC because its natural hazards function is growing, with competing priorities and limited resources.

The processes and systems for gathering, collating, storing and disseminating information have a bearing on how effective and efficient WCRC is in delivering its responsibilities. This strategy therefore considers systems and process requirements as well as information. It is acknowledged that WCRC already recognises the need to improve systems and processes and has work underway or planned, as outlined in the 2024-34 Long Term Plan (LTP)[2].

It is noted that a comprehensive assessment of natural hazards information needs was commissioned by WCRC in 2002 and undertaken by DTEC Consulting Ltd[3]. This is discussed further in this strategy document.

The strategy and implementation plan were developed between September 2024 and April 2025. Further details on the approach taken to develop the strategy, and its scope and limitations, are presented in section 4.

2 The hazardscape of the West Coast

It is widely known within the West Coast community that the region has a significant hazardscape. Almost 75% of ratepayers rely on flood protection provided by WCRC[4] and hence have some exposure to flood and related natural hazards risks. The history of flooding is well known to the community, especially recent significant flood events.

[1] Corsair Consulting, *Natural Hazards Information Strategy for the West Coast Region – Implementation Plan*. Prepared for West Coast Regional Council. April 2025.
[2] West Coast Regional Council, *Long-Term Plan 2024-2034*. 2024, pp16, 19.
[3] DTEC Consulting Limited, *West Coast Regional Council: Natural Hazards Review*. Prepared for West Coast Regional Council. 2002, 140p + five appendices.
[4] West Coast Regional Council, *Long-Term Plan 2024-2034*. 2024, p10.

The AF8 programme has a high public profile and has further raised awareness of natural hazards[5].

The hazardscape itself is described in the 2017 Lifelines study[6], the 2002 review by DTEC[7] and in various hazard-specific studies commissioned by WCRC and others. The significance of the hazardscape is acknowledged in the LTP[8], the West Coast Emergency Management (WCEM) Group Plan[9] and the Te Tai o Poutini Plan (TTPP) development process[10]. The Infrastructure Strategy 2024-54 includes "*risk of natural hazards*" as one of the four significant infrastructure issues[11]. WCRC has included "*working with our communities to build resilience and adapt to living within our hazardscape*" as one of its three high-level priorities in the LTP[12].

The community knowledge and experience is extremely valuable in managing natural hazards risks. WCRC's origins as the Westland Catchment Board means it has acquired a lengthy record of the region's flooding history and has significant knowledge as a body corporate. The existence of catchment-specific community-focussed groups (Special Rating Districts) means that there is an ongoing focus on flood hazard and a means of communicating and discussing new information, including receiving valuable information from the community. Despite the experiences of the community in relation to some natural hazards, such as floods, and WCRC's origin as a Catchment Board, there are other hazards that are present as ongoing threats for which there is little or no community experience or knowledge in living memory. These include major tsunami and liquefaction.

Recent central government interest in the natural hazard risks of West Coast communities, especially Westport, has given impetus to information gathering including comprehensive numerical modelling of flood hazard[13]. However more needs to be done to adequately understand the hazardscape across a range of hazard-types to enable WCRC to give full effect to its natural hazards information responsibilities. This includes improving access to the information it already has. The dynamic landscape means that some information can quickly become outdated, requiring

[5] https://af8.org.nz

[6] McCahon, E., D. Elms and R. Dewhirst, *Improving Resilience to Natural Disasters, West Coast Lifelines Vulnerability and Interdependency Assessment: Main Report*. Prepared for West Cost Civil Defence Emergency Management Group. 2017, 56p + 12 supplements.

[7] DTEC Consulting Limited, *West Coast Regional Council: Natural Hazards Review*. Prepared for West Coast Regional Council. 2002, 140p + five appendices.

[8] p13.

[9] West Coast Civil Defence and Emergency Management Group, *Group Plan*. 2016.

[10] *Te Tai o Poutini, Section 32 Evaluation, Report Three – Hazards and Risks, Part One – Natural Hazards Including Coastal Hazards*.

[11] West Coast Regional Council, *Long-Term Plan 2024-2034*. 2024, p71.

[12] p13.

[13] Te Uru Kahika River Managers' Special Interest Group, *Before the Deluge 2.0, updated case for co-investment in flood management infrastructure following Cyclones Hale and Gabrielle*. 30 November 2023.

follow-up and an ongoing programme of information gathering and dissemination. This strategy is intended to help WCRC address these matters.

3 Natural hazards – definition and scope

It is important that there is a clear and common understanding of what is meant by "natural hazard" and hence what this strategy relates to. As this strategy is primarily set within the context of WCRC's responsibilities under the RMA, the definition of natural hazard used in the RMA is used here. That definition is[14]:

***"natural hazard** means any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire, or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment."*

All of these hazard-types are relevant to the West Coast, however, their relative significance varies. This is acknowledged in the natural hazards part of the Section 32 analysis for TTPP which states "*not all natural hazards as defined in the RMA are significant on the West Coast; therefore, it is not appropriate or necessary for TTPP to manage all natural hazards*".[15]

A similar approach is taken here in that the current state analysis and review of existing information focuses on flooding, liquefaction, land instability, tsunami (lake and coastal) and coastal hazards. Wind, drought and fire are not considered further in the current state analysis. That is not to say that they should not be considered by WCRC for inclusion in future work programmes, however, they are not of a significance to warrant guidance from this strategy at this time.

4 Developing a strategy - approach and scope

As noted above, a comprehensive assessment of natural hazards information needs was commissioned by WCRC in 2002 and undertaken by DTEC Consulting Ltd[16]. The work included recommendations on further work that should be undertaken by WCRC. Notable events and developments subsequent to 2002 include:

- Catastrophic natural hazard events that have influenced public understanding and expectations regarding natural hazards risk management in New Zealand, including the 2004 Indian Ocean earthquake and tsunami, 2010/2011

[14] *Resource Management Act 1991*, s7.
[15] *Te Tai o Poutini, Section 32 Evaluation, Report Three – Hazards and Risks, Part One – Natural Hazards Including Coastal Hazards*. p6.
[16] DTEC Consulting Limited, *West Coast Regional Council: Natural Hazards Review*. Prepared for West Coast Regional Council. 2002, 140p + five appendices.

Canterbury earthquakes sequence, 2021 and 2022 Westport floods and Cyclones Hale and Gabrielle (North Island, 2023).

- The findings of the Canterbury Earthquakes Commission in respect of local government roles for gathering and disseminating liquefaction information[17].
- The publication of formal guidance by government in 2017 on the assessment of liquefaction hazard[18].
- Local government learnings from the 2023 North Island floods, especially the need to understand risks for greater-than-design (overdesign) events[19].
- Government co-investment in flood protection infrastructure for the West Coast region requiring specific hazard modelling and investigation to support planning and design[20].
- Increased application of two-dimensional numerical models of flood hazard made feasible through increased access to LiDAR[21] data.
- Developments in public access to natural hazards information including the national Natural Hazards Portal developed by the Natural Hazards Commission (formerly EQC).
- The expansion of community-based adaptation planning across New Zealand using the Dynamic Adaptive Pathways Planning (DAPP) and similar methods to address multi-hazards and the effects of future climate change.

This strategy takes a fresh look at the current state and information needs of WCRC. It is noted that a number of the recommendations made by DTEC Consulting Ltd in 2002 are still applicable.

The structure of the strategy is depicted in Figure 1, with the elements developed in sequence from left to right.

Figure 1 - The structure of the strategy and its elements

[17] Canterbury Earthquakes Royal Commission, *Volume 7, Roles and Responsibilities, Final Report*.
[18] Ministry for Business, Innovation and Employment/Ministry for the Environment, *Planning and engineering guidance for potentially liquefaction-prone land Resource Management Act and Building Act aspects*. ISBN (online) 978-1-98-851770-4 Rev 0.1, September 2017, Wellington, New Zealand.
[19] *Report of the Hawkes Bay Independent Flood Review*. July 2024.
[20] Te Uru Kahika River Managers' Special Interest Group, *Before the Deluge 2.0, updated case for co-investment in flood management infrastructure following Cyclones Hale and Gabrielle*. 30 November 2023.
[21] Light Detection And Ranging.

The current state assessment broadly takes the form of a SWOT analysis with a deeper dive into strengths and weaknesses. Although focussed on information, it necessarily considers systems and processes too. That is because weaknesses, threats and opportunities can only be addressed if processes and systems are also addressed. For some of WCRC's issues the root cause lies with systems and processes rather than the information itself. Gathering new, additional information will exacerbate the issues unless the systems and process issues are first addressed.

The current state of information held by WCRC was assessed through interviews with relevant WCRC staff, inspecting WCRC document lists and sampling WCRC's records. This was intended to establish the nature and scope of the information held by WCRC rather than be a comprehensive stocktake and review. A more sophisticated approach involving staff and stakeholder workshops would be productive only once there is a clearer overall picture of what already exists. It would be appropriate to schedule those workshops nearer the next update of this strategy or as part of preparation of the next (2027-37) Long Term Plan. This will also allow time for further development and consolidation of the natural hazards management programme.

Information needs have been assessed by having regard to current best practice.

WCRC's systems and processes for supporting the management of natural hazards information are not well developed. For that reason the strategy is based on some assumptions about information gaps. Those assumptions will need to be tested throughout the implementation period, especially during development of the 2027-2037 Long Term Plan, and the strategy and implementation plan revised as necessary. This is part of a "plan, do, review" cycle that will, over time, refine alignment between WCRC's work programme and the actual, rather than perceived, information gaps.

As the strategy is focused on Section 35 of the RMA, the assessment of the effectiveness of risk mitigation measures, contaminated sites, the review of hydrological and geotechnical data and the review of flood and tsunami warning systems and processes and evacuation thresholds are outside the scope of the strategy. Also, the quality of data and methods used to derive minimum floor flood levels for buildings have not been reviewed.

The strategy is not a risk assessment or risk screening exercise. It addresses one of the components of risk, being the hazard or threat (Figure 2)[22].

[22] Intergovernmental Panel on Climate Change, 2014. *Annex II: Glossary* [Mach K J, Planton S, von Stechow C (eds)]. In: Core Writing Team, R K Pachauri, L A Meyer (eds). Climate Change 2014: Synthesis report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva: Intergovernmental Panel on Climate Change.

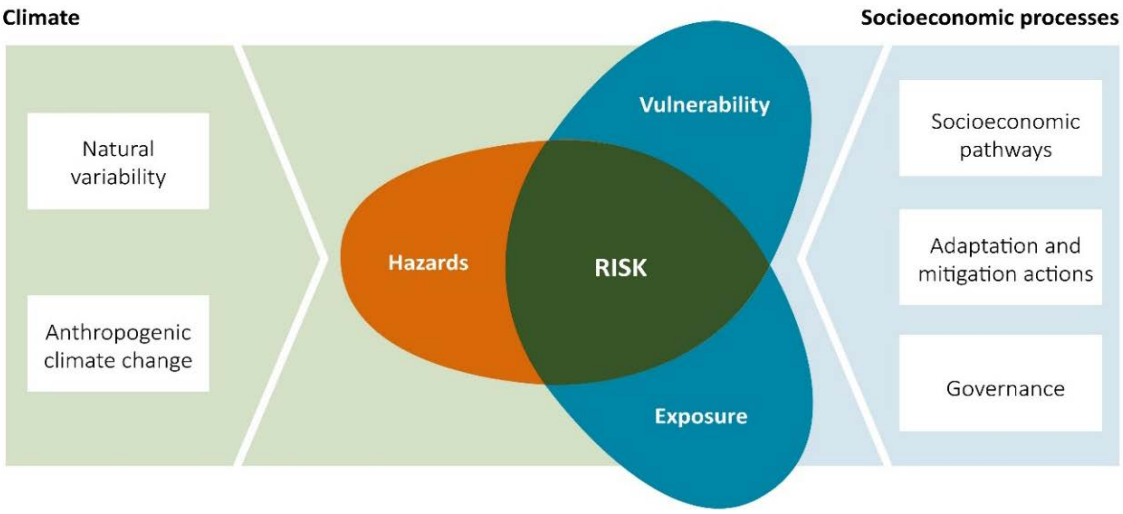

Figure 2 - This strategy deals with the "hazards" part of risk

It is important to distinguish hazard information and mapping from hazard planning zones and lines. This strategy deals with the former but makes reference to the latter (for information only) where appropriate. This strategy does not examine adequacy of policies nor whether hazard information has been appropriately incorporated into planning instruments.

Other organisations are likely to have natural hazards information that is not held by WCRC, including NZTA, Department of Conservation, KiwiRail and the Ministry of Education. Those organisations have not been asked what information they hold. It is recommended that WCRC engage with those organisations for that purpose.

The implementation plan assigns priorities within the workstreams arising from the strategy, with a focus on "getting organized". An exposure and risk assessment framework of the type being developed by Otago Regional Council would be required for a more advanced approach to prioritisation. The strategy recommends development of such a framework in future years, linked with the upcoming review of the Regional Policy Statement, and provides for it in the Implementation Plan.

5 Context – the legislative, policy and plan setting for natural hazards information

The legislative and policy setting for natural hazards risk management is described in detail in the TTPP Section 32 analysis and is not repeated here. This section instead focuses on provisions specific to natural hazards information, including dissemination, in the following legislation and instruments:

- Resource Management Act 1991
- New Zealand Coastal Policy Statement 2010

- West Coast Regional Policy Statement
- Regional Land and Water Plan
- Regional Coastal Plan for the West Coast
- Buller District Plan
- Grey District Plan
- Westland District Plan
- Local Government Official Information and Meetings Act 1987 and proposed regulations for Land Information Memoranda (LIMs)
- West Coast Civil Defence and Emergency Management Group, Group Plan 2016 and Partnership Agreement 2022
- Soil Conservation and Rivers Control Act 1941
- Non-Financial Performance Measures Rules 2024
- Building (Dam Safety) Regulations 2022.

The intention is to highlight that WCRC has mandatory obligations for gathering and disseminating natural hazards information. It is acknowledged that some of these instruments are in the process of being reviewed, or will be shortly, however at present they all have legal effect and set the current operating environment.

The District Plans of the three territorial authorities have been reviewed as some of these specify the role of WCRC in relation to natural hazards information. It is acknowledged that these Plans are in the process of being reviewed through TTPP, however, they currently have legal effect. It is noted that the 2022-2025 West Coast Triennial Agreement[23] makes no specific reference to natural hazards information or a strategy.

Resource Management Act 1991

Section 35 of the Resource Management Act 1991 sets out the duties of local authorities to gather information, monitor and keep records. This is detailed as follows.

Section 35(1) requires that "*every local authority shall gather such information, and undertake or commission such research, as is necessary to carry out effectively its functions under this Act or regulations under this Act*."

Section 35(3) requires that "*every local authority shall keep reasonably available at its principal office, information which is relevant to the administration of policy statements and plans, the monitoring of resource consents, and current issues relating to the environment of the area, to enable the public—*

[23] https://www.greydc.govt.nz/repository/libraries/id:2cvtsvtyv1cxbyz1k6uz/hierarchy/sitecollectiondocuments/Your%20Council/Elections/2022-2025%20Triennial%20Agreement%20-%20Signed.pdf

(a) to be better informed of their duties and of the functions, powers, and duties of the local authority; and

(b) to participate effectively under this Act."

Section 35(4) requires "*every local authority shall keep reasonably available at each of the offices in its region or district such of the information referred to in subsection (3) as relates to that part of the region or district*."

Section 35(5) states "*the information to be kept by a local authority under subsection (3) shall include—*

(j) records of natural hazards to the extent that the local authority considers appropriate for the effective discharge of its functions."

It is noted that the government is developing National Direction for Natural Hazards as part of the RMA reform programme[24].

New Zealand Coastal Policy Statement 2010

The New Zealand Coastal Policy Statement 2010[25] (NZCPS) is to be applied as required by the RMA by persons exercising functions and powers under the Act. These persons will include WCRC. Policy 24, Identification of Coastal Hazards of the NZCPS is directly relevant here which states:

(1) Identify areas in the coastal environment that are potentially affected by coastal hazards (including tsunami), giving priority to the identification of areas at high risk of being affected. Hazard risks, over at least 100 years, are to be assessed having regard to:

> *(a) physical drivers and processes that cause coastal change including sea level rise;*
>
> *(b) short-term and long-term natural dynamic fluctuations of erosion and accretion;*
>
> *(c) geomorphological character;*
>
> *(d) the potential for inundation of the coastal environment, taking into account potential sources, inundation pathways and overland extent;*
>
> *(e) cumulative effects of sea level rise, storm surge and wave height under storm conditions;*
>
> *(f) influences that humans have had or are having on the coast;*

[24] https://environment.govt.nz/acts-and-regulations/acts/national-direction/natural-hazards/

[25] *New Zealand Coastal Policy Statement 2010*.

(g) the extent and permanence of built development; and

(h) the effects of climate change on:

(i) matters (a) to (g) above;

(ii) storm frequency, intensity and surges; and

(iii) coastal sediment dynamics;

taking into account national guidance and the best available information on the likely effects of climate change on the region or district."

West Coast Regional Policy Statement

The West Coast Regional Policy Statement (RPS) identifies "…*natural hazards*" as significant resource management issues for the West Coast, "*particularly flooding and earthquake*[26]."

Chapter 9 Coastal of the RPS refers to climate change[27] and states that coastal hazard risks should be assessed over at least a 100 year timeframe[28]. In the Methods part of the chapter it states that councils will "*continue to review and include the Coastal Hazard Areas in the Regional Coastal Plan and in district plans and identify whether these Areas have a low, medium or high risk of being affected by a coastal hazard*." It is assumed here that this method is being implemented as part of TTPP and that no further guidance is needed from this strategy.

Chapter 11 Natural Hazards of the RPS states "*research on natural hazards is ongoing*" and "*councils should use … latest national guidance and the best available information on the impacts of climate change on natural hazard events*[29]." Under Methods it is stated "*further development of a natural hazards knowledge base and continued use of the most up to date and accurate information available in areas potentially affected by natural hazards*"[30], and that particular methods may include "(*b) identification of natural hazards on maps and registers*."

The chapter goes on to say "*members of the Civil Defence and Emergency Management Group, and in particular the Lifelines Group and the Co-ordinating Executive Group, are expected to continue to research and investigate natural hazards in the region and make recommendations to the relevant council, should rules around land use be indicated as a hazard avoidance or mitigation method*[31]."

[26] West Coast Regional Council, *West Coast Regional Policy Statement*. 24 July 2020, p4.
[27] p40.
[28] p42.
[29] p49.
[30] p50.
[31] p51.

The expectation of an ongoing programme of knowledge improvement to inform decisions on risk management is also implied where the RPS states "*there is an increasing amount of information that is being produced that identifies areas at risk from natural hazards. This work will be ongoing and is integral to minimising the risks and impacts of natural hazard events. These objectives, policies and methods allow for the consideration of this and the application of an adaptive management approach as required, and will assist communities in building resilience to the effects of natural hazards*[32]."

The LTP states "*a Plan Change to update the Regional Policy Statement natural hazard and flooding provisions is planned for year 1 of this Long-term Plan*"[33] and includes a target to notify the Plan Change in Year 1 (2024/25)[34]. It is understood that the review of the natural hazards provisions of the RPS is on hold pending the proposed National Policy Statement on Natural Hazards Decision-Making.

It is noted that the RPS sets out responsibilities of WCEM, and vice versa (see below). Both the RPS and the Group Plan are being reviewed and therefore it will be necessary to ensure they remain aligned in respect of natural hazards.

Regional Land and Water Plan

Part 3.2.4 of the Regional Land and Water Plan[35] addresses natural hazards but nothing specific that would influence this natural hazards information strategy. Chapter 21 Monitoring and Review has no specific relevance here either. It is noted, however, that Schedule 4 includes Greymouth Earthworks Control Area Maps to support rules and refers to hazard areas[36].

Regional Coastal Plan for the West Coast

Chapter 14 Natural Hazards of the Regional Coastal Plan for the West Coast includes a part specific to provision of information (Part 14.6.4). Policy 14.6.4.1 within that part states "*the WCRC will share information on coastal hazards with territorial authorities and affected communities*". It is noted here that it does not specify an obligation to gather information. Chapter 17 Monitoring and Review refers to a Regional Monitoring Strategy and includes "*the location and extent to which any activity or area within or adjacent to the coastal marine area is adversely affected by any natural hazard, and the effect any activity or structure has on existing natural hazards or the development of new natural hazards*" as one of the elements WCRC will consider monitoring[37].

[32] p51.
[33] p15.
[34] p45.
[35] West Coast Regional Council, *Regional Land and Water Plan*, 27 May 2014.
[36] In Metcalf, 1993. *Landslide Investigation and Hazard Zonation in the Greymouth Urban Area*.
[37] West Coast Regional Council, *Regional Coastal Plan for the West Coast*. 13 June 2000, pp191-192.

Buller District Plan

The Buller District Plan[38] includes planning zone maps (C series), some that are relevant to rockfall and rapid debris flow and to coastal hazard. It includes Buller Planning Features that include Coastal Hazard and Rockfall Hazard. There is no information relating to faultlines or flood hazard.

Chapter 4.10 Natural Hazards of the Buller District Plan makes several references to regional planning instruments and WCRC in part 4.10.8 Methods of Implementation. These include:

"3.10.8.1 Include known hazard areas including coastal hazard areas identified in the Regional Coastal Plan in the GIS database.

4.10.8.3 Encourage the Regional Council to produce and update detailed hazard risk maps[39].

4.10.8.4 Encourage and support Regional Council monitoring and research on natural hazards in the District.

4.10.8.7 Promote public awareness of potential hazard areas, through the provision of information and advice, especially where there is a potential risk to buildings and human life.

4.10.8.8 Develop criteria for identifying hazard prone areas and assessing the degree of hazard risk through consultation with the Regional Council."

And:

"4.10.9.3 The Council will gather information on natural hazards in conjunction with the Regional Council which also has a responsibility for natural hazards management …

4.10.11..1 The Council will keep a record of reported instances where natural hazards detrimentally affect property or health, and mutually exchange such information with the Regional Council."

Grey District Plan

Chapter 9 Natural Hazards of the Grey District Plan (9.5 Implementation Methods) indicates that Grey District Council and WCRC will work together on a natural hazards register[40] and that monitoring of sea level rise and coastal shoreline changes will be undertaken by WCRC. There are no hazard overlays in the Grey District Plan.

[38] Buller District Council, *Buller District Plan*, 28 January 2000, amended as of 21 September 2011.
[39] Note that this refers to hazard risk and not hazard.
[40] Grey District Council, *Grey District Plan*. 2005, p42.

Westland District Plan

Section 3.13 Natural Hazards of the Westland District Plan[41] states "*the West Coast Regional Council has a series of flood hazard maps which can be used to indicate the level of hazard in particular areas*." Details on how to access that information are not provided on the Westland District Council website.

The Alpine Fault is shown on Westland District Plan maps. The maps also include planning zones associated with flood and coastal erosion hazards.

Local Government Official Information and Meetings Act 1987 and Land Information Memoranda (LIMs)

It is understood that at present the territorial authorities do not usually seek WCRC's input to the preparation of LIMs. Staff do however receive requests from the public to provide flood floor level information, often after redirection by the territorial authority.

New, specific responsibilities for regional councils to provide natural hazards information to territorial authorities in support of territorial authority LIM processes commence on 1 July 2025[42]. The Department of Internal Affairs (DIA) has recently consulted on proposed regulations that support these new requirements[43]. DIA intends to publish guidance for councils in early 2025.

WCRC receives few requests each year under the Local Government Official Information and Meetings Act 1987 (LGOIMA) for natural hazards information. Totals for natural hazards-related LGOIMA requests for the last three years are as follows:

2022: 10 requests – flood event/coastal and tidal inundation/climate change information.

2023: 9 requests – TTPP coastal hazards/ coastal hazards and sea level rise/ flooding information.

2024: 12 requests – TTPP coastal hazards/ flooding/coastal hazards/sea level information.

WCCDEM Group Plan 2016 and Partnership Agreement 2022

The current Group Plan is being reviewed but continues to have legal effect until such time as it is replaced[44]. As noted above, the RPS is also being reviewed and therefore it will be necessary to ensure they remain aligned in respect of natural hazards.

[41] Westland District Council, *Westland District Plan*, 1 June 2002.
[42] https://www.legislation.govt.nz/act/public/2023/0041/latest/LMS748455.html
[43] https://www.dia.govt.nz/Resource-material-Our-Policy-Advice-Areas-Local-Government-Policy#Natural-hazard-LIMs
[44] Section 55 of the Civil Defence and Emergency Management Act 2002.

The Group Plan states WCRC will undertake monitoring and research[45]. It includes "*improve the understanding of the hazardscape*" as a Group goal[46] and in relation to Reduction states "*gaps require further scientific analysis*"[47] but does not describe those gaps nor the plan for addressing them.

The Partnership Agreement 2022[48] sets out the following responsibilities of WCRC in relation to hazards and risk management:

- "*Lead identification of hazards (as required) in accordance with the hazard scape outlined in the CDEM Group Plan at the regional level.*
- *Own and manage the hazards (as required) and risk within the appropriate area of responsibility as mandated through the Regional Policy Statement in alignment with the hazardscape detailed in the Werst Coast CDEM Group Plan*
- *Fund and manage hazard research within the appropriate area of responsibility as mandated through the Regional Policy Statement in alignment with the hazardscape detailed in the West Coast CDEM Group Plan.*
- *Support effective planning for response through collaboration on hazard risk management for hazards with cross-regional and national impacts*".

Soil Conservation and Rivers Control Act 1941

There are no explicit provisions in the Soil Conservation and Rivers Control Act 1941 requiring a regional council to gather hazard information. However, it can be regarded as an implicit part of giving effect to its function to "*minimise and prevent damage within its district by floods and erosion*[49]." Exercising this function puts WCRC in the position of acquiring knowledge and information on flood events as part of managing rivers and assets, regardless of whether it pro-actively commissions assessments of flood hazard.

Non-Financial Performance Measures Rules 2024

These Rules initially came into force in 2013 and have a single measure for major flood protection and river control works. As for the Soil Conservation and Rivers Control Act 1941, there are no explicit provisions in the Rules requiring a regional council to gather hazard information. However, it can be regarded as an implicit part of giving effect to the asset management requirements of the Rules.

[45] West Coast Civil Defence and Emergency Management Group, *Group Plan*. 2016.
[46] p5.
[47] p19.
[48] West Coast Civil Defence and Emergency Management Group, *Partnership Agreement*, 11 May 2022.
[49] Section 126.

The guidance to the Rules state[50]:

"*Major flood protection and control works' should be those works that meet two or more of the following four criteria:*
a) Operating expenditure of more than $250,000 in any one year;
b) Capital expenditure of more than $1 million in any one year;
c) Scheme asset replacement value of more than $10 million; and
d) Directly benefitting a population of 5,000 or over."

The Rules therefore apply to only a few of WCRC's schemes.

Building (Dam Safety) Regulations 2022

These regulations were promulgated under the Building Act 2004 after many years of development and came into force in 2024. Most regional councils, including WCRC, have transferred their building consent authority (BCA) functions to either Waikato Regional Council or Environment Canterbury[51]. However, all councils including WCRC retain responsibilities for implementing the regulations and for the "dam safety" (non-BCA) parts of the Act. This means that WCRC is the recipient of natural hazards information, including estimates of extreme floods and flood hazard maps for some dams, and hence has knowledge of these matters. The regional council sector is discussing whether this information must be provided to territorial authorities as part of the new LIMs provisions under LGOIMA (see above). WCRC should stay abreast of these discussions.

6 The current state and gaps

A simple SWOT[52] analysis has been undertaken to frame the assessment and description of the current state of natural hazards information at WCRC. This is summarised in Figure 3 below. Strengths and weaknesses are internal factors. Threats and opportunities are external to WCRC and relate to the setting in which it operates. Depending on how they are handled, some threats can become opportunities. Weaknesses can compound the impacts of some threats. Interactions between the four elements of the analysis must therefore be considered when finding solutions.

[50] Department of Internal Affairs, *Non-Financial Performance Measures Rules 2013, Supporting guidance for flood protection and control*. December 2013, p2.
[51] WCRC initially transferred its Building Act building consent authority responsibilities to Otago Regional Council, in 2008.
[52] Strengths, Weaknesses, Opportunities, Threats.

Strengths	Weaknesses
• Hold significant amount of valuable and unique information arising from its catchment board origins and its ongoing responsibilities under the Soil Conservation and Rivers Control Act 1941. • Legislated responsibility for this activity and therefore mandate. • Strong community and ratepayer engagement and relationships particularly through Special Rating Districts. • The commitment to planned improvements to information systems including "*a fit-for-purpose spatial platform for GIS*" over Years 1-2 of the Long Term Plan.	• Poor systems and processes especially online access and record-keeping, creating inefficiencies, liabilities and the potential for poorly or partially informed decisions on natural hazards risk management. • Potential for lack of clarity as to whether it is WCRC or WCEM and/or the Lifelines Group that leads the gathering of natural hazards information and decides priorities. • No organization-wide forward programme of information gathering and dissemination for the region. • Resourcing levels are disproportionately low relative to the level of work required.
Opportunities	**Threats**
• Heightened community interest in natural hazards risk management arising from recent weather and geological events across NZ. • Collaboration with others doing similar things, including hazards research and natural hazards portals. • Research and information gathering by others that is highly specialised and not funded by ratepayers (CRIs, University of Canterbury). • The impetus and focus given by TTPP and climate resilience (Before the Deluge) projects, and further Regional Policy and Regional Plan reviews.	• Risk and litigation if done poorly. • Multiple players increasing the complexity of the operating environment (providers of public information) whilst at the same time WCRC retains the primary statutory responsibility for natural hazards knowledge and information for its community. • The region's dynamic physical environment means that information can quickly become outdated requiring follow-up. • Knowledge and information arise from natural events that cannot be planned for with certainty.

Figure 3 - Summary of SWOT analysis for natural hazards information at WCRC

The following topics have emerged from the SWOT analysis and are discussed below:

- Public access to natural hazards information.
- Existing information for the priority hazard-types.
- New natural hazards information, underway or planned.
- Respective roles and interfaces with the WCEM and Lifelines (recognising that WCEM has responsibilities under the CDEM Act 2002).
- Partnerships with Crown Research Institutes (CRIs) and others.

The assessment of current state starts with examining public access to information by putting oneself in the position of a member of the public seeking natural hazards information for the West Coast region. The various online channels available are explored and used to both understand the situation from a user's perspective as well as to gather information to inform the development of this strategy.

6.1 Public access to natural hazards information

The importance of public access to natural hazard information is acknowledged in the LTP where it is stated: "*connecting the community in a timely and accessible way to decision-making, and the work of Council is critical. This also includes ensuring Council has the various platforms available for the provision of public information such as … natural hazards*[53]." In the section on Infrastructure and Resilience the LTP states "*natural hazard information is available on Council's website*[54]."

The arrangement of online (publicly accessible) natural hazards information systems for the West Coast region is shown in Figure 4. The figure shows generic/national systems at left and district-specific systems at right. The web-based information of WCRC is shown in the middle. This is also shown in Figure 5, omitting the systems of other agencies. Of note are the multiple points of entry across multiple agencies. This is acceptable provided each agency is clear on the scope of what it is providing and the existence of the "others". It does, however, create challenges in keeping information up to date and knowing which is the latest information. The complexity of the network has the potential to lead to gaps in disclosure. This presents a risk to WCRC and frustration to information users.

[53] West Coast Regional Council, *Long-Term Plan 2024-2034*. 2024, p25.
[54] p30.

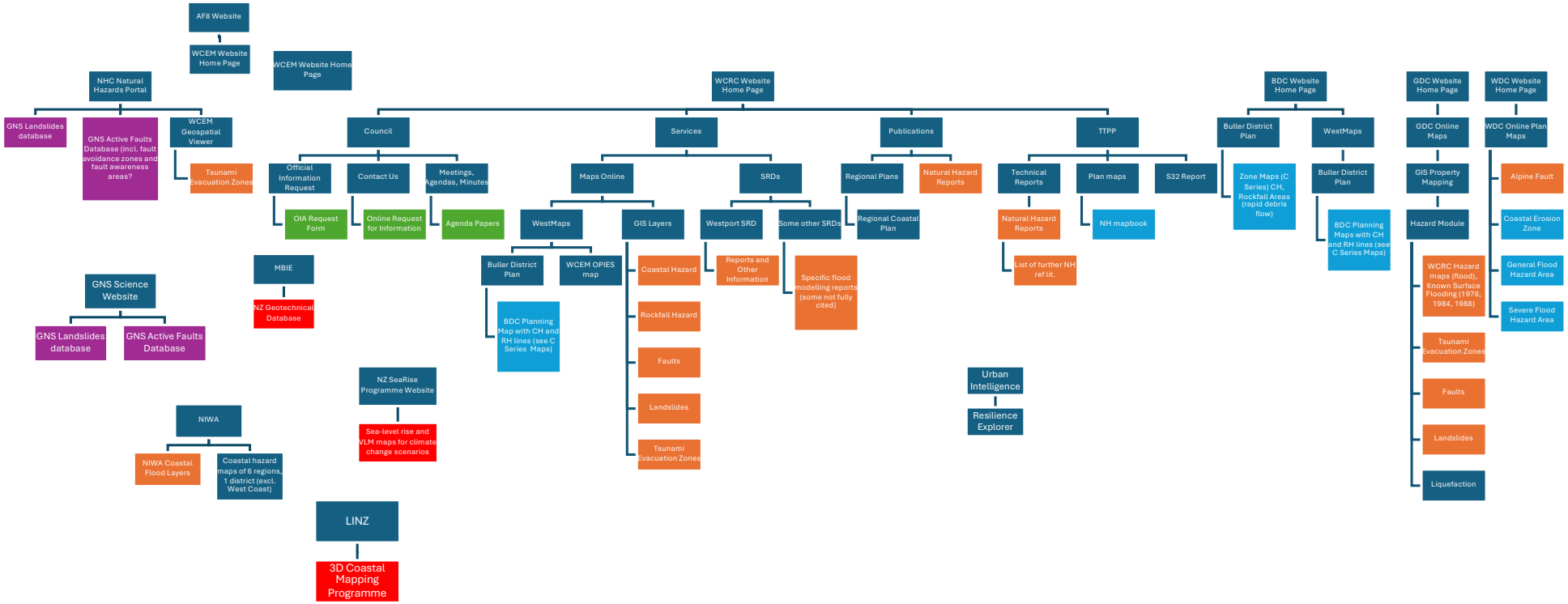

Figure 4 - Current ways to access natural hazards information online for the West Coast region

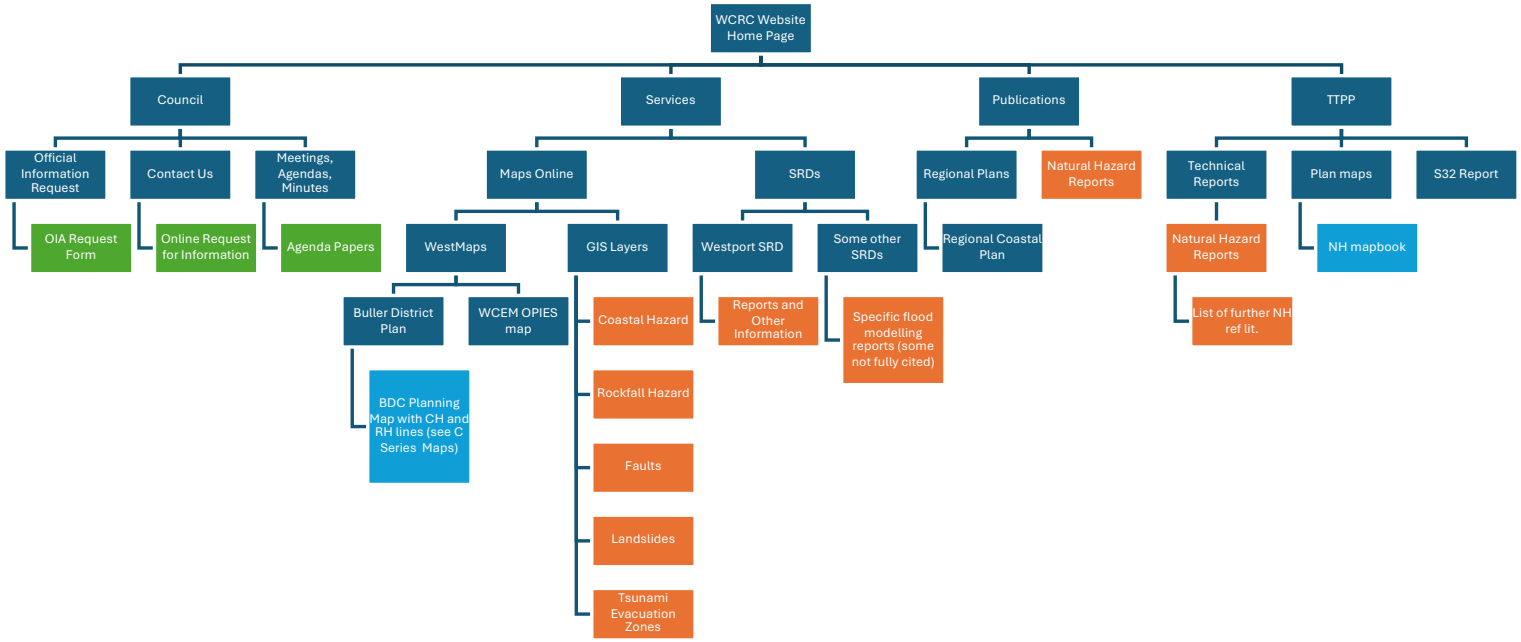

Figure 5 - Current ways to access natural hazards information online for the West Coast region (WCRC website)

In summary, there is no single publicly accessible place where natural hazards information is located, and many different places that include some of the information. Not all information can or should be held by WCRC. However, there is a responsibility to ensure users can efficiently and reliably access what they need and that WCRC clearly communicates what it "knows". Components of Figures 4 and 5 are discussed below, by agency.

West Coast Regional Council website

It appears that information is published (and arranged in internal systems) based on the commissioning team or project.

There are gaps and anomalies in the way WCRC presents online natural hazards information. These include:

- Services/Maps Online/WestMaps links to the WCEM OPIESM (an operational, event-related platform) but doesn't link to the tsunami evacuation zone information that can be accessed via the Natural Hazards Commission Natural Hazards Portal or through Services/Maps Online/GIS Layers.
- Services/Maps Online/GIS Layers do not include any flood hazard information. In comparison, the Grey District Council website provides maps for three historical floods in Grey District in its Hazards Module.
- Services/Maps Online/GIS Layers provide coastal and rockfall hazard information only for Buller District.
- Services/Maps Online/GIS Layers provide tsunami evacuation zones but not the supporting tsunami hazard information.
- Services/SRDs provide flood hazard information for the Buller Special Rating District (SRD) but very little for the other SRDs.
- There does not appear to be a link nor reference to the AF8 programme and the technical information it has generated.

The Publications/Natural Hazard Reports link provides a selection of technical reports and articles in pdf format, grouped by the three districts and listed alphabetically by title. Some observations are:

- The earliest report describing numerical flood modelling is dated 2002 (Grey River).
- The most recent document is dated 2022 (Land River Sea Consulting Ltd's report on Buller/Westport flood options).
- The earliest document is dated 1990 and is a WCRC internal document compiling information on flood history.
- The only region-wide study is the Beca 2021 liquefaction study[55].

[55] Beca Limited, *West Coast Regional Liquefaction Assessment*. Prepared for West Coast Regional Council. November 2021.

- Some reports produced as part of the AF8 programme are posted, however, these are unlikely to be complete or up to date – a natural hazards portal that linked to the AF8 website would overcome this.
- Two reports describe specific weather events, the most recent being 2014 (Cyclone Ita).
- There are two documents on liquefaction, one being a WCRC compilation of eight papers (2008) and the other being the 2021 Beca report[56].
- There are eight reports specific to localised coastal erosion issues, the most recent being 2016/17.
- Two reports are specific to tsunami, focussed on tsunami evacuation zones.

The website has different versions of coastal hazards reports that were prepared for different RMA plans. The 2012 report was commissioned for the proposed Regional Coastal Plan (2016), and the CHAs in it were identified for slightly different planning purposes to the coastal hazard areas identified for the TTPP. It is appropriate that the different versions remain on separate planning web pages for the TTPP and Regional Coastal Plan, for planning purposes, however it may require a note explaining the different purposes.

The TTPP part of the website also contains documents that list natural hazards reports and links to those reports. Some, but not all, are also accessible at Publications/Natural Hazard Reports and on the Westport SRD page. For example, the 2018 Buller report and mapping are not accessible at Publications/Natural Hazard Reports or on the SRD website page. As a generalisation, and as would be expected, the TTPP provides the most recent information and is a more complete list than that accessible via Publications/Natural Hazard Reports.

It is important that the technical information used to inform planning maps are available and that it is clear what has been used to inform the planning maps whilst also preserving the distinction between technical and planning (policy response) information.

The SRDs are convenient spatial units and are used by WCRC as an administrative framework for managing flood risk. As noted above, almost 75% of ratepayers live in an SRD. There are Asset Management Plans (AMPs) covering all SRDs, for 2023-2026, published on the WCRC website. Some of the AMPs refer to flood modelling studies and several modelling reports are published on the page of the relevant SRD. Some AMPs refer to past modelling but do not cite documents describing that modelling. For example, the Kowhitirangi Rating District AMP refers to "*cross-sections and flood flow analysis modelled in June 2008 …*"[57] but there are no details of the

[56] Beca Limited, *West Coast Regional Liquefaction Assessment*. Prepared for West Coast Regional Council. November 2021.
[57] West Coast Regional Council, *Kowhitirangi Rating District 2023-2026 Asset Management Plan*. 11 June 2024, p9.

source document and it is not listed in Publications/Natural Hazard Reports nor TTPP/Technical Reports/Natural Hazard Reports/List of Further NH Literature.

It is assumed that natural hazards information and reports are communicated to SRDs through reports to each of the SRD committees. This is helpful for those committees but relies on people searching past agendas and minutes.

Information associated with managing river and flood assets is not well integrated with other natural hazards information. Reports that are mentioned or cited in the SRD part of the WCRC website are not mentioned in the NH Reports list nor the TTPP additional reports list and vice versa.

The choice of entry point to the WCRC website dictates what information a user receives. However, many users are unlikely to know this nor have the capability to know where specifically to look other than the WCRC website. Of all the choices available, users would expect WCRC to be their first port of call and to provide comprehensive access. Further, given WCRC's legacy as a Catchment Board and its role in river works, they would reasonably expect WCRC to be the lead-agency for flood hazard information. Despite that, there is relatively little information online on flood hazard.

The website needs to make it clearer that not all natural hazards reports are posted on the website, and guide users on where and how to get full and further information or an inventory of what exists and is available.

The absence of an online natural hazards database means that information requests commonly default to manual processes. This is exacerbated by systems that do not enable efficient or effective manual processes, compounded by limited staff resources. It is likely that information requested is inadvertently overlooked. Limited staff resources are diverted from value-add activity.

The LiDAR coverage areas accessed through WestMaps is good as it brings everything together and names the data owners (seven of them). However, WestMaps does not link to natural hazards information. It is understood that WestMaps is to be retired.

Natural Hazards Commission Natural Hazards Portal

For the West Coast Region, the national Natural Hazards Portal[58] developed by the Natural Hazards Commission (NHC, formerly EQC) links to the WCEM geospatial viewer (an event-related operational tool) and to two GNS Science databases (Figure 6). It makes no connection or reference to WCRC's website or the information that can be accessed via the website. This is probably because WCRC has not established a single location to connect to. The NHC portal is not a substitute for a West Coast

[58] https://www.naturalhazardsportal.govt.nz/s/

natural hazards portal as it is largely a tool for pointing users to the natural hazards portal of their region of interest.

In comparison, of the 15 other regions, eight have dedicated, integrated multi-hazard portals, all with property-search functionality. The national Natural Hazards Portal points directly to these regional portals. One other region has a suite of online databases that include natural hazards information. The six other regions have various levels of online functionality with most presenting GIS layers of natural hazards information. Several have functionality similar to WCRC.

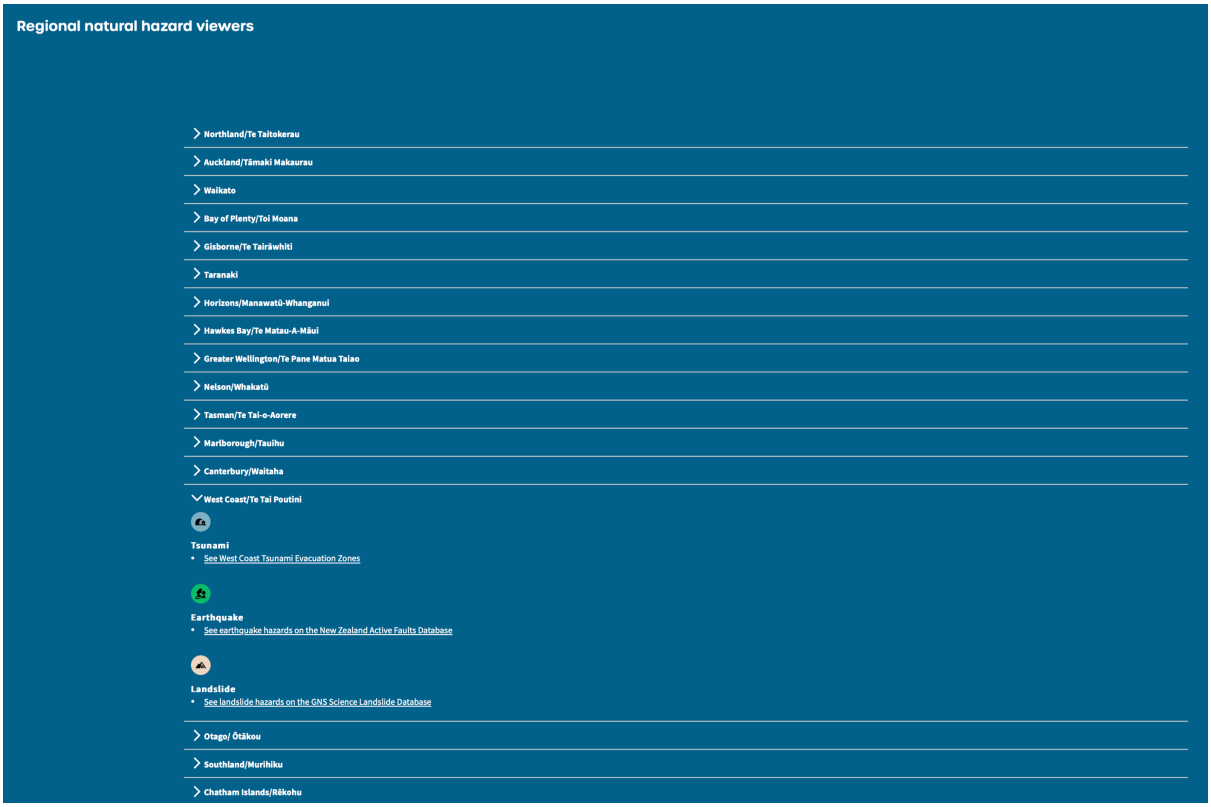

Figure 6 - How the national Natural Hazards Portal connects to information for the West Coast region

Buller District Council website

It is acknowledged that people in Buller District wishing to access information on natural hazards, especially flooding in Westport, will likely use the Westport Resilience Project website and other means to obtain the information they are seeking, and not rely solely on the Buller District Council (BDC) or WCRC websites.

A search of "*liquefaction*" on the website produced no results.

The building and building consents page refers to designated areas affected by flooding but makes no reference to WCRC or to flood hazard information that is available, such as maps.

In relation to WestMaps the BDC website states "*the mapping system provides fast access to … hazard data for the West Coast region*."

It is understood that Buller District Council are being proactive and building an online Risk Explorer space with the hazard data WCRC has provided them to date. This is an opportunity for the two councils to collaborate more formally, avoiding the risk of duplication of effort.

Grey District Council website

The Grey District Council website links to WCRC Publications and the 2021 Beca liquefaction report in a GDC 2021 Information Release regarding changes to B1/AS1 that came into effect in November 2021.

The online maps (IntraMaps) provide GIS Property Mapping with a Hazard Module (to go with the Planning Module, Assets Module and Property Module). The Hazard Module may possibly be the Hazards Register referred to in Chapter 19 of the Grey District Plan (see above). The Planning Module shows fault lines in addition to the Alpine Fault, but no other hazards.

The Hazard Module provides a link to a page named EQ Liquefaction Sites and displays the liquefaction mapping prepared by Beca in 2021[59]. It also links to EQ faults and ground shaking zones, landslide zonation and "*known landslips*".

The Hazard Module links to Flood then to WCRC Hazard Maps, Known Surface Flood, and maps of three historical floods (Sawyers Creek in 1978, Greymouth in September 1984 and September 1988). The same maps are not accessible through the WCRC website.

The GDC Hazards Module has no coastal hazard information.

Westland District Council website

As noted above, Section 3.13 Natural Hazards of the Westland District Plan states "*the West Coast Regional Council has a series of flood hazard maps which can be used to indicate the level of hazard in particular areas*" [60]. Details on how to access that information are not provided on the Westland District Council (WDC) website.

The online maps (IntraMaps) provide GIS Property Mapping but do not link to hazard information.

A search of "*liquefaction*" on the WDC website produced no results.

[59] Beca Limited, *West Coast Regional Liquefaction Assessment*. Prepared for West Coast Regional Council. November 2021.
[60] Westland District Council, *Westland District Plan*, 1 June 2002.

6.2 Existing information

As noted above, it is difficult to assess the gap and what further information is required when there is no complete understanding of what already exists. Ideally this would be addressed sequentially, by firstly comprehensively establishing what exists, putting that knowledge into readily accessible form (including the ability to analyse and query this by hazard type and location etc), and then assessing the gap between what is needed and what exists. This strategy therefore makes some assumptions and avoids getting into too much detail around specific pieces of information.

The purpose of natural hazards information is to enable the risks associated with those hazards to be managed. One of the tests of adequacy of information is: do we have enough information of the right quality to understand the hazard component of risk in all places of interest? The three elements of this question (quality, hazard, place) are depicted in Figure 7 and used to support the gap analysis.

Figure 7 - The framework for gap analysis of natural hazards information

In considering what information is available, and gaps, the type of dataset is also considered. Figure 8 shows a range of natural hazards datasets, with the level of detail, effort and cost for investigations increasing from left to right. This does not represent a hierarchy of worst to best, as all types serve a purpose.

Increasing level of detail, from left to right

General knowledge of hazard	General knowledge of hazard exposure	Identified hazard expsoure	Modelled hazard exposure (uncalibrated)	Modelled hazard exposure (calibrated)
Observations/descriptions of hazard events, but no spatial mapping data	Mapped hazards extents based on observations/interpretations, not corresponding with a specific event likelihood	Mapped hazards extent corresponding with a specific event likelihood	Detailed hazards modelling (uncalibrated) for a range of events scenarios of defined likelihoods. Outputs including hazard severity (e.g. depth, velocity)	Detailed hazards modelling (calibrated) for a range of events scenarios of defined likelihoods. Outputs including hazard severity (e.g. depth, velocity)
Hazard identification	Hazard identification - show potential hazard extents. Shows where further analysis may be required.	Hazard identification - show potential hazard extents. Shows where further analysis may be required.	Detailed understanding of hazard characteristics. Input for detailed risk assessment.	Detailed understanding of hazard characteristics. Input for detailed risk assessment.

Figure 8 - Types of natural hazard information datasets

It is noted that LiDAR data is available for all of the coastal part of the region, and that Land Information New Zealand is in the process of capturing data for the rest of the region with a target date of the first quarter of 2025.[61]

The passage of time does not in itself render information useless; historical information provides valuable context even if, or especially if, the environment has changed (e.g. a riverbed has aggraded, or a flood protection work has been constructed). However, it does mean that new information is needed to augment, and sometimes replace, that historical information. It is important therefore that WCRC's historical information is secured and made accessible alongside newer information. WCRC is playing an important role in acting as the community's custodian of historical natural hazards information and knowledge.

In assessing the quality of existing information and deciding what further information should be gathered it is necessary to have criteria to guide that. For the purposes of this strategy the following criteria have been developed. These criteria have not been rigorously applied because of the screening nature of this work, however, they can be used to refine the implementation plan over time. A gap exists in "quality information" (Figure 7) when one or more of the following exist at any "exposed place" (e.g. for any SRD):

- A relevant hazard type has not been considered;
- Underlying data will have changed over time e.g. geomorphology, time series hydrology.
- Subsequent data (LiDAR) or methods (2D modelling) enable improved analysis and therefore better information (Figure 8).

61 https://linz.maps.arcgis.com/apps/MapSeries/index.html?appid=2552c3a5cee24f7b87806b085c3fee8a

- Subsequent best practice guidance or guidelines, published by government or experts e.g. CRIs.
- The information will not apply to the future environment because that environment will be different and future scenarios or states have not been examined e.g. morphology, climate.
- The risk profile has altered due to a change in vulnerability or exposure e.g. land use development, establishment of new critical infrastructure, and therefore places not previously examined now need to be considered.
- There is no information at the appropriate scale or resolution i.e. regional versus property-specific.
- The information does not cover the full risk profile e.g. only up to 100-year Average Recurrence Interval (ARI) and not up to Probable Maximum Flood (PMF).
- The integrity of the information is poor or unknown.

It is important to note that these are criteria for identifying information needs, not criteria for assessing or prioritizing gaps in the management of natural hazards risk.

The TTPP s32 report provides a useful summary of priority places and hazards for the West Coast region, as follows[62].

"*The Natural Hazards chapter and this [s32] report detail management of risks that present the greatest risk to the West Coast communities in terms of likelihood and consequence, as follows:*

1. *Flood Plains (Oparara, Little Wanganui, Grey, Taramakau, Inangahua, Arahura, , Mikonui, Kakapotahi, Wanganui, Poerua, Whataroa, Waitangitaona, Waitangiroto, Fox, Cook, Karangaroa, Makaawhio, Paringa, Haast, Okuru, Waiatoto, Arawhata - these areas are managed through the Subdivision provisions)*
2. *Flood Hazard – Severe and Susceptibility (Karamea, Mokihinui, Ngakawau, Waimanagaroa, Buller (noting specific Westport provisions), Nile, Grey, Hokitika, Waiho and Haast)*
3. *Earthquake Hazard Areas (Alpine, Hope, Clarence and Awatere fault lines)*
4. *Lake Tsunami*
5. *Land Instability*
6. *Coastal Inundation and Erosion (Coastal Severe) Areas, and Coastal Inundation (Coastal Alert) Areas*

[62] *Te Tai o Poutini, Section 32 Evaluation, Report Three – Hazards and Risks, Part One – Natural Hazards Including Coastal Hazards*. p6.

7. *Coastal Tsunami Hazard*
8. *Westport and Hokitika specific provisions*

The Proposed TTPP does not include identification and management of the following potential hazards, for reasons outlined in this report:

- *liquefaction;*
- *sedimentation;*
- *high winds;*
- *tornadoes;*
- *drought; and*
- *fire."*

Although the s32 report considers issues from a planning perspective, the description above has guided the gap analysis and consideration of the "multi-hazard" and "exposed communities" components of the framework depicted in Figure 7.

The state of WCRC's processes and systems makes it difficult to comprehend what information WCRC holds. Some assumptions have been made here regarding the information currently held by WCRC. Having regard to Figure 7, ideally information would be discussed here by place, however, information held by WCRC has not been integrated in a place-based, multi-hazard way. Information is therefore discussed by hazard-type. It is noted that treating each hazard discretely means that cascade and cumulative impacts are not well handled. This is a further reason why a place-based multi-hazard approach to information gathering and reporting is best, especially as studies become more spatially focussed.

As a generalisation, most reports held by WCRC are very technical and focus exclusively on one hazard type. There is a need for reports that compile hazard information for a place (a floodplain, a community, etc) and for a layperson audience (Figure 9) which describes the interaction between hazard-types. It is understood that community-based fact sheets are generated as required to support specific community engagement activities. Formalised reporting of hydrological data for flood events to Council has commenced recently[63].

[63] West Coast Regional Council, *Flood Event Report, 25-26 October 2024*. 31 October 2024 and West Coast Regional Council, *Flood Event Report, 8-10 November 2024*. 14 November 2024 in West Coast Regional Council, *Environmental Science Quarterly Report*. Report to West Coast Regional Resource Management Committee, 10 December 2024.

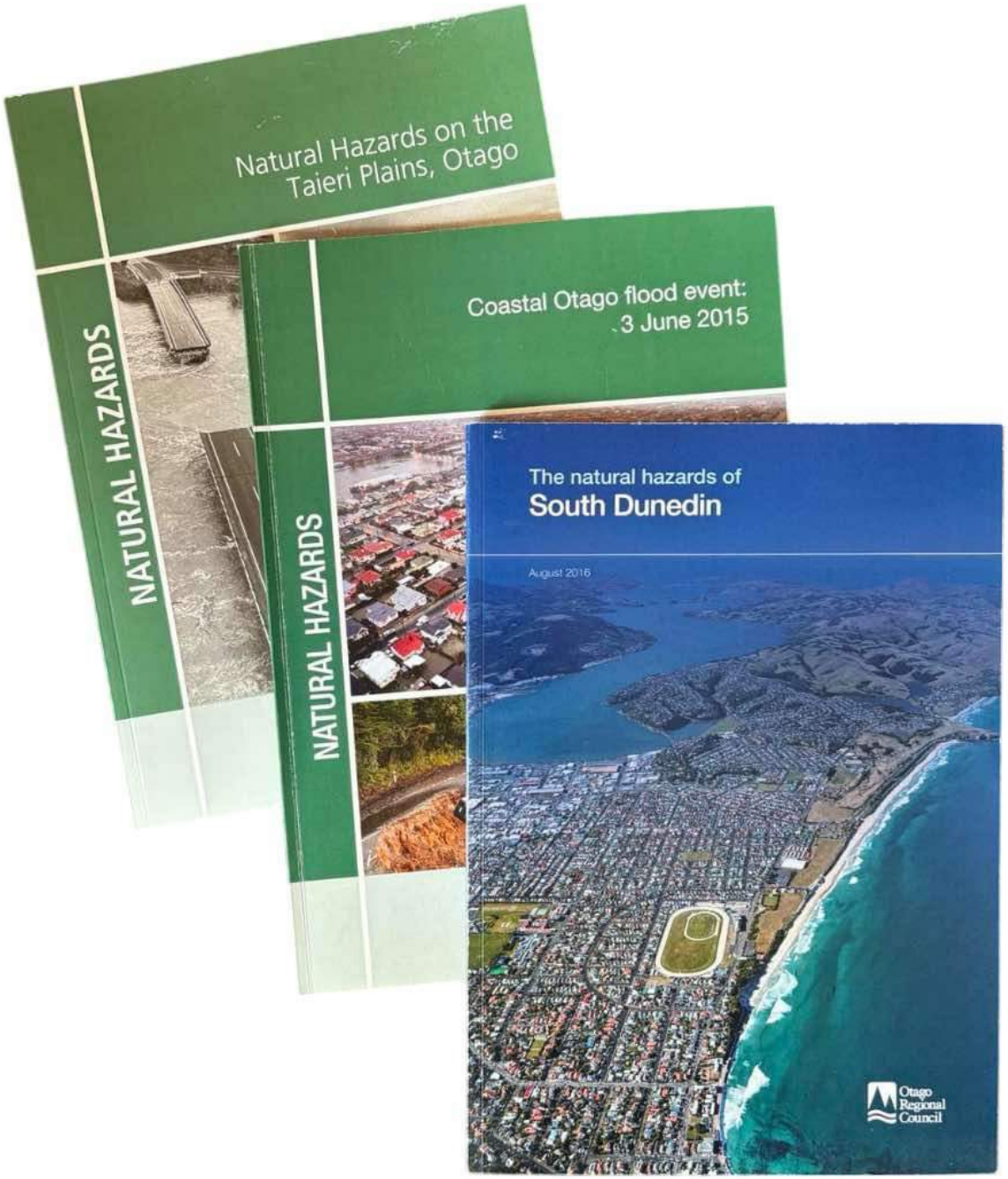

Figure 9 - Examples of natural hazards reports for another region

An overview of natural hazards information held by WCRC is discussed by hazard type, as follows.

Flood hazard

WCRC holds a significant amount of information on historical floods. This is largely in hard copy format. Information is awaited on the process WCRC currently follows for collecting, processing and storing information on flood extents for flood events (i.e. pegging and surveying debris post-event).

Because flood hazard is the present focus of WCRC, and for the purposes of this strategy, modelled flood hazard information is summarised in Appendix 1. It is noted that these all relate to riverine flooding. It has not been established whether the territorial authorities have stormwater models and catchment management plans, and whether they undertake modelling and mapping of pluvial flood hazard.

The following excerpts from the TTPP s32 give an indication of the state of flood hazard information[64]:

"*The Flood Hazard Severe overlay is located in areas where there is extreme natural hazard risk due to the depth and speed of water and transport of debris. This overlay is found in four locations – on the Buller River inland of Westport, Greymouth/Grey Valley, Hokitika/Kaniere and the Waiho River/Franz Josef.*

In each of the four locations where the overlay is identified substantial flood modelling has been undertaken. Very detailed flood models (built with LIDAR so with a high degree of accuracy) have been developed for the towns of Greymouth, Hokitika and Westport.

In the Westport, Greymouth and Hokitika locations the overlay substantial depth and flow flood modelling has been undertaken. The purpose of the modelling was to:

- *Set building floor heights[65]*
- *Designing flood protection infrastructure*
- *Assess flood mitigation options*
- *Assess the impacts of increased future flows and sea levels*[66]."

"*The Flood Plain' overlay was developed for areas where development could occur in the future, but where modelling is not held and a precautionary approach is being applied, principally at the subdivision stage. These flood plains have been identified through expert input from the West Coast Regional Council River Engineers, Civil Defence, District Council Asset, Building Control and Planning teams. If a subdivision*

[64] *Te Tai o Poutini, Section 32 Evaluation, Report Three – Hazards and Risks, Part One – Natural Hazards Including Coastal Hazards*. pp81-82.
[65] The building floor heights are set by the relevant territorial authority, often with information provided by WCRC.
[66] pp81-82.

consent is sought in these areas, a requirement for a hazard assessment is triggered. This ensures that the flood risk is understood, and mitigation measures undertaken"[67]."

The s32 report tabulates these areas as follows:

- Oparara and Little Wanganui
- Inangahua and Upper Buller Gorge
- Blacks Point to Inangahua
- Upper Grey Valley and Haupiri
- Taramakau and Awatuna
- Arahura
- Kokatahi and Kowhitrangi
- Harihahi and Whataroa
- Fox Glacier to Paringa
- Haast Beach to Arawhata

There will be synergies with modelling required for the management of SRD assets.

WCRC have flood level information, based on LiDAR and numerical modelling, for riverine flooding in Westport, Greymouth and Hokitika. This is provided to the public by WCRC upon request, often for setting the floor level of a residential building. This information has not been checked as part of developing this strategy. This information needs to be extended to outside these areas but that will require LiDAR and modelling.

As a generalisation, according to the information in the 2023-26 AMPs and a national catalogue of rivers with flood control works[68], the SRDs have relatively low design standards, typically not more than a 50 year ARI. It is important that this acceptance of a low standard for infrastructure performance does not constrain the range of recurrence intervals that are assessed for these locations. For key locations the largest event for which there is modelled flood hazard information typically has a 100-year ARI. The full risk exposure, ideally up to PMF, should be understood and communicated to the community even if decisions are made to manage only part of that range with infrastructure, works and services[69,70]. This enables overdesign (superdesign) management measures to be developed and implemented using an appropriate mix of PARA[71] measures.

[67] p83.
[68] Williman, E.B. and G.M. Smart, *Catalogue of New Zealand Rivers with Control Works*, Publication No.13 of the Hydrology Centre, Christchurch. 1987. For the West Coast, the catalogue contains details of the Grey, Taramakau, Hokitika, Poerua and Waitangi Taonga schemes.
[69] Standards New Zealand, NZS9401:2008. *Managing Flood Risk – A Process Standard*. p19.
[70] *Report of the Hawkes Bay Independent Flood Review*. July 2024.
[71] Protect-Accommodate-Retreat-Adapt.

It is noted that DTEC Consulting Limited made recommendations to WCRC in 2002 on the need to consider "*worst case*" events[72]. WCRC does not appear to have commissioned assessments of PMF, but has recently modelled a 2000-year ARI overdesign event for Westport for evacuation planning purposes[73]. Information on PMF likely exists for rivers with large dams and is possibly already held by WCRC, received as part of RMA consent applications or dam Emergency Action Plans (EAPs). The power generation companies in New Zealand are presently collaborating on an update of PMF estimates for New Zealand. WCRC should engage with the companies as it presents an opportunity for WCRC to obtain information relevant to the management of flood risk.

Many of the SRD AMPs refer to the Council suggesting further analysis of flood standards and the SRDs not wishing to undertake that work. WCRC needs to carefully consider the liability and moral issues associated with this.

Most of the SRDs have performance measures that include periodic re-surveys of river cross-sections (3-yearly) and flood modelling to identify a range of levels of service (10-yearly) that are to be reported to council and ratepayers. The Greymouth Floodwall Rating District AMP has more specific measures that include[74]:

"Re-survey all river cross- sections between the Grey River mouth and the Cobden bridges and re- evaluate the hydraulic capacity of the stopbank system and report findings against the current design standard.

Re-measure cross section river profiles and carry out a comparative analysis with preceding surveys to establish possible bed level trends and effects on flood carrying capacity."

A recent report describes the status of riverbed and beach surveys and proposes a new 10-year programme[75]. Staff have work underway collating information on the most recent modelling of each SRD.

The natural hazards information programme (or the asset management programme) needs to provide for repeating modelling as new hydrology, calibration/validation opportunities, repeat cross-section and stopbank crest surveys and LiDAR data become available. The programme needs to provide for ongoing post-event re-modelling of flood hazard for rivers that aggrade and avulse during events, recognizing that this is very difficult to reliably plan (and budget) for.

[72] DTEC Consulting Limited, *West Coast Regional Council: Natural Hazards Review*. Prepared for West Coast Regional Council. 2002, p135.
[73] Peter Blackwood, pers. comm., 5 December 2024.
[74] West Coast Regional Council, *Greymouth Floodwall Rating District 2023-2026 Asset Management Plan*.11 June 2024, pp19-20.
[75] West Coast Regional Council, *Report on Riverbed Level Survey Programme*. Report to West Coast Regional Council Operations Committee, 19 November 2024.

As noted in section 5, WCRC is receiving information from owners of large dams as it is required to do under the Building (Dam Safety) Regulations 2022. The owners of these dams were required to submit Potential Impact Classifications (PICs) to WCRC by 13 May 2024. Owners of large dams that have High or Medium PIC will need to submit Dam Safety Assurance Programmes (DSAPs) to WCRC no later than 13 May 2025 and 13 May 2026 respectively. These will include information pertaining to flood hazard.

Groundwater

In the context of this strategy, groundwater can be regarded as a component of flood hazard but for clarity is commented on separately.

It is understood that Aqualinc is compiling available information to conceptualise the Westport groundwater system and describe groundwater-associated risk, for Buller District Council[76]. Further, there is no robust modelling of groundwater levels or the relationship between sea level and groundwater levels for any of the populated coastal floodplains.

WCRC monitors groundwater quality and levels in parts of the region. Water levels are typically measured quarterly, with continuous monitoring at two bores commencing earlier this year (Grey and Hokitika valleys). Continuous (15 minute interval) monitoring of groundwater levels has commenced recently at nine existing bores[77]. Despite that, the monitoring data for the region has insufficient spatial and temporal resolution to be used as inputs to numerical models of groundwater and the modelling of the effects of future sea level rise on groundwater and surface flooding hazard.

WCRC's groundwater monitoring network has recently been reviewed[78]. Although the review focuses on the management of groundwater as a resource and the requirements of the National Policy Statement on Freshwater Management (NPSFM), it does include comments that are relevant to this strategy. One of the priority recommendations of the review is "*WCRC should clearly identify the purpose of the groundwater level monitoring network" and "Without a confirmed purpose, recommendations cannot be made consistent with this purpose*[79]." This provides an opportunity to ensure that the monitoring meets the requirements for modelling of flood hazard, and liquefaction hazard assessment.

[76] Peter Blackwood, pers. comm., 4 December 2024.
[77] West Coast Regional Council, *Environmental Science Quarterly Report*. Report to West Coast Regional Resource Management Committee, 10 December 2024, p11.
[78] Aqualinc Research Limited, *Groundwater Monitoring Network Review*. Prepared for West Coast Regional Council. June 2024.
[79] p82.

The review also states "*WCRC should ensure it is monitoring areas where there are very high groundwater levels to identify, mitigate, and prevent adverse impacts from very shallow groundwater on land uses and vice versa. This includes … flooding of infrastructure causing accelerated asset degradation and reduced liveability of areas*[80]."

It is understood that WCRC is scoping a comprehensive monitoring programme with a 10-year workplan, informed by the Aqualinc review and the advice of various teams across WCRC. It is important that WCRC's natural hazards information needs are incorporated into the programme.

Liquefaction

The recommendations of the Canterbury Earthquakes Commission included[81]:

"*187. Regional councils and territorial authorities should ensure that they are adequately informed about the seismicity of their regions and districts. Since seismicity should be considered and understood at a regional level, regional councils should take a lead role in this respect, and provide policy guidance as to where and how liquefaction risk ought to be avoided or mitigated*."

In 2021 WCEM commissioned a 'Level A' Basic Desktop Assessment for the region using the guidance of MBIE/MfE (Figure 10)[82]. The assessment was undertaken by Beca[83] and "*intended to identify areas where 'Liquefaction Damage is Possible' and which therefore warrant further assessment to support land use planning and development*". The deliverables included a GIS layer that could be added to WestMaps. That layer is not accessible through WestMaps (Figures 4 and 5) but the part for Grey District can be accessed through the Grey District Council website.

The assessment by Beca shows that liquefaction damage is possible (rather than unlikely) in most of the populated parts of the region, including Westport, Greymouth, Hokitika, Karamea, Little Wanganui, Seddonville, Whataroa and Haast and most of the places where there are SRDs.

Beca made suggestions for further work, but those have not been actioned nor are there plans to do so.

[80] p94.
[81] Canterbury Earthquakes Royal Commission, *Volume 7, Roles and Responsibilities, Final Report*. p105.
[82] Ministry for Business, Innovation and Employment/Ministry for the Environment, *Planning and engineering guidance for potentially liquefaction-prone land Resource Management Act and Building Act aspects*. September 2017, Wellington, New Zealand.
[83] Beca Limited, *West Coast Regional Liquefaction Assessment*. Prepared for West Coast Regional Council. November 2021.

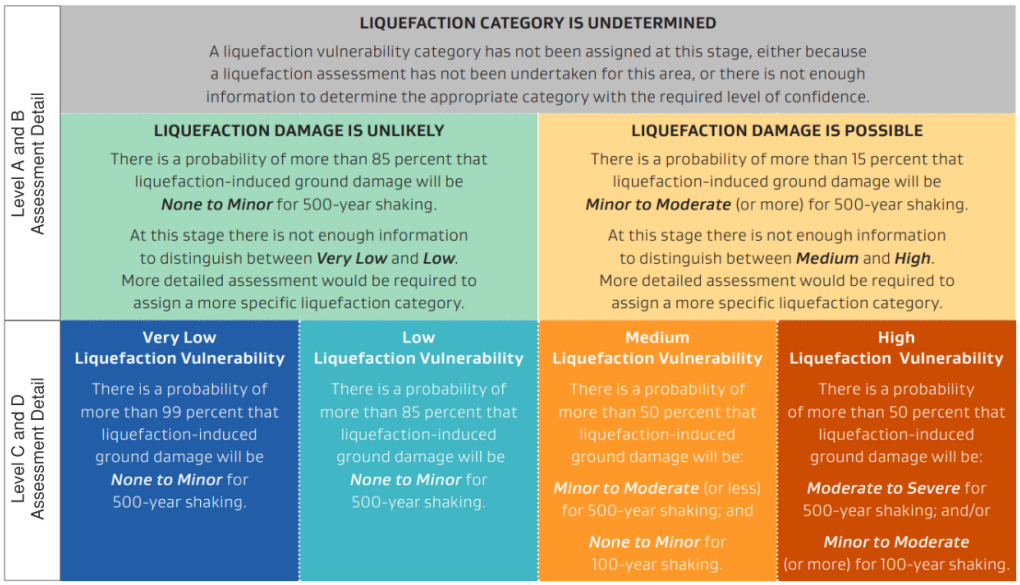

Figure 10 - Guidance for determining liquefaction vulnerability categories (MBIE, MfE, 2017)

Liquefaction potential in the Buller region has been the subject of research at the University of Canterbury[84].

A national liquefaction model is being developed for the Natural Hazards Commission, which the commission expects to deliver by 31 March 2025[85].

Land instability

Land instability takes various forms and is a complex technical area, especially for the West Coast. There is a significant amount of information on land instability for the region, for example the information generated by the AF8 programme and by the University of Canterbury. However, it is difficult to assess what more is needed without a concise understanding of what WCRC presently holds or has access to. The situation lends itself to a scoping exercise, potentially as a postgraduate student project.

A West Coast Landslide Debris Inundation Assessment was contracted by WCEM in March 2022 and is being delivered by GNS Science[86]. The work was commissioned for the purposes of informing lifelines analysis but has wider applicability. Stage 2 is underway with preliminary results reported in March 2024. The work is behind schedule due to unforeseen events including Cyclone Gabrielle impacting on the

[84] Yiyqiang, D and JB Berrill, *Pattern Recognition Approach to Evaluation of Liquefaction Potential: Exploration of Buller Sites*. Report 92-7. Department of Civil Engineering, University of Canterbury, October 1992.
[85] https://www.naturalhazards.govt.nz/resilience-and-research/research/eqc-funded-research-and-data-projects-underway/
[86] GNS Science Proposal Q31872684 and subsequent contract variations.

limited expertise nationally that can do this work. It is understood that GNS Science has provided the completed work to Manaaki Whenua for external review.

The original contract includes two optional scope extensions that have not been taken up by WCEM or WCRC. It is understood that no further work has been committed under this contract. Planning for how to communicate the findings to the wider public is yet to start. The work is using the best available topographic information being the 8m Digital Elevation Model (DEM). LiDAR would improve the quality of the analysis but there are presently no plans to redo the analysis, or part of it, once LiDAR becomes available.

Tsunami - lake

It is understood that there is limited information on tsunami hazard for West Coast lakes and that there is good bathymetric data for Lake Brunner that would enable the hazard associated with the lake to be modelled.

Tsunami - coastal

The situation with respect to tsunami hazard is summarised in the TTPP s32 report as follows[87]:

"*Tsunami modelling for evacuation planning was commissioned by the West Coast Regional Council Civil Defence Team. This provides modelling to a level considered sufficient to inform both Civil Defence and Land Use Planning requirements. A large set of tsunami sources was investigated, and 330 tsunami inundation simulations were undertaken for the coastal towns*."

The modelling covers all of the region's coastline. It is understood that LiDAR data was used where available, being Buller, Greymouth and Hokitika, and the 8m Digital Elevation Model (DEM) elsewhere. Further, the modelling used a "bath tub" approach with a wave height of two metres.

Coastal hazards and sea level

Extensive work on coastal hazard has been undertaken as part of the TTPP process. That includes coastal erosion from storms and coastal inundation. The latter considers storm surge (100-year ARI) and a sea level rise scenario (one metre rise). As for the tsunami modelling, LiDAR data was used where available, being Buller, Greymouth and Hokitika, and the 8m DEM elsewhere.

Modelling has included simulations of future sea level rise scenarios. It is understood that in the absence of long-term records of land elevation, the most recent modelling undertaken by NIWA has included an allowance of 0.2m for land subsidence. There is

[87] *Te Tai o Poutini, Section 32 Evaluation, Report Three – Hazards and Risks, Part One – Natural Hazards Including Coastal Hazards*. p78.

Global Navigation Satellite System (GNSS) monitoring of land elevation at Hokitika airport but for none of the other coastal floodplains of the region.

A number of investigations of coastal hazards have been commissioned by WCRC in response to specific, localised issues[88].

There is no coastal hazard monitoring programme although there have been annual transect surveys of Punakaiki Beach and occasional surveys of Hokitika Beach[89]. Repeat LiDAR surveys are very useful, but other forms of monitoring are also required.

WCRC operates a wave buoy off Westport which supports real-time flood forecasting and navigation safety for the Buller River. The buoy is not able nor intended to measure long-term trends in mean sea level.

Sea level is measured at Charleston[90] and Jackson Bay[91].

Satellite data have been used to analyse trends in sea level at Westport, Greymouth and Hokitika from 1993 to 2022[92].

6.3 New natural hazards information – underway or planned by WCRC

There is no documented, consolidated, whole of organisation plan of what WCRC is planning or has underway across its various teams. There are no line items or targets in the LTP specific to natural hazards information other than real-time flood event information. Despite that, the situation is quite dynamic with new information being gathered by multiple teams across WCRC for various specific reasons (e.g. TTPP, Climate Resilience Infrastructure Projects, Lifelines etc). The situation seems to have eased with the only activity underway or committed at present being completion of the West Coast Landslide Debris Inundation Assessment, and numerical flood hazard modelling at a small number of places. A plan for modelling some of the SRDs over the next two years has been prepared by staff. The planning/policy team has advised that no further natural hazards information is presently being commissioned for TTPP and that the information requirements for the review of the RPS have not yet been scoped.

[88] For example: National Institute for Water and Atmospheric Research, *Analysis of Shoreline Movements at Okarito and Implications for Sea-Flooding Protection*. Prepared for West Coast Regional Council, September 2019.

[89] West Coast Regional Council, *Report on Riverbed Level Survey Programme*. Report to West Coast Regional Council Operations Committee, 19 November 2024, p16.

[90] https://www.linz.govt.nz/products-services/data/types-linz-data/sea-level-data/sea-level-data-downloads

[91] https://niwa.co.nz/hazards/coastal-hazards/sea-level-observations-near-real-time

[92] Land, River, Sea Consulting, *Sea Level Rise Observations in New Zealand and the West Coast*. Memorandum prepared for West Coast Regional Council. December 2023.

Because flood hazard is the present focus of WCRC, and for the purposes of this strategy, modelled information being prepared or planned is summarised in Appendix 1.

It is noted that the first pass report prepared for Buller District Council's climate change adaptation planning programme states in Next Steps that "*hazard modelling will be commissioned* …[93]." The role of WCRC in this and what is expected of WCRC should be clarified. The report also states "*pluvial flooding in the Buller District poses a significant risk to human values and the built environment*" and "*NIWA has modelled how rainfall will change across the country, but there is no pluvial flood modelling currently available for Buller to our knowledge*[94]." It is understood that pluvial flood modelling is being undertaken as part of the Westport Resilience project. It is not clear whether this modelling accounts for any effects of future sea level rise on groundwater. Modelled information on pluvial flood hazard does not seem to exist anywhere else in the region.

No document has been received that lists the further work recommended in previous studies commissioned by WCRC and the decisions made by WCRC in respect of those recommendations. Recommendations in commissioned reports helpfully inform decision-making on next steps, but also create liabilities if that decision-making process is not robust. Ultimately it is for council to decide whether to act on the recommendations it receives, however, it is vital that every recommendation is given careful consideration and that a decision is made in respect of each one, with reasons, and the decisions and reasons are recorded.

As noted above, Beca made suggestions in 2021 for further work on liquefaction, but those have not been actioned nor are there plans to do so.

The latest Lifelines Study 2017[95] makes no recommendations on gathering further natural hazards information but does include a recommendation to "*check infrastructure resilience to flooding in Westport, Greymouth and Hokitika*[96]."

No advice has been received on any negotiated settlements (e.g. Environment Court proceedings) that require, or have required, WCRC to obtain natural hazards information.

It is important to maintain an organisation-wide, common operating picture of what information is being gathered and by whom, with systems and processes to enable

[93] Urban Intelligence Ltd, Resilient Organisations Ltd, *Risk Screening, First-Pass Climate Change Risk Assessment, Prepared for the Buller District Council's Climate Change Adaptation Planning Programme*. Prepared for Buller District Council, Version 1.3, 31 October 2022, p34.
[94] p15.
[95] McCahon, E., D. Elms and R. Dewhirst, *Improving Resilience to Natural Disasters, West Coast Lifelines Vulnerability and Interdependency Assessment: Main Report*. Prepared for West Cost Civil Defence Emergency Management Group. 2017, 56p + 12 supplements.
[96] p52.

and support this. The receipt of information through other activities of council such as resource consent Assessments of Environmental Effects and potentially some of the information arising from giving effect to the Building (Dam Safety) Regulations 2022 adds to the complexity.

There are a variety of ways WCRC acquires natural hazards information and knowledge regardless of whether it is initiated by WCRC. This arises because of the range of functions WCRC undertakes that generate or collate information that is then received by WCRC. This becomes part of WCRC's knowledge base which then creates an obligation for disclosure (Figure 11). Internal processes and systems need to properly handle this complexity.

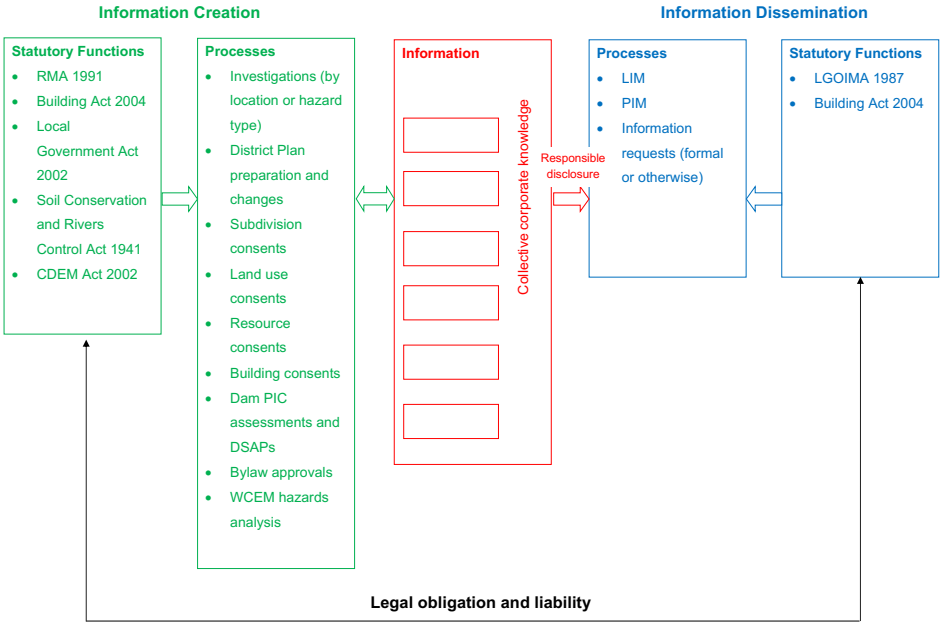

Figure 11 - Connecting information creation and dissemination processes through using a common database

6.4 Respective roles and interfaces with West Coast Emergency Management and Lifelines

As noted above, the current Group Plan is being reviewed[97]. The risk register that forms part of the Plan has been reviewed by WCEM, with a series of workshops held to examine flood, tsunami and earthquake hazards. It is understood that no further natural hazards information is needed from WCRC to enable the review of the Group Plan to be completed.

[97] Section 55 of the Civil Defence and Emergency Management Act 2002.

The arrangement of public-facing (online) operational and event-based information (the responsibility of WCEM) and other information that describes the hazardscape (largely the responsibility of WCRC) potentially needs some refinement (see above).

Preparing for and responding to natural hazard events will require continued collaboration across the science, hydrology, engineering and emergency management functions.

6.5 Partnerships with Crown Research Institutes and others

Crown Research Institutes (CRIs) undertake valuable work often using the West Coast region for case studies or applied research[98]. Valuable work has been undertaken by the University of Canterbury over many years for example, led by Professor Tim Davies and others.

At present there is no formality or structure around relationships with these and other potential partners, and no memoranda of understanding or partnership agreements. WCRC has good relationships with these organisations. However, it would be helpful if WCRC had a better understanding of the intent of these organisations, especially whilst potential projects are being scoped. This allows WCRC to align its own activities, including co-resourcing, have influence on project scope and deliverables and commence early planning of community engagement. As noted in the SWOT analysis (Figure 3) it is WCRC that retains the primary statutory responsibility for natural hazards knowledge and information for its community.

Although natural hazards information will generally be specific to a region, there is value in partnering and collaborating with other regional councils and unitary authorities to share knowledge on approaches and methodologies, including scopes of work. WCRC staff participate in Te Uru Kahika special interest groups (SIGs) including the Natural Hazards SIG and the River Managers' SIG and have good relationships with neighbouring regional councils. This is an important part of staying abreast of sector practice, collaboration opportunities, national direction and the external operating environment.

7 The Natural Hazards Information Strategy

7.1 Problem statement, vision and strategic objectives

A natural hazards information strategy has been prepared having regard to the SWOT analysis (Figure 3) and the current state (section 6). The strategy and its components are summarised in Figure 12.

[98] e.g. GNS Science and their 3-year Franz Josef: Developing resilience in a community at risk programme.

The strategy addresses the following problem statement, derived from the SWOT analysis:

WCRC has a significant amount of information on the natural hazards of the West Coast region. However, that information is difficult for the public, stakeholders and council to access. It is not fully known what information exists. There are known gaps in natural hazards information (hazard-type, location, quality) which need to be addressed to support community resilience. There is no comprehensive, cross-organisation plan for resolving this.

The following vision has been developed in response to the problem statement:

The public, stakeholders and council have ready access to quality information on all relevant natural hazards for all exposed communities in the West Coast region.

Council means staff and elected members. Relevant natural hazards include interaction between hazard-types and cascade and cumulative impacts.

Having regard to the current state analysis described above, the following strategic objectives are proposed for achieving the vision (Figure 12):

1. Maximise value of existing information.
2. Improve accessibility for public, stakeholders and council.
3. Extend and enhance existing knowledge and information.
4. Support delivery of community and critical infrastructure resilience programmes.
5. Engage in partnership research programmes and relationships.

The substantive strategic objective is #3, however, all objectives contribute to achieving the vision and are mutually reinforcing.

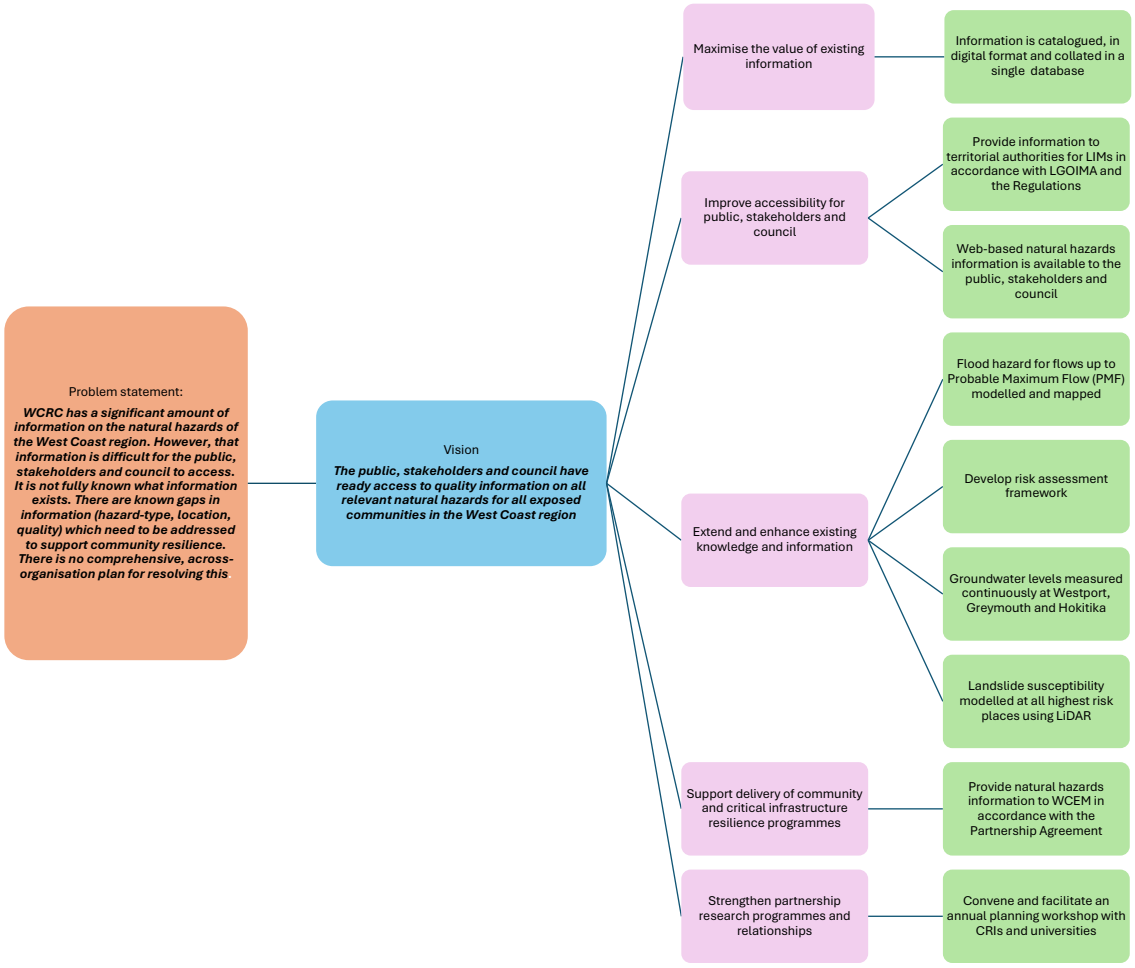

Figure 12 - The natural hazards information strategy

Each of the objectives have workstreams that build on the strengths and opportunities identified through the SWOT analysis and that address the weaknesses and threats (Figure 3). Suggested measures are discussed in section 8.

Each of the strategic objectives and key workstream elements are discussed as follows. Sequencing and timing are described in the Implementation Plan. This enables the Plan to be revised without requiring the Strategy document to be updated.

7.2 Maximise the value of existing information

Delivering this objective will help address strengths, weaknesses and threats outlined in Figure 3.

It substantially comprises a workstream that collates and catalogues historical flood event information in map and other formats and converts these to digital format where necessary. This is the equivalent of the database element ("WCRC-held Information") in Figure 13. The portal element (how information is accessed) is discussed below in section 7.3.

The priority is information that only WCRC holds and/or is expected to hold i.e. flood hazard. This same hazard-type (flood) also affects the largest number of ratepayers, as 75% of ratepayers receive some degree of flood protection[99]. For that reason it is also likely to be information that WCRC has a significant amount of and that is subject to ongoing gathering.

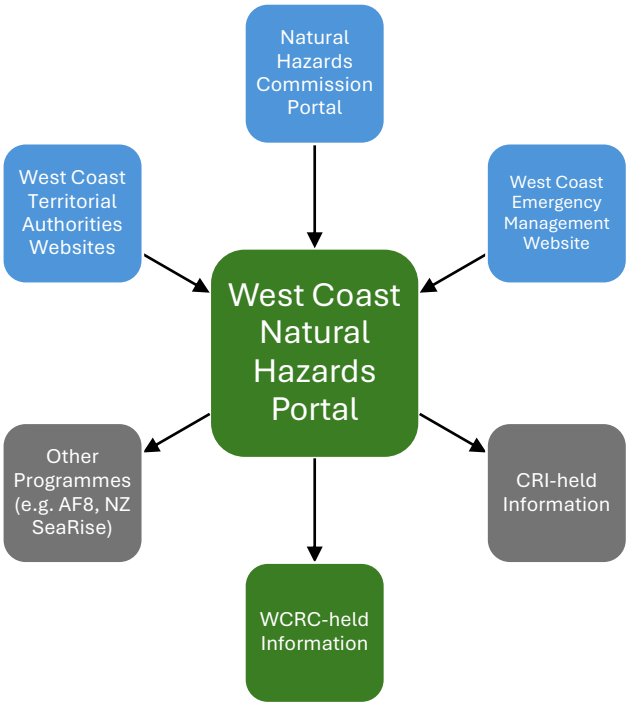

Figure 13 - A potential arrangement of portals and databases

[99] West Coast Regional Council, *Long-Term Plan 2024-2034*. 2024, p10.

One of the proposed workstreams for this strategic objective implements a process whereby information received by WCRC including through RMA (consent applications and compliance) and Building Act processes is assessed for incorporation into the natural hazards database. This includes collating information relevant to natural hazards received as part of owners of large dams meeting their obligations under the Building (Dam Safety) Regulations 2022. It is the process of connection depicted in Figure 11. The value to WCRC of data supplied by non-council resource consents holders (in this case beach and riverbed surveys) is noted in a recent report[100].

As a minimum, the process needs to involve assessing the potential implications of the new knowledge. That is, what the information is telling WCRC about natural hazards and not just that a compliance obligation (e.g. a consent condition to provide WCRC with information) has been satisfied. This has resource implications as it adds a technical expert element to what is otherwise an administrative activity.

This strategic objective also includes a workstream to cross-check information held by NZTA, Department of Conservation, KiwiRail and other government entities (e.g. Ministry of Education) with that held by WCRC and gathering anything that is relevant and important.

7.3 Improve accessibility for public, stakeholders and council

Delivering this objective will build on the strengths and help address weaknesses and threats outlined in Figure 3. It complements strategic objectives #1 and #3.

In this context, “council” means staff and elected members. It recognizes that accessibility is important not just for those external to WCRC.

The substantive workstream for this strategic objective is delivering the portal element in Figure 13 (the database element of Figure 13 is discussed in 7.2 above).

The LTP makes several references to planned improvements to information systems including “*a fit-for-purpose spatial platform for GIS*” over Years 1-2[101]. It also states the Councils are committed “*to identify how GIS information can be gathered and displayed on a common platform, providing a one-stop shop for GIS data*[102].” It is understood that a common platform across West Coast councils is no longer being pursued. Despite that, WCRC is currently reviewing its information strategy and proposed timeline for upgrade of the IT system, including upgraded public information access to natural hazards data and reports. This provides an immediate opportunity to improve access, as part of the wider initiative to improve access to WCRC’s

[100] West Coast Regional Council, *Report on Riverbed Level Survey Programme*. Report to West Coast Regional Council Operations Committee, 19 November 2024, p4.
[101] West Coast Regional Council, *Long-Term Plan 2024-2034*. 2024, p16.
[102] p19.

information. As an interim measure, WCRC staff have developed a pilot internal portal to improve internal access to GIS layers of modelled flood hazard.

The GIS platform proposed by WCRC will improve accessibility and help deliver the vision in Figure 12. However, it is understood that it will not extend to information in formats other than GIS maps. A dedicated natural hazards portal will likely be needed in the longer term as the quantity and range of hazard information increases.

As noted in section 6, not all information can or should be held by WCRC. The arrangement shown in Figure 13 helps address the "knowing but not holding" issue for WCRC. For example, knowing that a university has published research on a natural hazard on the West Coast but not holding the publication itself. It helps manage the risk depicted in Figure 11 whereby processes that disseminate information are not explicitly connected to those that create information or knowledge.

The portal also serves as a landing place for others that wish to connect their customers with WCRC, for example the NHC and the national Natural Hazards Portal.

In the longer term, WCRC has several options for developing a natural hazards portal and database. These include:

1. Wait or advocate for a national database and portal to be developed and participate in the development. This is likely to be the long-term outcome for New Zealand but no national agency has publicly stated firm plans for this.
2. Wait for Te Uru Kahika to lead development of a common sector platform and portal and participate in that process. It would build on the successful track record of collaboration and shared systems, such as IRIS. It could potentially be a subgroup of the councils that don't presently have a portal. This is long-term but probably quicker than a national database.
3. Enter a shared service arrangement with another council to utilize their existing system to host West Coast information. This redraws or extends the geographic boundary of that other council's database. It is probably the quickest of the options but presents risks to WCRC if the host council withdraws at any time.
4. Develop its own database with similar functionality to the eight other regional councils. This would be part of the wider WCRC initiative to make environmental data available online through a GIS platform. WCRC would fully control the pace and priority of development.

The need for a national publicly accessible database has been promoted over many years and remains a topic of occasional national discussion. One of the recommendations of the Climate Adaptation Inquiry[103] is that government "*develop an accessible public data commons for data on natural hazards and climate risk with the aim of improving the data's quality, consistency and availability*." This is not the first

[103] Finance and Expenditure Committee, New Zealand House of Representatives, *Inquiry into Climate Adaptation*. September 2024, p53.

time a national approach has been suggested. In relation to their Natural Hazards Portal, the NHC has said their "*vision is to create a 'go-to-source' for natural hazards risk management in Aotearoa New Zealand*[104]." WCRC should stay abreast of any developments in this area.

Regardless of whether any of these options are pursued, WCRC will still need to collate and cleanse data and do so on an ongoing basis (strategic objective #1). As part of this the arrangement of reports on the WCRC website should be rationalised, and the latest reports added. It is understood that work is underway to do these things.

As noted above there is some duplication with the territorial authority websites and in some cases more comprehensive and accessible natural hazards information than WCRC currently provides. It is important that roles and responsibilities are clarified to avoid duplication of effort and confusion on the part of the public as to where they should go for certain information. Further, WCRC either needs to subsume the information generated by AF8 and integrate it with its other natural hazards information or, through an improved portal, provide easy access to that information (Figure 13).

WCRC is making improvements to its processes for conveying natural hazards information to the territorial authorities ahead of the new LGOIMA LIM provisions taking effect on 1 July 2025[105]. However, the process should be extended so that communication and engagement occurs with the territorial authorities at the time information is commissioned and not only once the information has been gathered. This should include preparation of a communication and engagement plan with the territorial authorities being invited to provide feedback on that plan. All relevant teams within WCRC need to have the opportunity for input and be aware of the agreed plan.

As noted in section 6, part of the accessibility problem is that information is reported by hazard-type and targeted at specialists. This is addressed by a workstream that prepares and publishes synthesis reports (of the type shown in Figure 9) for priority places. This complements, but does not replace, the current practice of preparing community-based fact sheets. The opportunity exists to post fact sheets on the website and could be implemented as part of the website upgrade.

7.4 Extend and enhance existing knowledge and information

Delivering this objective will start to close the information gaps discussed in section 6.

It comprises workstreams that extend existing work, such as modelling of flood hazard (including that already planned by WCRC for SRDs), and that introduce new work such as the monitoring and modelling of groundwater levels. It also includes workstreams intended to anticipate the needs of future RMA Plan Reviews.

[104] https://www.naturalhazardsportal.govt.nz/s/

[105] *Monthly Catchment Management Report*, Report to West Coast Regional Council Operations Committee. 22 October 2024, pp7-8.

As noted above, the state of WCRC's processes and systems makes it difficult to comprehend what information WCRC holds. Gaps in information may not be real. Information that is considered necessary to gather may already exist. This impacts on the ability to confidently plan a forward programme. It will require continual review and adaption as WCRC's systems and processes are improved.

It may be desirable to develop a protocol within WCRC describing the circumstances in which natural hazards information is to be taken to Council or to a Council committee for noting, endorsement or approval of that information.

Scoping is an essential part of a programme because it verifies feasibility, provides a mechanism for stakeholder engagement and input and reduces cost and delivery risks. These workstreams therefore prioritise scoping studies along with specific studies that are urgent and important. Separating scoping studies from the implementation of what has been scoped enables implementation to be lagged so that resourcing can be secured (i.e. incorporated into an LTP or Annual Plan).

The recommended programme of work is outlined as follows, generally in order of commencement of implementation:

1. Extend numerical modelling of flood hazard for populated coastal floodplains to include flows up to Probable Maximum Flood (PMF), utilizing the work on PMF being undertaken at present by the power generation companies across NZ and any other information presently held by WCRC. It may require consideration of stopbank geotechnical performance scenarios and failure modes.
2. Undertake numerical flood hazard modelling for all TTPP flood-related natural hazard overlays and for SRDs. The priority is places that are areas identified in the TTPP natural hazard overlays as susceptible to flooding (ranked by those most likely to be subject to subdivision applications) and SRDs. Places that are SRDs only (and are not identified in the TTPP natural hazard overlays as susceptible to flooding) may possibly initially use 1D modelling.
3. Provide for ongoing reviews and updates of flood hazard modelling based upon results of 3-yearly cross-section and post-event river surveys. The uncertainty in predicting when updates will be needed and where (i.e. which rivers) means that this needs to be risk-managed or provided for on a contingency basis.
4. Develop a risk assessment framework in conjunction with the review of the natural hazards provisions of the Regional Policy Statement, consistent with any direction from the proposed National Policy Statement on Natural Hazards Decision-Making.
5. Design a groundwater level continuous monitoring programme in Westport, Greymouth and Hokitika for the purposes of informing pluvial flood modelling.
6. Scope the requirements for implementing GNSS monitoring of land elevation at Westport and Greymouth.

7. Design a coastal hazard monitoring programme to complement repeat LiDAR surveys and WCRC's recently revised 10-year river and coastal survey strategy, to address any information gaps identified through the TTPP process or required to give effect to the Methods in the Plan. This may include river mouths if such monitoring is not part of the engineering programme.
8. Progressively implement groundwater level continuous modelling in populated coastal floodplains to establish the relationship between sea level, groundwater level and surface (pluvial) flooding. This is dependent on #5 above. It may be required to inform more detailed assessment of liquefaction hazard (#10 below).
9. Repeat the landslide susceptibility modelling using LiDAR data for the highest risk places, similar in intent to the Optional Extension A "Local Refinement" outlined in the contract for the current work.
10. Undertake Level B (MBIE/MfE Guidelines) assessments of liquefaction and lateral spreading for Westport, Greymouth and Hokitika, possibly in conjunction with assessments of impacts on WCRC flood and river protection assets. Consider Level B assessments, and potentially Level C assessments, for other places in the future.
11. Assess cascade hazards associated with fault rupture and severe ground shaking including formation and failure of landslide dams, stopbank damage and aggradation and avulsion of rivers. Use this to scope and design a programme of further investigation.
12. Extend numerical modelling of flood hazard for Westport, Greymouth and Hokitika to include pluvial flooding incorporating effects of groundwater and high river levels.
13. Review the need and timing of further coastal hazard assessments including dynamic modelling of inundation and tsunami mapping once the TTPP has been adopted, having regard to the information needed to implement the methods in TTPP and anticipating what will be needed for the next Plan Review. This needs to account for any new national approach for mapping of tsunami evacuation zones.
14. Implement the coastal hazard monitoring programme.
15. Undertake dynamic modelling of coastal inundation including coastal tsunami runup.
16. Implement GNSS monitoring of land elevation at Westport and potentially Greymouth in partnership with a CRI or another research body.
17. Commission lake tsunami hazard modelling for Lake Brunner and then Lake Kaniere or Lake Mapourika, possibly delivered as part of university postgraduate research.
18. Scope the natural hazards information needs for the next generation of District Plans for the region.

It is noted that work associated with Westport may need to be aligned or integrated with the Westport Resilience project. This requires further consideration by WCRC.

Further detail on parts of the programme are as follows.

Risk assessment framework

The programme includes development of a risk prioritisation framework of the type developed by Otago Regional Council[106]. It is assumed here that this would be developed in conjunction with the review of the natural hazards provisions of the RPS as the changed RPS would potentially include such a framework. It is possible that a framework may be promulgated through the proposed National Direction on Natural Hazards and therefore the framework developed by WCRC would need to be consistent with that.

The framework should be used to assess whether wind, drought and fire should be incorporated into the programme in the future and the relative priority they should be given.

Flood hazard

The case for more detailed flood modelling for Westport, Greymouth and Hokitika is easily justified on the basis of risk to like and property. However, for the smaller communities and floodplains it is more difficult to decide what is fit for purpose and how detailed the work should be (Figure 8). For the purposes of implementing this strategy it is suggested that the priority is places that are areas identified in the TTPP natural hazard overlays as susceptible to flooding (including flood level information to support territorial authority decision-making on subdivision applications, where such information does not presently exist) and that are part of an SRD. The latter is an important criteria as WCRC has asset management responsibilities and liabilities, and management decisions that need to be informed. Further, commitments to modelling service levels have been made in all of the 2024-2026 Asset Management Plans and it is not clear from WCRC records when some of these were last done, or if at all. For some places one-dimensional models may suffice for the determination of levels of service, at least initially, even if LiDAR exists and would enable two-dimensional modelling.

It may be beneficial to undertake a scoping exercise for the programme before proceeding too far into delivery. This would ensure that the methodology at each locality is appropriate. For example, some may require geomorphological analysis to complement numerical hydraulic modelling. The scoping would inform the development of the next LTP.

[106] https://www.orc.govt.nz/get-involved/events/2024/may/safety-and-resilience-committee-workshop-regional-natural-hazards-risk-assessment-programme/

As a quality assurance measure it is recommended that existing flood level information used to support the determination of building floor levels (by the territorial authorities) is verified as being fit for purpose, including the communication that accompanies the provision of information to the requestor.

Cascade hazards

A workstream to assess cascade hazards associated with fault rupture and severe ground shaking including formation and failure of landslide dams, stopbank damage and aggradation and avulsion of rivers has been included in the programme. This will scope and design a programme of further investigation.

Cascade and multi-hazards are a more significant issue for the West Coast region than most other regions primarily as the likelihood of fault rupture and severe ground shaking is so much higher on the West Coast, to trigger or worsen other hazards. This matter has been investigated to some extent by the modelling earthquake induced landsliding, but further work is needed, addressing other risks such as residual risk/stopbank failure, communities downstream of landslide-dammable catchments and the aggradation and avulsion of rivers. The impacts of these cascade hazards are potentially widespread.

Liquefaction

The Beca 2021 liquefaction report[107] states "*the West Coast CDEM Group may wish to consider a Level B assessment to reduce residual uncertainty in the assigned liquefaction categories*" and "*areas where 'Liquefaction Damage is Possible' warrant more detailed assessments during land development planning*". Further, "*the West Coast CDEM Group may consider additional work to reduce residual uncertainty in the assigned liquefaction vulnerability categories, and/or refine the extents of areas identified as 'Liquefaction Damage is Possible'*" and that a Level B 'Calibrated desktop assessment "*would reduce uncertainty and potentially the extent of land classified as 'Liquefaction Damage is Possible', and for which planning rules would be applied*".

The TTPP s32 report implies that further work is not necessary for planning purposes:

"*The liquefaction hazard across the district is contingent upon the ground materials, groundwater levels and shaking intensity during earthquakes. There are often discrete areas away from large areas of susceptible ground due to local variances in geological and geomorphological processes. An assessment of liquefaction risk across the West Coast was undertaken in 2021, and this identified that in most parts of the region the risk is low. This report is not suitable for use in a District Plan, as in many locations the number of site-specific records used to generate the risk assessment was insufficient to be able to give an output accurate enough to be suitable for inclusion, so they were*

[107] Beca Limited, *West Coast Regional Liquefaction Assessment*. Prepared for West Coast Regional Council. November 2021, p2, p16.

classified as low. In consultation with the District Council building control teams it was determined that the measures provided in the Building Code for managing liquefaction through foundation design were sufficient and that additional land use controls are not required[108]*."*

The s32 report seems to confuse hazard and risk (Figure 2). Further, the Beca report does not comment on risk and does not state that the risk is low in most parts of the region. The 'Level A' assessment shows that liquefaction damage is possible in most of the populated parts of the region. For that reason it is considered here that sequenced, targeted studies at Westport, Greymouth and Hokitika in the first instance are necessary and appropriate.

The programme needs to take account of what may be required for the review of the natural hazards provisions of the RPS and the review of the RLWP based on the 2017 MBIE/MfE guidance on how to incorporate the management of liquefaction risk into planning instruments. This will require guidance from the policy team.

Tsunami - lake

Lakes Brunner and Kaniere are the two priority lakes due to their proximity to the Alpine Fault and their permanent and transient populations at risk. Lake Brunner is the higher priority as it is understood that good bathymetric data exists for the lake. It is also understood that Lake Mapourika has multi-beam sonar coverage and a study of paleo tsunami triggering deposits[109].

The time required to scope and deliver what is a complex and potentially lengthy piece of work may require interim measures to manage the risk, such as signage and public education campaigns.

7.5 Support delivery of community & critical infrastructure resilience programmes

Delivering this objective will help address the potential weakness outlined in Figure 3.

It will provide continued clarity on the role and what is expected of WCRC in delivering Natural Hazards information and deciding information priorities. This clarity will be provided through WCRC's continued delivery of its responsibilities under the 2022 Partnership Agreement, continued involvement in the review of the Group Plan and any future update of the Partnership Agreement. This includes understanding what is expected of the WCRC natural hazards function in supporting any future update of the 2017 Lifelines study. It might include formal reporting on WCRC's delivery of its

[108] *Te Tai o Poutini, Section 32 Evaluation, Report Three – Hazards and Risks, Part One – Natural Hazards Including Coastal Hazards*. p25.

[109] Hughes, KE, SJ Fitzsimons and JD Howarth, "Lacustrine mass movements in active tectonic settings: Lake tsunami sources in New Zealand's South Island". *Geomorphology*, v464, November 2024.

Partnership Agreement natural hazards information obligations, through measures and targets.

It also includes a supporting action to clarify WCRC's role in adaptation planning and resilience programmes, especially the respective roles of WCRC and the territorial authorities. This will assist forward planning of information and resource requirements. These will need to be factored into development of the next LTP.

7.6 Strengthen partnership research programmes and relationships

Delivering this objective will help address opportunities and threats outlined in Figure 3.

It is proposed that this is delivered through an annual partnerships forum or similar. This needs to be seen as of value of by all partners, not just WCRC, and therefore council should consult with them on what form this should take.

Additionally, a memorandum of understanding or partnership agreement may help to ensure there is clarity around how the arrangement is expected to work.

Regardless of the form the workstreams take, the outcomes sought through this strategic objective are that WCRC influences the design of forward programmes of work at an early stage, that it avoids duplication of work and that it maximises the value of opportunities through knowing what those opportunities are and then engaging in a way that influences their design and delivery. It also gives WCRC sufficient time to incorporate co-resourcing requirements into its annual planning processes and to plan for communication and engagement.

8 Measures

A suggested set of measures have been prepared to support delivery of the strategic objectives (Table 1). Targets are presented in the Implementation Plan rather than in this Strategy as they may change over time due to changing priorities and levels of resourcing.

The measures for the extension and enhancement of existing knowledge and information focus on the priority activities for the first three years.

Table 1 - Measures

Strategic objective	Measures
Maximise the value of existing information.	Information is catalogued, in digital format and collated in a single database.
Improve accessibility for public, stakeholders and council.	Provide information to territorial authorities for Land Information Memoranda (LIMs) in accordance with the Local Government Official Information and Meetings Act 1987 and the Regulations.
	Web-based natural hazards information is available to the public, stakeholders and council.
Extend and enhance existing knowledge and information.	Flood hazard for flows up to Probable Maximum Flood modelled and mapped.
	Develop risk assessment framework.
	Groundwater levels measured continuously at Westport, Greymouth and Hokitika.
	Landslide susceptibility modelled at all highest risk places using LiDAR.
Support delivery of community and critical infrastructure resilience programmes.	Provide natural hazards information to West Coast Emergency Management (WCEM) in accordance with the Partnership Agreement[110].
Strengthen partnership research programmes and relationships.	Convene and facilitate an annual planning workshop with Crown Research Institutes (CRIs) and universities.

9 Acknowledgements

The assistance of West Coast Regional Council staff in this work is much appreciated, especially the assistance provided by Sharon Hornblow.

[110]West Coast Civil Defence and Emergency Management Group, *Partnership Agreement*, 11 May 2022.

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Appendix 1 Modelled Flood Hazard Information – current state, underway and planned

This table presents an overview of the latest modelled flood hazard information and flood models that exist for localities, typically Special Rating District (SRDs), across the region, and the information gathering (modelling) WCRC has underway or planned. Localities are ranked by the complexity of the datasets, having regard to Figure 8, and the level of planning that has been undertaken for further work. References are ordered by date of publication, with the most recent at the top of the list for each locality. References superseded by later work are not listed.

Table 2 - Modelled Flood Hazard Information - current state, underway and planned

Locality	Information – current state	References	Further information – underway or planned by WCRC
Westport	2D modelling, fixed bed, 4.8m flexible grid with 20m grid in river channel. December 2020 LiDAR supplemented by 2021 river cross-section survey. Calibrated to 21 July 2021 flood. Validated to 23 July 2012 and 1 February 2018 (Cyclone Fehi) floods. Modelling up to 100-year ARI. Includes RCP6.0 and 1.12m sea level rise (SLR) scenarios. No stopbank breach scenarios. Mapping of depth, speed and hazard.	LRS, 2022. *Buller River MIKE11 Flood Hydraulic Modelling Flood Model Update.*	Breach scenario and overdesign (2000-year ARI) flood maps will be updated to reflect the potential overtopping once floodwalls are built.
Greymouth	Uses model described in LRS, 2023. Models proposed stopbank upgrades with 100-year ARI, RCP6.0, 1.0m SLR. No breach scenarios. Mapping of depth, speed and hazard.	LRS, 2024. *Impact of Climate Change on Grey River Flood Protection*.	Modelling of 50 and 100-year ARI, RCP6.0 and SLR up to 1.0m underway but not yet documented.

Locality	Information – current state	References	Further information – underway or planned by WCRC
	Reports the 2021 analysis by LRS. 2D modelling, fixed bed, 15m^2 to 1000m^2 grid based on 2015 LiDAR supplemented by river cross-section data surveyed 2019 and 2021. Calibrated to 21 November 2011 flood. Validated to 19 October 1998 flood. Modelling up to 100-year ARI plus 150-year ARI historic event. Includes RCP8.5 and 1.1m SLR scenarios. Stopbank breach and banks-down scenarios. Mapping of depth, speed and hazard.	LRS, 2023. *Grey River Flood Modelling Report*.	WCRC intends external peer review of LRS 2021 and LRS/NIWA 2023.
Hokitika	2D modelling, fixed bed, 12m^2 to 200m^2 grid based on April 2019 LiDAR supplemented by river cross-section survey data. Calibrated to November 2018 (~ 40-year ARI) and March 2019 floods. Modelling up to 100-year ARI, including RCP8.5 and 1.0m SLR scenarios. Three stopbank breach scenarios. Mapping of depth, speed and hazard.	LRS, 2020. *Hokitika River, Hydraulic Modelling and Flood Hazard Mapping*. Rebuild and recalibrate model due to incorrect LiDAR.	WCRC intends external peer review of LRS 2020.
Franz Josef/Waiho	Upgrade of model described in LRS, 2024 using July 2024 LiDAR of channel supplemented by 2016 LiDAR. Fixed bed. Modelling of 100-year ARI with four different braid alignments to assess impact of aggradation on design LOS since assessment reported October 2024. Report freeboard of stopbanks.	LRS, 2024. *Waiho Model – July 2024 Upgrade.*	Waiho River morphological model being developed by NIWA.

Locality	Information – current state	References	Further information – underway or planned by WCRC
Franz Josef/Waiho (contd)	2D modelling. Grid 25m2 to 1000m2. Fixed bed. Update of model using July 2024 LiDAR of channel supplemented by 2016 LiDAR. Upstream boundary extended to base of glacier. Model 100-year ARI with five different channel/braid configurations. Report stopbank freeboard.	LRS, 2024. *Waiho River 2D Hydraulic Modelling Model Update Report (Draft).*	WCRC intends external peer review of LRS 2023 Waiho modelling.
Karamea	2D modelling, fixed bed, 3m grid based on June 2008 LiDAR and 2006 river cross-section survey. Calibrated to October 1998 flood, assessed as 20-year ARI. Modelling up to 100-year ARI. Modelled depths mapped but not velocities. Tidal boundary as per calibration event. No modelling of SLR or stopbank breach scenarios.	NIWA, 2010. *Karamea Floodplain Investigation*.	Level of service modelling.
	AMP refers to updated modelling 2012 but no details.	*Karamea Rating District 2023-2026 Asset Management Plan.*	
Hari Hari Flat/Wanganui River	2D modelling, fixed bed, 15m^2 to 1000m^2 grid based on 2020 LiDAR supplemented by 2022 drone data. Uncalibrated. Flood maps (depth, speed, hazard) up to 100-year ARI including RCP8.5 and stopbank breach scenarios.	LRS, 2024. *Wanganui River Flood Modelling Report*.	Options planning. Yet to be scoped.

Locality	Information – current state	References	Further information – underway or planned by WCRC
Mokihinui SRD	Bathtub modelling of inundation scenarios controlled by sea level (up to 100-year ARI and SLR of up to 2.0m) and crest level of existing stopbank. February/March 2007 LiDAR. Stopbank breach scenarios not modelled.	NIWA, 2023. *Mokihinui Township Flood Mitigation Advice*.	None planned or scoped
Seddonville/Mokihinui River	-	-	Seddonville flood risk and stopbank level of service. To be scoped.
Reefton/Inangahua River	AMP refers to "*current modelled estimate of a 400 year flood*" but no details.	-	Flood hazard assessment for Reefton. To be scoped.
Inchbonnie SRD/Taramakau River	-	*Inchbonnie Rating District 2023-2026 Asset Management Plan.*	Assessment of downstream flood hazard for breakout into Lake Brunner. To be scoped.
Red Jacks Creek SRD	AMP states "*no recent flood analysis has been undertaken for this river*"	-	Level of service assessment. To be scoped.
Nelson Creek SRD	AMP states "*there is no hydrological information held on the Kongahu area in respect of flood events or maximum flows that the scheme is intended to provide drainage for*".	*Nelson Creek Rating District 2023-2026 Asset Management Plan.*	Level of service assessment. To be scoped.

Locality	Information – current state	References	Further information – underway or planned by WCRC
Kongahu SRD	AMP refers to "*reanalysis of flood levels*" but no details.	*Kongahu Rating District 2023-2026 Asset Management Plan.*	Modelling of drainage paths. Little Wanganui River overflow into Kongahu. To be scoped.
Matainui SRD	Annual Works Report 22/23 refers to "*modelling*" under General Business. No details.	*Maitanui Rating District 2023-2026 Asset Management Plan.*	None planned or scoped.
Waitangitaona SRD	AMP refers to "*flood flow analysis modelled in June 2008*" but no details.	*Waitangitaona Rating District 2023-2026 Asset Management Plan.*	None planned or scoped.
Kowhitirangi SRD	AMP refers to "*cross-section and flood flow analysis*" but no details.	*Kowhitirangi Rating District 2023-2026 Asset Management Plan.*	None planned or scoped.
Taramakau SRD	-	*Taramakau Rating District 2023-2026 Asset Management Plan.*	None planned or scoped.

Natural Hazards Information Strategy for the West Coast Region

Implementation Plan

Corsair Consulting

Natural Hazards Information Strategy for the West Coast Region – Implementation Plan

Prepared for West Coast Regional Council

Prepared by Gavin Palmer, Corsair Consulting NZ Limited

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www.corsairconsulting.co.nz

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Cover photo: Fox River, Westland, January 2010.

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1 Introduction

A natural hazards information strategy has been prepared for the West Coast Regional Council (WCRC), for the West Coast Region (Figure 1)[1]. This Implementation Plan describes what WCRC needs to do to implement the strategy over the period 2024 to 2034.

The strategy comprises five strategic objectives. Each of the objectives have workstreams that build on the strengths and opportunities identified through the SWOT[2] analysis and that address the weaknesses and threats.

The workstreams are complemented by a set of supporting actions that are described in this Plan.

2 Workstreams

The workstreams for each strategic objective are summarised in Figure 2. These are color-coded according to whether the activity is scoping, design or delivery. For completeness they include relevant work underway or planned by WCRC in the current (2024/25) financial year. For simplicity, dependencies between workstreams are not shown.

It is noted that the Long Term Plan (LTP) and Annual Plan development processes and associated decisions of Council set the priorities within and across functions of the organisation. This strategy is not being developed within a wider LTP planning process as the planning for the next LTP (2027-37) is not due to start for another 12 months. The Strategy and this Implementation Plan are intended to inform that decision-making of Council.

As a generalisation the activities in each workstream have been timed and sequenced to help planning for the next LTP and to limit the amount of additional resources (staff and external costs) that are needed over the next three years. Some of the activities, particularly some of the scoping activities, are timed for the third year of each LTP cycle so that they can inform development of the next LTP in the cycle.

Although many of the workstreams are shown as continuous over the 10 years, WCRC could choose to pause them or break them into stages. The end of each scoping phase can be regarded as a hold point for a decision to be made on whether to proceed with implementation.

[1] Corsair Consulting, *Natural Hazards Information Strategy for the West Coast Region*. Prepared for West Coast Regional Council. February 2025.
[2] Strengths, Weaknesses, Opportunities, Threats.

Figure 1 - The natural hazards information strategy. The light pink boxes are the strategic objectives. The light green boxes are the measures

Natural Hazards Information Strategy for the West Coast Region
Implementation Plan July 2024 to June 2034
v3, 1 April 2025

Workstreams are grouped by the five strategic objectives

Workstream type:
Scoping, design or engagement
Delivery

	Workstream	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
	Maximise the value of existing information										
1	Reviews of Regional Policy Statement and Regional Land and Water Plan	Provide support to Policy Team									Provide support to Policy Team
2	Information for past flood events	Scoping what exists	Collate, digitise and upload layers and reports								
3	Information for past natural hazard events other than floods		Scoping what exists	Collate, digitise and upload layers and reports							
4	AF8 datasets and information		Incorporate and link to relevant information								
5	Information received through RMA and Building Act (dam safety) processes		Collate information and assess relevance								
6	Collate information held by NZTA, DOC and KiwiRail		Engage with agencies	Collate information							
	Improve accessibility for public, stakeholders and council										
7	Data transfer to territorial authorities and LGOIMA LIM process	Implement new process including new LGOIMA LIM provisions									
8	WCRC GIS platform	Develop GIS platform	Upload content	Manage content							
9	Natural Hazards Portal					Scope portal and delivery options		Develop portal (or hosting arrangements)		Manage portal content	
10	Multi-hazard reporting for selected communities				Prepare report for Community 1		Prepare report for Community 2		Prepare report for Community 3		Prepare report for Community 4
	Extend and enhance existing knowledge and information										
11	Modelling of flood hazard for flows up to Probable Maximum Flood (PMF)	Engage with power company project	Develop hydrology and run hydraulic models								Review PMF estimates
12	Modelling for all TTPP flood-related natural hazards overlays and for SRDs		Scoping and prioritisation		Modelling						
13	Ongoing reviews and updates of flood models (including post-event)										
14	Develop risk assessment framework as part of review of natural hazards provisions of RPS	Scoping	Develop framework								
15	Continuous monitoring of groundwater levels at Westport, Greymouth, Hokitika		Scoping and design		Stage 1 implementation			Stage 2 implementation			Stage 3 implementation
16	GNSS monitoring of land elevation at Westport and Greymouth			Scoping	Implement Westport		Implement Greymouth				
17	Coastal hazard monitoring programme			Scoping	Implementation						
18	Landslide susceptibility modelling	Complete current work	Scoping and engagement with stakeholders		Repeat using LiDAR data for highest risk places						
19	Liquefaction assessments		Scoping	Level B for Westport	Level B for Westport	Level B for Greymouth	Level B for Hokitika	Level B or C assessments for other places			
20	Cascade hazards associated with fault rupture and severe ground shaking		Scoping		Further investigation of natural hazards						
21	Modelling of pluvial flood hazard incorporating effects of high groundwater and river levels					Modelling Westport	Modelling Greymouth	Modelling Hokitika			
22	Coastal hazard assessment			Scoping			Dynamic modelling of inundation and tsunami				
23	Lake tsunami hazard modelling						Scoping	Lake Brunner			Lake Kaniere or Lake Mapourika
24	Scope natural hazards information needs for next generation District Plan(s)									Scoping	
	Support delivery of community and critical infrastructure resilience programmes										
25	WCCDEM Partnership Agreement 2022	Provide natural hazards information and support to WCEM in accordance with the Agreement, including community-based fact sheets					Support 5-yearly review of Group Plan				Support 5-yearly review of Group Plan
26	Lifelines Group	Support for Lifelines Group			Technical support for updated Lifelines Study						Technical support for updated Lifelines Study
	Strengthen partnership research programmes and relationships										
27	CRI and university relationships		Develop partnership arrangements	Implement partnership arrangements							

Figure 2 - Overview of the implementation plan

The West Coast region typically experiences one large natural hazard event per year on average. This causes a near-continual programme of response and analysis. This is not shown as a workstream in this Plan, but needs to be recognised as something that requires adequate resourcing over and above what is shown in this Plan. Similarly, communication and engagement which forms part of delivering the natural hazards function is also not shown. It is assumed that project-specific communication and engagement planning and delivery will be a part of each project. This includes publicising specific work streams, making updates to the website, and press releases, as part of each workstream. There will need to be clarity on whether these activities are budgeted as part of the natural hazards programme or are budgeted as part of an organisation-wide communications budget.

The extension and enhancement of existing knowledge and information will require certain input data. Some assumptions have been made here about the state and adequacy of that data. Closer examination may reveal that further data must be acquired before model-building and analysis can commence. This may influence the timing of commencement of some activities.

Other factors that might influence timing and sequencing include new national direction prescribed through legislation, and opportunities that arise to collaborate with others.

Further detail on some of the workstreams is provided as follows.

2.1 Maximise the value of existing information

The collation, digitising and updating (to WCRC's new GIS platform) prioritises flood information ahead of other types of natural hazards. This is preceded by scoping exercises to develop a clear understanding of what will be entailed and the cost. The duration (completion dates) can be adjusted to match resource availability.

The collation and review of information received through Building Act dam safety processes is focused on the period during which owners of large dams must first submit Potential Impact Classifications and Dam Safety Assurance Programmes to WCRC, being May 2024 to August 2026.

The collation of information held by NZTA, Department of Conservation, KiwiRail and the Ministry of Education is preceded by engagement with those organisations to scope what they hold and to agree to a process and timeframe for WCRC receiving that information. They will need time to plan for any co-resourcing of this activity.

2.2 Improve accessibility for public, stakeholders and council

This workstream is implemented as part of the wider initiative being led by Information Services to improve access to WCRC's GIS information.

Work on a possible new natural hazards portal is timed to allow further consideration of national and sector direction and collaboration opportunities. It also recognises that the planned improvements to GIS information being delivered by WCRC in 2025/26 will greatly improve access and, therefore, make a dedicated natural hazards portal a lower priority. Although the Plan shows a new portal being implemented in the third LTP cycle, this is just a placeholder pending future decisions of WCRC.

Multi-hazard reporting for selected communities commences in the second LTP cycle, to allow time for new information to be generated. Such reporting can be resource-intensive and so it is scheduled for every second year.

2.3 Extend and enhance existing knowledge and information

The recommended programme of work for extending and enhancing existing knowledge and information is outlined as follows, generally in order of commencement of implementation. The rationale for this programme is described in the Strategy.

1. Extend numerical modelling of flood hazard for populated coastal floodplains to include flows up to Probable Maximum Flood (PMF), utilizing the work on PMF being undertaken at present by the power generation companies across New Zealand and any other information presently held by WCRC. It may require consideration of stopbank geotechnical performance scenarios and failure modes.
2. Undertake numerical flood hazard modelling for all Te Tai o Poutini Plan (TTPP) flood-related natural hazard overlays and for Special Rating Districts (SRDs). The priority is places that are areas identified in the TTPP natural hazard overlays as susceptible to flooding (ranked by those most likely to be subject to subdivision applications) and SRDs. Places that are SRDs only (and are not identified in the TTPP natural hazard overlays as susceptible to flooding) may possibly initially use 1D modelling.
3. Provide for ongoing reviews and updates of flood hazard modelling based upon results of 3-yearly cross-section and post-event river surveys. The uncertainty in predicting when updates will be needed and where (i.e. which rivers) means that this needs to be risk-managed or provided for on a contingency basis.
4. Develop a risk assessment framework in conjunction with the review of the natural hazards provisions of the Regional Policy Statement (RPS), consistent with any direction from the proposed National Direction on Natural Hazards.
5. Design a groundwater level continuous monitoring programme in Westport, Greymouth and Hokitika for the purposes of informing pluvial flood modelling.
6. Scope the requirements for implementing Global Navigation Satellite System (GNSS) monitoring of land elevation at Westport and Greymouth.

7. Design a coastal hazard monitoring programme to complement repeat LiDAR[3] surveys and WCRC's recently revised 10-year river and coastal survey strategy programme[4], to address any information gaps identified through the TTPP process or required to give effect to the Methods in the Plan. This may include river mouths if such monitoring is not part of the engineering programme.
8. Progressively implement groundwater level continuous modelling in populated coastal floodplains to establish the relationship between sea level, groundwater level and surface (pluvial) flooding. This is dependent on #5 above. It may be required to inform more detailed assessment of liquefaction hazard (#10 below).
9. Repeat the landslide susceptibility modelling using LiDAR data for the highest risk places, similar in intent to the Optional Extension A "Local Refinement" outlined in the contract for the current work.
10. Undertake Level B (MBIE/MfE Guidelines[5]) assessments of liquefaction and lateral spreading for Westport, Greymouth and Hokitika, possibly in conjunction with assessments of impacts on WCRC flood and river protection assets. Consider Level B assessments, and potentially Level C assessments, for other places in the future.
11. Assess cascade hazards associated with fault rupture and severe ground shaking, including the formation and failure of landslide dams, stopbank damage and aggradation and avulsion of rivers. Use this to scope and design a programme of further investigation.
12. Extend numerical modelling of flood hazard for Westport, Greymouth and Hokitika to include pluvial flooding, incorporating effects of groundwater and high river levels.
13. Review the need and timing of further coastal hazard assessments, including dynamic modelling of inundation and tsunami mapping once the TTPP has been adopted, having regard to the information needed to implement the methods in TTPP and anticipating what will be needed for the next District Plan review(s). This needs to account for any new national approach for mapping of tsunami evacuation zones.
14. Implement the coastal hazard monitoring programme.
15. Undertake dynamic modelling of coastal inundation including coastal tsunami runup.
16. Implement GNSS monitoring of land elevation at Westport and potentially Greymouth in partnership with a Crown Research Institute (CRI) or another research body.

[3] Light Detection And Ranging.
[4] West Coast Regional Council, *Report on Riverbed Level Survey Programme*. Report to West Coast Regional Council Operations Committee, 19 November 2024.
[5] Ministry for Business, Innovation and Employment/Ministry for the Environment, *Planning and engineering guidance for potentially liquefaction-prone land Resource Management Act and Building Act aspects*. ISBN (online) 978-1-98-851770-4 Rev 0.1, September 2017, Wellington, New Zealand.

17. Commission lake tsunami hazard modelling for Lake Brunner and then Lake Kaniere or Lake Mapourika, possibly delivered as part of university postgraduate research.
18. Scope the natural hazards information needs for the next generation of District Plans for the region.

The programme includes scoping studies, to help determine budgets and timeframes for delivery.

Some of the work requires collection of time series data and cannot start until that data is gathered. The data gathering may be dependent on environmental factors, such as the need to measure extremes. Delivering information that is urgent and important has to be balanced with the need to have adequate data. This will require closer scrutiny of the programming of some activities including the modelling of groundwater and pluvial flood hazard.

The risk assessment framework is timed to coincide with the review of the natural hazards provisions of the RPS and the release of the proposed National Direction for Natural Hazards[6].

Landslide susceptibility modelling (at all highest risk places using LiDAR) is programmed for 2027/28 and 2028/29 but could alternatively be delivered as a continuation of the current project if funding was available.

The purpose of the scoping study for the liquefaction assessments is to determine whether sufficient data exists to commence Level B assessments in later years.

Continuous monitoring of groundwater levels is shown as being implemented in three stages, with one stage every LTP cycle. The number of monitored locations would be expanded at each stage, with the scoping exercise determining the scope of each stage.

It is noted that activities in the implementation plan that are associated with Westport may need to be aligned or integrated with the Westport Resilience project. This may alter the timing of these activities. This should be given further consideration by WCRC.

2.4 Support delivery of community & critical infrastructure resilience programmes

The workstream provides for ongoing support to West Coast Emergency Management[7] and the Lifelines Group. Placeholders are included for support for

[6] https://environment.govt.nz/acts-and-regulations/acts/national-direction/natural-hazards/
[7] West Coast Regional Council, *Update from West Coast Emergency Management Joint Committee*. Report to West Coast Regional Council Operations Committee, 17 December 2024.

future five-yearly reviews of the Group Plan and possible future updates of the Lifelines Study.

2.5 Strengthen partnership research programmes and relationships

The workstream provides for partnership arrangements to be discussed and agreed with partners in year two and implemented from year three. This does not preclude engagement and liaison commencing sooner on a less formal basis.

3 Supporting actions

The following actions are recommended, to support delivery of the workstream activities. Some of these are one-off whereas others are ongoing and are to be incorporated into business-as-usual activity.

1. Update the Publication/Natural Hazard Reports page of the WCRC website to include all technical reports that are also accessible through the SRD and TTPP pages. Add a link to the Westport Resilience Project.
2. Make it clearer on the WCRC website that not all natural hazards reports are posted on the website, and guide users on where and how to get full and further information or an inventory of what exists and is available.
3. Request the Natural Hazards Commission amend the national Natural Hazards Portal so that it includes links to the Publication/Natural Hazard Reports and Westport Resilience pages of the WCRC website. Update the link once the new GIS platform is implemented.
4. Work with the territorial authorities to develop common content on natural hazards information (e.g. liquefaction) and references to the WCRC online information, to support the updating of territorial authority websites.
5. Continue to implement the process for formally transferring natural hazards information to the territorial authorities, with any modifications to ensure compliance with the government's proposed regulations for Land Information Memoranda (LIM) information.
6. Implement more active communication and engagement with the territorial authorities at the time natural hazards information is commissioned. This should include preparation of communication and engagement plans for more complex projects, with the territorial authorities being invited to provide feedback on that plan. All relevant teams within WCRC should be given the opportunity for input to the plan and to be aware of the agreed plan.
7. Verify that existing flood level information used by territorial authorities to support the determination of building floor levels is fit for purpose, including the communication that accompanies the provision of information to the requestor.
8. Check whether there are any agreements between WCRC and other parties or negotiated settlements (e.g. Environment Court proceedings) that require, or have

required, WCRC to obtain natural hazards information and check the status of that work.

9. Review the recommendations in past commissioned reports and verify that a decision has been made in respect of each one, with reasons, and that the decisions and reasons are recorded. This includes the 2002 review by DTEC Consulting Limited[8].

10. Establish a register of recommendations received in future commissioned reports and use this to track and record decision-making on those recommendations.

11. Clarify the circumstances in which natural hazards information is to be taken to Council or to a Council committee for noting, endorsement or approval of that information.

12. Consider implementing regular formal reporting to Council on WCRC's delivery of its CDEM Partnership Agreement[9] natural hazards information obligations.

13. Provide input to the current review of the groundwater network and the 10-year workplan for groundwater monitoring to ensure that natural hazards information needs are planned for.

14. Engage with the power generation companies in New Zealand regarding the update of Probable Maximum Flood (PMF) estimates for New Zealand and seek access to that information.

15. Consider commissioning a scoping exercise for the land instability information generated by the AF8 programme and the University of Canterbury, possibly as a postgraduate student project.

16. Clarify WCRC's role in adaptation planning and resilience programmes, especially the respective roles of WCRC and the territorial authorities. Use this to inform forward planning of information and resource requirements.

17. Continue to actively participate in the Natural Hazards Special Interest Group (SIG) and the River Managers' SIG of Te Uru Kahika as a means of staying abreast of sector practice, collaboration opportunities, national direction and the external operating environment.

4 Measures and targets

Targets have been prepared for each of the measures to support delivery of the strategic objectives (Table 1). The targets are presented in this Implementation Plan rather than in the Strategy as they may change over time due to changing priorities and levels of resourcing.

The measures are kept simple and few in number and therefore do not cover every workstream or activity in Figure 2. Those for the extension and enhancement of

[8] DTEC Consulting Limited, *West Coast Regional Council: Natural Hazards Review*. Prepared for West Coast Regional Council. 2002, 140p + five appendices.

[9] West Coast Civil Defence and Emergency Management Group, *Partnership Agreement*, 11 May 2022.

existing knowledge and information focus on the priority activities for the first three years.

Table 1 - Measures and targets

Strategic objective	Measures	Targets
Maximise the value of existing information.	Information is catalogued, in digital format and collated in a single database.	Completed for historical flood events no later than 30 June 2027.
		Completed for historical natural hazard events other than floods no later than 30 June 2029.
Improve accessibility for public, stakeholders and council.	Provide information to territorial authorities for Land Information Memoranda (LIMs) in accordance with the Local Government Official Information and Meetings Act 1987 and the Regulations.	Achieved.
	Web-based natural hazards information is available to the public, stakeholders and council.	Information publicly available on the new GIS platform no later than 30 June 2026.
Extend and enhance existing knowledge and information.	Flood hazard for flows up to Probable Maximum Flood (PMF) modelled and mapped.	Modelled and reported to Council no later than 30 June 2027 for all places with existing models.
	Develop risk assessment framework.	Framework endorsed by Council no later than 30 June 2026.
	Groundwater levels measured continuously at Westport, Greymouth and Hokitika.	Monitoring at one or more locations in each township commences no later than 30 June 2027.
	Landslide susceptibility modelled at all highest risk places using LiDAR.	Modelling completed and reported to Council no later than 30 June 2029.
Support delivery of community and critical infrastructure resilience programmes.	Provide natural hazards information to West Coast Emergency Management (WCEM) in accordance with the Partnership Agreement.	Achieved.
Strengthen partnership research programmes and relationships.	Convene and facilitate an annual planning workshop with Crown Research Institutes (CRIs) and universities.	First workshop held no later than 30 June 2027.

5 Bibliography

Corsair Consulting, *Natural Hazards Information Strategy for the West Coast Region*. Prepared for West Coast Regional Council. February 2025.

DTEC Consulting Limited, *West Coast Regional Council: Natural Hazards Review*. Prepared for West Coast Regional Council. 2002, 140p + five appendices.

Ministry for Business, Innovation and Employment/Ministry for the Environment, *Planning and engineering guidance for potentially liquefaction-prone land Resource Management Act and Building Act aspects*. September 2017, Wellington, New Zealand.

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West Coast Regional Council, *Report on Riverbed Level Survey Programme*. Report to West Coast Regional Council Operations Committee, 19 November 2024.

West Coast Regional Council, *Update from West Coast Emergency Management Joint Committee*. Report to West Coast Regional Council Operations Committee, 17 December 2024.

8.4	**Wanganui Rating District Review of Financials and Reserves Balance**
Author	Chantel Mills, Project Accountant; Tom Hopkins, Capital Programme Manager
Authoriser	Darryl Lew, Chief Executive Officer
Public Excluded	No

Report Purpose

The purpose of this report is to provide the Committee with an update on the financial review of the Wanganui Rating District (RD) financials being undertaken by Council staff. The Wanganui RD Reserve balance has become unclear and it is imperative that the reserve balance be confirmed with certainty for both Council and the RD. The intention is to have the Wanganui RD reserve balance as of 30 June 2024 confirmed before the end of the current financial year (i.e. 30 June 2025).

Report Summary

The financial review and rework of the historical Wanganui RD financials is ongoing but good progress is being made. Work between Council staff and members of the Wanganui RD committee has been productive to date.

Council staff are investigating whether all Wanganui RD related NEMA claim(s) for eligible costs have been lodged to date. It has been confirmed by NEMA (31 March 2025) that there is no expiring time limit to make a claim and multiple claims can be made for a single event.

Once WCRC staff and the Wanganui RD committee have completed the review of capital work vs maintenance work transaction classifications, WCRC will look to invoice affected landowners based on the proportional split(s) provided in each case by the RD committee. Invoicing affected landowners for capital works reimbursement will have a positive impact on the RD's currently distorted reserve balance.

Recommendations

It is recommended that the Committee resolve to:

1. *Receive the report; and*
2. *Note the review of the Wanganui Rating District reserves balance will be completed by 30 June 2025, being the end of the 2024/25 financial year.*

Issues and Discussion

Background

The background, methodology and status of the financial review of the Wanganui RD is contained in Attachment 1, which provide a copy of report "7d Financial Review of Historic Transactions and Rating District Reserve Balance" which was presented to the Wanganui RD at the Annual RD Meeting held on 14 March 2025. Also included is a copy of the **DRAFT UNCONFIRMED** 14 March 2025 meeting minutes covering report 7d (Attachment 2).

Current State

The financial review and rework of the historical Wanganui RD financials is ongoing but good progress is being made. Work between Council staff and members of the Wanganui RD committee has been productive to date.

Council staff received confirmation, via Zoom presentation on 31 March 2025, from NEMA that there is no cut-off date for eligible claims and there is scope for multiple claims covering a single claims event to be made. This is good news for Council and could have a bearing on the Wanganui RD as we investigate NEMA claims made to date for the RD against events within the RD which may be eligible but not yet claimed from NEMA.

The Wanganui Rating District scheme is a maintenance scheme only. On that basis, the review has highlighted that some capital works undertaken historically (i.e. FY2021 to current) will need to be invoiced by WCRC to affected landowners. Work is ongoing with Council staff and members of the RD committee to understand the capital works vs maintenance works undertaken. Once the capital vs maintenance classification is completed, WCRC will look to invoice affected landowners based on the proportional split(s) provided in each case by the RD committee. Invoicing affected landowners for capital works reimbursement will have a positive impact on the RD's currently distorted reserve balance.

Considerations

Implications/Risks

It is essential that Council maintains accurate RD financial and reserve balance information.

Significance and Engagement Policy Assessment

There are no issues within this report which trigger matters in this policy.

Tangata whenua views

Staff are not aware of any issues within this report which would impact tangata whenua.

Views of affected parties

Staff are not aware of any issues within this report which would impact any affected parties.

Financial implications

Future implications

Retrospective adjustments and reworking of the Wanganui RD financials (and reserve balance) is highly likely as an outcome of the review works underway. There may be an impact on the Councils 2024/25 Annual Financial Report but this would likely be immaterial from an audit perspective.

Legal implications

Not applicable

Attachments

Attachment 1: Extract Report 7d of Agenda of Annual Meeting of the Wanganui Rating District on Friday 14 March 2025.

Attachment 2: Extract Report 7d DRAFT UNCONFIRMED Minutes of the Annual Meeting of the Wanganui Rating District Held at Hari Hari Community Hall on 14 March 2025.

Attachment 1: Extract Report 7d of Agenda of Annual Meeting of the Wanganui Rating District on Friday, 14th March 2025.

Agenda: Wanganui RD AGM 14 March 2025

7d	**Financial Review of Historic Transactions and the Rating Districts Reserve Balance**
Author	Chantel Mills, Project Accountant
Authorizer	Darryl Lew, Chief Executive Officer
Public Excluded	No

Report Purpose

The purpose of this report is to provide the Wanganui Rating District (RD) members with an update on the financial review being undertaken by West Coast Regional Council (WCRC) in a bid to understand historical expenditure classifications applied and to determine the accuracy of the rating district's current reserve balance as reported in the annual rating district maintenance financial accounts.

Report Summary

Council and staff are committed to working with the Wanganui RD members in the coming months to resolve the anomalies identified in the financial review and to rework the RD financial accounts to ensure the RD's reserve balance is accurately reflected in financial year 2025/26 and onwards.

Recommendations

It is recommended that the Rating District resolve to:

1. *Receive and note the report, and*
2. *Adopt the* **WCRC Quick Guide to Capitalisation** *as attached, and*
3. *Ensure a* ***formally signed document by all landowners receiving a benefit from*** *proposed* ***capital works*** *is completed, and a copy of the signed agreement is provided to Council* ***prior to the commencement of*** *any proposed* ***capital works*** *being undertaken. The formally signed agreement by affected landowners* ***must include the proportional split to be applied by Council to recoup the capital costs*** *of the agreed works* ***from*** *the* ***affected landowners****.*

Issues and Discussion

Current situation

The WCRC's Project Accountant was asked by management in December 2024 to undertake a comprehensive review of the Wanganui Rating District (RD) historical financials in a bid to understand and determine the accuracy of the RD's current reserve balance as reported in the Annual Rating District Maintenance Financial Accounts.

The review covers financial years, (*being 1 July to 30 June*) 2017/**18**; 2018/**19**; 2019/**20**; 2020/**21**; 2021/**22**; 2022/**23**; and 2023/**24** (i.e. the last seven financial years). A copy of the Wanganui Rating District – Reconstructed Financial Reports is included as Attachment 1 to this paper.

The analysis quickly showed the financial reporting for financial years (FY) 2017/**18** and 2018/**19** were accurate. The "capital costs" reported in the RD financials for FY2018 and FY2019 were consistent with the costs capitalised by Council and reported in Councils fixed asset register per Councils Annual Financial Report in each year.

The analysis has identified financial reporting anomalies in FY2019/**20**; FY2020/**21**; FY2021/**22**; and FY2022/**23**.

Council and staff are committed to working with the Wanganui RD members in the coming months to resolve the anomalies identified in the financial review and to rework the RD financial accounts to ensure the RD's reserve balance is accurately reflected at the end of financial year 2024/25 in both the Annual Rating District Maintenance Financial Accounts, and Councils Annual Financial Report at 30 June 2025.

To that end, WCRC Councillors and staff have twice met with representatives of the rating district to explain Council's intentions and seek assistance from rating district committee members in resolving the anomalies identified. On Thursday 17th December Councillors (P Haddock, B Cummings, A Campbell), WCRC staff (D Lew CEO, T Hopkins Capital Programme Manager) met with Wanganui Rating District members (J. Sullivan, J. Campbell, B. Thomson, R. Hodgkinson) to discuss the initial findings of the financial review at the time and agree a way forward.

On Wednesday, 22nd January 2025 Council's Capital Programme Manager (*T. Hopkins*), Area Engineer (*W. Spencer*), and Project Accountant (*C. Mills*) met with Westland Councillor (*A. Campbell*), Wanganui Rating District Spokesperson (*J. Sullivan*), and Rating District Member (*B. Thomson*) to clarify items of work carried out

over the period in question and make preliminary decisions about their funding classification.

The main cause of the anomalies in FY2020, FY2021, FY2022, and FY2023 stems from inconsistent and/or erroneous transaction classification between what constitutes "capital expenditure" and what constitutes "maintenance (operating) expenditure". WCRC's current 'quick guide' to capitalisation is appended at Attachment 1.

The distinction between "capital expenditure" and "maintenance (operating) expenditure" is an important one for the Wanganui Rating Scheme because the scheme is defined as a "Maintenance only" scheme, meaning only "maintenance (operating) expenditure" is funded through the RD targeted rate.

The inconsistent classification of work as "capital" vs "maintenance" has meant Council have not been able to recoup "capital work" costs from landowners accurately as we do not have an accurate value for "capital expenditure". With this in mind, Council last invoiced landowners for reimbursement of FY2021 capital costs.

Council have prepared a "quick guide to capitalisation" (Attachment 2) to assist rating districts in determining what constitutes "capital expenditure" and what does not.

All capital works undertaken by Council on behalf of the Wanganui RD should have an agreement from landowners prior to capital works being undertaken as capital works are funded by landowners in a pre-agreed proportional split based on who derives benefit from the capital works being proposed / undertaken.

The review has identified that some capital works may have been undertaken without agreement from all affected landowners prior to the capital works being undertaken by Council. It is difficult to substantiate the position due to lack of record keeping (i.e. lack of properly documented agreements between parties) and staff changes over this time. Council and staff are committed to working with the relevant landowners and RD members to reach resolution if this is the case.

It is intended that WCRC will complete the review and reconciliation in time for closing off WCRC's accounts for the financial year ending 30th June 2025.

Costs and Benefits

The accuracy of the Wanganui RD reserve balance is key to maintaining sound rating district financials.

7d

Considerations

Implications/Risks

It is essential that Council maintains accurate RD financial and reserve balance information.

Significance and Engagement Policy Assessment

There are no issues within this report which trigger matters in this policy.

Tangata whenua views

Staff are not aware of any issues within this report which would impact tangata whenua.

Views of affected parties

Staff are not aware of any issues within this report which would impact any affected parties.

Financial implications

Future implications

Retrospective adjustments and reworking of the Wanganui Rating District Financials (and reserve balance) is highly likely as an outcome of the review works underway. There may be an impact on Councils Annual Financial Report, but this would likely be immaterial from an audit perspective.

Legal implications

Not applicable

Attachments

Attachment 1: Wanganui Rating District – Reconstructed Financial Reports on 1 page
Attachment 2: WCRC quick guide to capitalisation

Agenda: Wanganui RD AGM 14 March 2025

Attachment 1: Wanganui Rating District – Reconstructed Financial Reports on 1 page

Note: *The below table formed part of the discussions held on 22nd January 2025, attended by Council's Capital Programme Manager (T. Hopkins), Area Engineer (W. Spencer), Project Accountant (C. Mills), Westland Councillor (A. Campbell), Wanganui Rating District Spokesperson (J. Sullivan), and Rating District Member (B. Thomson). Further work has been undertaken on this review by Council staff and RD representatives since the meeting. Council wants to have the RD reserve calculation review completed before 30 June 2025 (being the end of the current financial year).*

	Per RD Annual Reports tabled at RD Meetings						Per GL	
All figures exclude GST	**2016/17**	**2017/18**	**2018/19**	**2019/20 ^**	**2020/21**	**2021/22 ^^**	**2022/23**	**2023/24**
Rates income	100,000.00	100,000.00	100,000.00	100,000.00	99,975.30	119,860.74	134,492.89	242,834.50
Interest earned	11,290.14	13,349.82	14,045.36	7,084.96	7,807.75	7,337.30	145.97	3,039.61
Capital contributions - Invoiced to landowners			118,081.00	517,217.73		18,665.00	60,465.23	
Capital contributions - Yr-on-yr adj				35,817.99				
Insurance excess credited				9,088.22				
Insurance recoveries					57,052.60			
NEMA recoveries				95,799.60			126,266.74	
Total Revenue	**111,290.14**	**113,349.82**	**232,126.36**	**765,008.50**	**189,026.38**	**85,854.35**	**321,370.83**	**245,874.11**
Advertising							387.00	475.65
Staff time	2,420.01	3,120.00	1,680.00	7,079.99	7,289.34	15,000.00	15,345.00	15,345.00
Vehicle running	477.75	156.75	0.00	0.00				
Contractors & Consultants	78,793.49	23,446.98	12,848.00	776,757.23	144,893.40	349,518.86	218,176.27	105,634.71
Contractors & Consultants - Yr-on-yr adj				(13,769.03)				
Surveyors - Yr-on-yr adj				2,055.00	1,260.00			
Insurance						18,492.00	18,917.00	25,078.38
Venue hire	25.00	0.00	25.00		50.00	150.00	343.48	
Resource consents	385.00	165.00	165.00	165.00	165.00			
Capital work *		54,872.00	71,332.00		60,008.69	235,605.60	156,970.75	216,887.12
Coding correction - Wanganui costs coded to Okuru in error (2019/20)					11,964.50			
Other expenditure							337.03	
Total Expediture	**82,101.25**	**81,760.73**	**86,050.00**	**772,288.19**	**225,630.93**	**618,766.46**	**410,476.53**	**363,420.86**
TOTAL SURPLUS / (DEFICIT)	**29,188.89**	**31,589.09**	**146,076.36**	**(7,279.69)**	**(36,604.55)**	**(532,912.11)**	**(89,105.70)**	**(117,546.75)**
Reserves								
Opening balance	**258,275.33**	**287,464.22**	**319,053.31**	**465,129.67**	**457,849.98**	**421,245.43**	**(111,666.68)**	**(200,772.38)**
Add Surplus / (Deficit)	29,188.89	31,589.09	146,076.36	(7,279.69)	(36,604.55)	(532,912.11)	(89,105.70)	(117,546.75)
Closing balance	**287,464.22**	**319,053.31**	**465,129.67**	**457,849.98**	**421,245.43**	**(111,666.68)**	**(200,772.38)**	**(318,319.13)**

Agenda: Wanganui RD AGM 14 March 2025

Attachment 2: WCRC Quick Guide to Capitalisation

What is an Asset

Different to what was there before
Provides future economic benefit
Asset will be used for more than one year
The cost of the asset can be measured reliably
Cost exceeds $2,000 for the whole project

The cost of an asset includes the direct costs associated with the purchase or physical construction and any other necessary costs directly attributable to bringing the asset to the location and condition for it to be able to operate in the manner of its intended use.

This means expenses such as travel, advertising, incidental expenses should be not capitalised

Examples

1	2m stopbank is breached and repaired	opex	Asset is renewed to original purpose
2	2m stopbank is increased to 4m	capex	The asset has been increased. The LOS that is being provided by that asset is not a factor in terms of accounting standards
3	Additional rock is added to an existing seawall as a replacement	opex	Asset is renewed to original purpose
4	Additional rock is added to an existing seawall to extend the length	capex	The asset has been increased
5	A stop bank has failed before, so a spur is added to change the flow to keep stopbank intact	capex	The spur is a new asset

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6	Flood modelling	opex	Doesn't create an asset, is background information for what work might be required
7	Resource consent - if required to do emergency works	opex	Just fixing what we have
8	Resource consent - for new work	capex	Capitalised as part of the asset
9	Concept feasibility	opex	
10	If have a solution progressing to construction- geotech, design etc	capex	

7d

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Attachment 2: Extract Report 7d DRAFT UNCONFIRMED Minutes of the Annual Meeting of the Wanganui Rating District Held at Hari Hari Community Hall on 14 March 2025

WANGANUI RATING DISTRICT RESERVE BALANCE STATUS

The purpose of this report is to provide the Wanganui Rating District members with an update on the financial review being undertaken by West Coast Regional Council in a bid to understand historical expenditure classifications applied and to determine the accuracy of the rating district's current reserve balance as reported in the annual rating district maintenance financial accounts.

C. Mills presented the report, stating that she has been working with J. Sullivan, B. Thompson, and A. Campbell to categorize the various jobs and determine which fall under capital and maintenance. She invited feedback to ensure that no items had been missed or misclassified in the report.

J. Sullivan discussed the Percy bank, where the Council had agreed to fund up to $80,000. However, some costs were not covered, and management had charged them to the RD account. C. Mills confirmed that she had contacted the insurance company to check what claims had been made and planned to consult with NEMA to explore the possibility of submitting another claim.

Wanganui

J. Sullivan also raised the issue of work carried out by B. Russ and R. Beal, which was initially intended to be covered by insurance but was instead charged to the RD account. He asked if the board had approved these jobs at the board level. Cr. A. Birchfield recalled that the work was done in consultation with J. Sullivan, who confirmed that it had been coordinated with insurance.

T. Hopkins clarified that the work presented in the report reflects the current status.

J. Sullivan asked where the funding would come from to address the remaining issues, noting that while maintenance funding was sufficient, the additional work was putting the scheme at risk and causing financial strain.
L. Molloy stressed the need for separate accounts for capital and maintenance. He noted that the scheme should have a balance of $300,000 to ensure its sustainability.

Cr. P. Haddock referenced page 52 of the report, discussing the distinction between capital and maintenance works. He pointed out that some of the work should have been classified as capital rather than maintenance. C. Mills explained that some capital works had not yet been billed to landowners, noting that it had taken two years for M. Molloy to be invoiced for the work.

Cr. P. Haddock stated that any capital works going forward must be signed off and agreed upon by landowners, with clear communication on what they are paying for.

B. Thompson inquired who decides what is classified as capital or maintenance. D. Lew confirmed that the accounts will be rectified to provide a clear, accurate picture for quarterly reports by 30th June, prior to the new financial year. He outlined three key actions:

1. A meeting with NEMA
2. A meeting with insurers
3. A meeting facilitated by A. Campbell, B. Thompson, and others, with additional work to be done regarding the terms of reference.

D. Lew further stated that in the unlikely event of a disagreement, the committee's view would be presented to staff, and then to Council for a decision. Invoices would follow thereafter, with this process expected to conclude in the coming months.

J. Sullivan remarked that the engineer had followed the AMP plan, with C. Mills stating that it was challenging to define capital and maintenance, which led to the misclassification of some works.

Cr. B. Cummings asked what would happen if staff were at fault. D. Lew responded that, should the Council wish to allocate costs to the general rate, it would be their decision, with reference to the $80,000 already discussed.

J. Stewart questioned whether landowners would receive a bill for work they were unaware of. D. Lew clarified that while maintenance was understood, capital works are not always the responsibility of the riparian landowner, especially if other properties benefit. These properties should be identified to assess their willingness to contribute; if they do not, the work should not proceed.

D. Lew emphasized that the Council would work through the details with the committee, reviewing every invoice before presenting them to the Council. Cr. A. Campbell affirmed the need for the scheme to remain a maintenance scheme, highlighting that any work to increase height or add banks where none existed would be considered capital work. He stressed that records should be kept regarding the proportional distribution of costs.

M. Molloy noted that some landowners who would benefit from the works had not attended meetings. C. Mills agreed, mentioning that she did not have the proportional split for all landowners. She requested that a signed letter be obtained from landowners before any work, outlining the proportional split of costs.

J. Sullivan mentioned that work had been carried out at Robinsons, and after a flood, J. Ellis had overruled decisions made by K. Jacobsen. J. Sullivan praised K. Jacobsen's reports but stated that the RD had not seen the subsequent report by J. Ellis. C. Mills requested that any relevant information be sent to her by 31st March.

A follow-up meeting was agreed upon to discuss the additional information that had come to light. An email notification would be sent to attendees, with M. Molloy requesting that landowners also be notified via text or phone call if further work was to be carried out.

A question was raised about the need for a digger between now and June. D. Lew confirmed that this was possible, as long as sign-off was obtained in accordance with the terms of reference.

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The RD scheme members and staff present decided to move recommendations on page 47 of 7d of the papers

Mover-J Stewart/L Molloy to

1. *Receive and note the report, and*
2. *Adopt the WCRC quick guide to capitalisation as attached, and*
3. *Ensure a formally signed document by all landowners receiving a benefit from proposed capital works is completed, and a copy of the signed agreement is provided to Council prior to the commencement of any proposed capital works being undertaken. The formally signed agreement by affected landowners must include the proportional split to be applied by Council to recoup the capital costs of the agreed works from the affected landowners.*

REPORTS

9.1	**Franz Josef Stage 1 Operations Committee Project Status Report March 2025**
Author	Scott Hoare, Infrastructure Reference Group Programme Manager
Authorizer	Tom Hopkins, Capital Programme Manager | West Coast Regional Council
Public Excluded	No

Report Purpose

The purpose of this report is to present the Franz Josef Stage 1 Operations Committee Project Status report for March 2025.

Report Summary

The report presents:

- Confirmation that the North Bank works are complete, and
- Summary of current tasks and decisions being worked on by the project team.

Draft Recommendations

It is recommended that the Committee resolve to:

1. Receive the report.

Issues and Discussion

There are no issues that require discussion as a result of this report.

Considerations

Implications/Risks

There is a risk of the project cost exceeding the budget, this is being mitigated by scope reduction.

Significance and Engagement Policy Assessment

There are no issues within this report which trigger matters in this policy.

Tangata whenua views

Tangata whenua have not been consulted on these matters.
Staff are not aware of any issues within this report which would impact tangata whenua.

Views of affected parties

Consultation with Glacier Country Heliport has been completed in relation to the impact on the helipads and fuel bowsers and associated physical work.

Financial implications

Current budget

$ 12,291,463

Current expenditure

$ 10,443,172

Future implications

Works have been funded from the IRG Project budgets.

Legal implications

There are no issues within this report which trigger matters in this policy.

Attachments

Attachment 1: March 2025 WCRC Operations Committee Project Status Report - Franz Josef Stage 1

WCRC OC PROJECT STATUS REPORT

FRANZ JOSEF STAGE 1

WEST COAST REGIONAL COUNCIL
ISSUE 27 - 1 APRIL 2025

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QUALITY ASSURANCE

PREPARED BY	Nic Bell	Project Manager	1 April 2025	
REVIEWED BY	Chris Hoskins	Senior Project Manager	1 April 2025	
APPROVED BY	Scott Hoare	Programme Manager	1 April 2025	

1. PROJECT STRUCTURE

Reporting Month Ending	31/03/2025
Project Sponsor	Darryl Lew, CEO
Senior Responsible Owner	Gavin Palmer, Acting Group Manager – Catchment Management
Benefit Owner(s)	Franz Josef Rating District
IRG Programme Manager	Scott Hoare
Council Project Manager	Tom Hopkins, Capital Programme Manager
IRG Project Manager	Chris Hoskins / Nic Bell

2. OPERATIONS COMMITTEE MEETINGS

Last Operations Committee Meeting	18/03/2025	Next Operations Committee Meeting	15/04/2025

3. R.A.G (RED, AMBER, GREEN) STATUS

Category	Current Month	Commentary
Overall		Project is overall ok but risks with budget and remaining scope keep it at amber.
Trend	→	Project is slowly progressing towards resolution of the remaining risks and issues: rock surplus, as-built review, stormwater and fencing.
Budget		Forecast is tracking over budget, mitigation strategy agreed to reduce scope and manage remaining budget.
Scope		Northside works are nearing practical completion. Other Scope to complete remains unconfirmed as direction is needed for resolution of rock surplus and stormwater issue.
Resource		Designer to allocate additional resource to complete the as-built review, stormwater resolution and fencing to close out project.
Schedule		The North Bank contract works are practically complete (PC still to be issued)
Risks/ Issues		The main risks to the project are budget related - resolving the supply of rock under the contract, the ponding stormwater between Link & 55kph Corner Banks, and NZTA's south side stopbank.

4. GOVERNANCE DOCUMENTS AND RECOMMENDATIONS TO SRO / COUNCIL / KANOA

docCM #	Document	Submission Date	Approval Date	Comments
	Variation 01 - Emergency Works	15/09/2022	31/10/2022	Inclusion of funding for Southside emergency works within phase 1 and the first draw down, approved by WCRC and Kanoa.
	Variation 02 - Combined Projects	14/02/2023	28/02/2023	Slight changes to funding moving from one project to another to balance actual costs, approved by WCRC and Kanoa.
	LiDAR Survey Memo	29/05/2023	12/06/2023	Variation to undertake LiDAR Survey, approved by WCRC.
	TTC Fee Variation	20/09/2023	26/09/2023	Variation to scope of works for designer, approved by WCRC.
	Variation 03 - Change in funding timeline	5/10/2023	25/10/2023	Change in funding timeline to match actual progress on site, approved by WCRC and Kanoa.
	Variation 04 - Change in funding timeline	07/06/2024	24/07/2024	Application for an extension of time with new completion date of September 2024.

5. STATE OF PLAY

Last Month	Next Month
Heliport - Church Bank: ▪ No physical works as the North Bank upgrade is now complete. Design and Management: ▪ Investigation into final rock volume, ▪ As built survey review, ▪ Investigation into, and proposed solution for, ponding of stormwater between the Link & 55kph Corner Banks, ▪ Consultation with the heliport operator for final location of the fencing, ▪ Review and compilation of consents and completion tasks.	Physical Works: ▪ Install heliport fencing. Design and Management: ▪ Agree process for any further works in conjunction with Franz Josef Stage 2, ▪ Close out of remaining consent and completion tasks.

Total Project

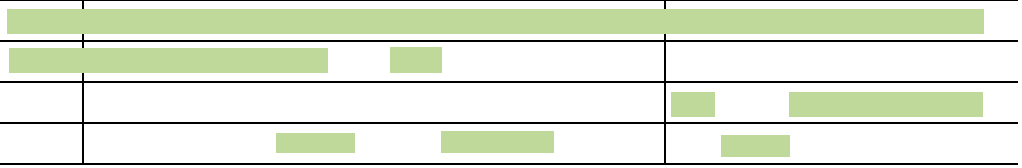
- Placement and compaction of bulk fill of approximately 208,420 m^3,
- Supply and placement of approximately 105,000 T of rock,
- Note that the total volumes are still being reviewed and finalised by the project team.

6. FINANCIAL SUMMARY

Financial Summary	
Current Budget	$ 12,291,463
Current Expenditure	$ 10,43,172
Remaining Funds	$ 1,848,291

7. HIGH LEVEL ROADMAP

Project Name	FY 2022/23				FY 2023/24				FY 2024/25	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month Starting	July	October	January	April	July	October	January	April	July	October
North Bank										
- **Link Bank**										
- **Heliport - Church Bank**										
- **Havill Wall**										



8. MILESTONES

Milestone	Baseline Date	Tracking	Actual Date	Comment
Scope of Works - Preliminary Design	01-Jul-21		01-Jul-21	Complete
Peer Review - Scope of Works				Complete
Draft Engineering Drawings / Design Documentation	01-Mar-22		01-Mar-22	Complete
Consent Documentation/Application	02-May-22		25-Sep-23	Complete
Tender Preparation & Award	02-May-22		02-May-22	Complete
Emergency work instruction			19-May-23	Notification of Section 330 Emergency works from Council.
Construction:				
- North Bank	30-Apr-23		19-Dec-24	Complete
- South Side Stage 1 (NZTA Banks)		(On Hold)		10 Year Flood Management Plan
- Waiho Loop (Tatare Stopbank)	31-Aug-23	Not Proceeding		

9. CONSENTS

All WCRC and WDC consents have been granted for the North Stopbank works.

With Practical Completion pending for the North Stopbanks this will trigger handover from the project team and new requirements for the WCRC operations team. This has been discussed, and processes being put in place which will be included in the asset management plan.

10. PROJECT RISKS

ID #	Date last Reviewed	Short Risk Name	Source of Concern / Opportunity	Implications	Risk Owner	Governance Status	Rating	Trend	Governance Actions	Treatments / Mitigations
FJ-RIS-05		Fuel Cost Adjustment	Contract provision allowing fuel cost adjustment. Current fuel costs are above the agreed rate at the time of contract signing.	Increased cost	Project Manger	Not Fully Resolved	Medium	Reducing	Approve variations when requested.	Forecast additional cost and apply for variations.
FJ-RIS-06		Rock Supply	Risk that the rock supplied or installed under the contract does not meet specification or is in excess of the quantity included in the contract.	Work Quality	Engineer to Contract	Not Fully Resolved	Medium	No Change	Confirm monitoring plan.	Continue monitoring (rock inspection and rock weighing at quarry) for rock supply/placement including as built documentation.
FJ-RIS-08		Weather	Flooding from weather events causing damage.	Delay to programme Health and Safety	Contractor	Actions in Place	Low	Reducing	Review plans and on-site implementation Forward look ahead.	The Contract works are practically complete.

ID #	Date last Reviewed	Short Risk Name	Source of Concern / Opportunity	Implications	Risk Owner	Governance Status	Rating	Trend	Governance Actions	Treatments / Mitigations
				Equipment damage Environmental						
FJ-RIS-03		Insufficient Budget	Delays to programme and additional work required to obtain resource consent.	Increased cost	Project Manager	Unresolved	Low	No Change	Approve variations when requested.	Forecast expenditure and apply for variations.
FJ-RIS-04		Scope of works	Scope increases (Heliport pad relocation, Retaining Wall, Tatare avulsion protection etc.) causing additional cost.	Increased cost	Project Manager	Unresolved	Low	No Change	Approve variations when requested.	Forecast expenditure and apply for variations.
FJ-RIS-09		Engineer is non-responsive	Engineer fails to respond to questions and view hold points.	Delay to programme.	Project Manager	Not Fully Resolved	Low	No Change	Confirm monitoring plan, escalate if necessary.	Establish monitoring plan and two week look ahead for hold points.
FJ-RIS-10		Adherence to resource consent conditions	Strict conditions in place that the contractor fails to adhere to.	Environmental damage, Reputational damage. Non-compliance notices. Work held up on site	Project Manager/Engineer to the Contract	Not Fully Resolved	Low	Reducing	Review plans and on-site implementation Confirm monitoring plan, escalate if necessary	Contractor management plans including monitoring progress of the works and programme updates.
FJ-RIS-12		Heliport Fencing	The Heliport Operator has	Increased Cost	Project Manager /	Not Fully Resolved	Low	No Change	Support Project Team and	Work with the operator to

ID #	Date last Reviewed	Short Risk Name	Source of Concern / Opportunity	Implications	Risk Owner	Governance Status	Rating	Trend	Governance Actions	Treatments / Mitigations
			identified the potential need for additional fencing		Lead Designer				confirm if any increased costs should come from the project budget.	confirm if the fencing is needed or wanted and how it affects maintenance of stopbanks.
FJ-RIS-01		Consent Processing	Single entity in opposition to works, delaying obtaining resource consent.	Delay to Programme	Project Manager	Complete	Medium	Closed	Provide support and input into hearing when required.	Hearing held with Independent Commissioner to resolve.
FJ-RIS-02		Existing Infrastructure	Upgrades may require relocation of power/fibre poles and have effect on adjacent roading network and stormwater system.	Potential for delay to Programme Costs for this work included in the Project Budget	Project Manager	Complete	Low	Closed	Confirm any additional cost for relocations when works confirmed.	Negotiations to be had with utility operators and investigations into stormwater run off at Heliport.
FJ-RIS-07		Injunction of works progressing under S330	Risk that public opposition apply for an injunction to stop the works progressing under S330.		Project Manager	Complete	Low	Closed	Provide support and willingness to work with opposition and argue the injunction if required.	Continue progressing the resource consent application and affected party consultation.
FJ-RIS-11		Electronet Overheads	Pole and stay may not have been installed in		Project Manager /	Complete	Low	Closed	Support Project Team and confirm if any	Work with Designer to understand

ID #	Date last Reviewed	Short Risk Name	Source of Concern / Opportunity	Implications	Risk Owner	Governance Status	Rating	Trend	Governance Actions	Treatments / Mitigations
			the design location and may obstruct the accessway.		Electronet Designer				increased costs should come from the project budget.	how to make sure pole and stay are clear of accessway.
FJ- RIS-13		Contractor Resources	Productivity of the contractor is not meeting the programme.	Delay to programme	Project Manager	New Item	Medium	Closed	Discuss resource commitment to the project with the Contractor to understand and mitigate programme slippage.	Get the contractor to commit to completing the North Bank by 20 December 2024 as previously agreed.

11. PROJECT ISSUES

ID #	Date Raised	Issue Description	Priority	Action Required	Issue Owner
FJ-ISS-01	01-Jul-22	Obtaining resource consent has become difficult and drawn out.	Medium	Project Manager to continue assisting lawyers through the resource consent hearing process.	Closed.
FJ-ISS-02	16-May-22	Damage to Waiho Tatare connection with difficulty in confirming a remedial approach.	Medium	Project Manager to consult with designer to provide options for discussion. Technical Advisory Group (TAG) to consider options	Closed.
FJ-ISS-03	22-May-23	Additional design work is required to ensure that a clear roadway can remain by the church near the top of the North Bank.	Low	The project team is investigating an alternate material supply for this portion.	Closed.
FJ-ISS-04	15-Jul-23	Upgrading the Heliport stopbank will require the placement of bulkfill on Heliport property impacting access to helipads. Work has been requested to relocate helipads.	Medium	Project Manager to continue negotiations with RD Petroleum, Heliport, and Westland District Council to fully understand works required, in final stages of obtaining approval.	Closed.
FJ-ISS-05	03-Dec-24	NZTA have not approved the CAR which has delayed the contractor completing the bulkfill placement adjacent to the bridge.	Medium	Contractor and Engineer's Representative to continue chasing NZTA for approval. The CAR has been approved and works completed.	Closed.

12. DEPENDENCIES

Ref #	Description	Urgency	Owner	Critical Date	Progress / Actions
FJ-DEP-01	Scope of works within Heliport to be confirmed and agreed with GCH and WDC to allow for construction to commence on the Heliport section as noted in FJ-ISS-04.	Medium	Project Manager	06-May-24	Works have been deferred to the next low season (mid 2024). Project Manager to continue liaising with parties to reach agreement. Scope of works in final stages of reaching agreement. Critical date changed to reflect end of peak season.
FJ-DEP-02	Design of Church Bank to be completed and approved to allow for the commencement of works in the Heliport to Church section as noted in FJ-ISS-03.	Medium	Designer	01-Jun-24	Design has been completed and shared with contractor for constructability and pricing feedback. **Critical date changed** to June

13. IWI / HAPŪ / WHĀNAU

Partnership / Relationship	Notes

14. PARTNERSHIPS / RELATIONSHIP MANAGEMENT

Partnership / Relationship	Notes
Glacier Country Heliport	The contractor has been maintaining communications with the operator to complete the remaining fencing once scope has been approved.
Westland District Council	The current owner of the Havill Wall, reports have been completed and issued to WDC to understand stability of the wall with protection of the oxidation ponds being a key function. On completion of the North Bank works, engineering sign offs and completion documentation is to be shared with WDC to complete the asset transfer.

15. HEALTH AND SAFETY

No physical works were completed this month so no inspections were undertaken. The temporary fencing around the heliport remains onsite while the final fencing locations are agreed and the heliport contractor is mobilised to install permanent fencing.

REPORTS

9.2	**Franz Josef Stage 2 Operations Committee Project Status Report March 2025**
Author	Scott Hoare, Infrastructure Reference Group Programme Manager
Authorizer	Tom Hopkins, Capital Programme Manager | West Coast Regional Council
Public Excluded	No

Report Purpose

The purpose of this report is to present the Franz Josef Stage 2 Operations Committee Project Status report for the period up to and including 04 April 2025.

Report Summary

The report presents:

- An update on the progress of the project focusing on design, consenting and procurement across the Rubbish Dump Stopbanks (Lined & Unlined), the Miltons' and Others Stopbank and the Havill's Wall Extension.
- High level roadmap of the project outlining commencement of construction by the end the 2024/25 construction season and completion by the end of 2025 to align with the Kanoa requirements for commencement of works within this construction season.
- Summary of current tasks and decisions being worked on by the project team.

Recommendations

It is recommended that the Committee resolve to:

1. *Receive and review the report.*
2. *Provide any feedback or queries via the WCRC Capital Programme Manager*

Issues and Discussion

There are no issues that require discussion or resolution as a result of this report.

Considerations

Implications/Risks

A full risk workshop is proposed before commencement of construction activity on site. This will be organised during the next reporting period for an estimated commencement date on site of May/June 2025

Significance and Engagement Policy Assessment

There are no issues within this report which trigger matters in this policy.

Tangata whenua views

Tangata whenua have not been consulted on these matters and staff are not aware of any issues within this report which would impact tangata whenua.

Views of affected parties

NZTA and the Franz Josef Rating District require ongoing consultation as identified within the report. A working group has been established with the first meeting taking place on 03 April 2025.

Financial implications

Current budget

The current budget as agreed between the Joint Committee and the West Coast Regional Council is $7,900,000.

Kanoa has approved a total budget of up to $10,000,000, which includes $2,100,000 for the NZTA stopbank.

Current expenditure

The current expenditure across all of the projects is $343,733.49 which equates to 4.35% of the approved budget of $7,900,000.

Future implications

Drawdowns from Kanoa funding are to be quarterly, the next drawdown should be submitted in April 2025. A meeting will be scheduled with the WCRC Capital Programme Manager to discuss and agree the funding drawdown amount and action the requirements during the next reporting period.

Drawdowns of the Rating District loan will need to be made to balance the expenditure to date.

Legal implications

There are no issues within this report which trigger matters in this policy.

Attachments

Attachment 1: March 2025 WCRC Operations Committee Project Status Report - Franz Josef Stage 2

WCRC OC PROJECT STATUS REPORT

FRANZ JOSEF STAGE 2

WEST COAST REGIONAL COUNCIL
ISSUE 02- FRIDAY, 4 APRIL 2025

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QUALITY ASSURANCE

PREPARED BY	Mark Cobden	Senior Project Manager	4 April 2025	
APPROVED BY	Scott Hoare	Programme Manager	4 April 2025	

1. PROJECT STRUCTURE

Reporting Month Ending	31/03/2025
Project Sponsor	Darryl Lew, CEO
Senior Responsible Owner	Gavin Palmer, Acting Group Manager Catchment Management
Benefit Owner(s)	Franz Josef Rating District
Council Project Manager	Tom Hopkins, Capital Programme Manager
RIF Programme and Project Managers	Scott Hoare, Mark Cobden

2. OPERATIONS COMMITTEE MEETINGS

Last Operations Committee Meeting	18/03/2025	Next Operations Committee Meeting	15/04/2025

3. R.A.G (RED, AMBER, GREEN) STATUS

Category	Current Month	Commentary
Overall		Project is on track overall, risks and issues have been identified but are under control and well mitigated.
Trend	→	No change
Budget		Budget has been comprehensively established and is understood including contingencies and escalation.
Scope		Scope is well defined with a clear process for review. Detailed design has been completed for both the Rubbish Dump Stopbanks and Milton's and Others Stopbank. Havill's Wall Extension design is ongoing.
Resource		Designers have sufficient resources to complete the work as programmed.
Schedule		A comprehensive schedule has been developed which is realistic and includes relevant time contingency.
Risks/ Issues		Risks are currently identified, and mitigation strategies are in place. A full risk workshop will be undertaken for each project at the completion of the tender stage, prior to commencement on site.

4. GOVERNANCE DOCUMENTS AND RECOMMENDATIONS TO SRO / COUNCIL / KANOA

docCM #	Document	Submission Date	Approval Date	Comments
	Procurement Strategy	11/02/2025	Not Approved	Timelines noted, however baseline schedules need to be reviewed in further detail before approval.
	Procurement Exemption	11/02/2025	Not Approved	Procurement approach to be an open tender approach to the market.

5. STATE OF PLAY

Last Month	Next Month
Rubbish Dump - Lined	
Design and Management: ▪ Franz Josef Working Group review of detailed design and tender documentation has been completed and agreed. ▪ Detailed design and specification completed. ▪ Minor works contract prepared. ▪ Schedule of Quantities produced. ▪ Master programme updated. Construction: ▪ Construction is yet to commence.	Design and Management: ▪ Tender to be released and evaluation completed. ▪ Tender evaluation submitted for review. ▪ WCRC review and approval to proceed into Contract. Construction: ▪ Construction is yet to commence.
Rubbish Dump - Unlined	
Design and Management: ▪ Franz Josef Working Group review of detailed design and tender documentation has been completed with minor comments for incorporation. ▪ Detailed design and specification completed ▪ NZS3910:2013 contract prepared ▪ Schedule of Quantities produced ▪ Master programme updated. Construction: ▪ Construction is yet to commence.	Design and Management: ▪ Tender released and evaluation completed. ▪ Tender evaluation submitted for review. ▪ WCRC review and approval to proceed into Contract. Construction: ▪ Construction is yet to commence.
Miltons' and Others	
Design and Management: ▪ Franz Josef Working Group review of detailed design and tender documentation has been completed with minor comments for incorporation. ▪ Detailed design and specification completed ▪ NZS3910:2013 contract prepared	Design and Management: ▪ Tender released and evaluation completed ▪ Tender evaluation submitted for review ▪ WCRC review and approval to proceed into Contract.

▪ Schedule of Quantities produced ▪ Master programme updated. Construction: ▪ Construction is yet to commence	Construction: ▪ Construction is yet to commence
Havill's Extension	
Design and Management: ▪ Preliminary design and prioritisation completed. ▪ Detailed design and specifications in progress ▪ River diversion consent submitted ▪ NZS3910:2013 contract prepared ▪ Schedule of Quantities in progress ▪ Master programme updated. Construction: ▪ Construction is yet to commence	Design and Management: ▪ Detailed design and specifications completed ▪ Franz Josef Working Group review of detailed design and tender documentation prior to release to the market Construction: ▪ Construction is yet to commence
NZTA Stopbanks	
Design and Management: ▪ Design and specifications on hold (currently out of scope) Construction: ▪ Construction is yet to commence.	Design and Management: ▪ WCRC/Inovo/NZTA stakeholder meeting to be arranged, ▪ Note this project is currently out of scope. Construction: ▪ Construction is yet to commence.

6. FINANCIAL SUMMARY

Financial Summary	Budget	Expenditure	Remaining
Current Budget	**$ 7,900,000.00**	**$ 343,733.49**	**$ 7,556,266.51**

The financial summary above covers the period until the 28 February 2025.

7. HIGH LEVEL ROADMAP

Project Name	FY 2024/25				FY 2025/26			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Month Starting	July	October	January	April	July	October	January	April
Project Establishment and Funding								
Rubbish Dump Bank								
- **Preliminary Design**								
- **Detailed Design**								
- **Procurement**								
- **Lined Construction**								
- **Unlined Construction**								
Miltons' and Others								
- **Preliminary Design**								
- **Detailed Design**								
- **Procurement**								
- **Construction**								
Havills Extension								
- **Preliminary Design**								
- **Detailed Design**								
- **River Diversion Consent**								
- **Procurement**								
- **Construction**								
NZTA Stopbank (currently out of scope)								
- **Preliminary Design – TBC**								
- **Detailed Design – TBC**								
- **Construction - TBC**								

8. MILESTONES

Milestone	Baseline Date	Tracking	Actual Date	Comment
Consultation with Rating District	27-Nov-24		27-Nov-24	Complete
Council approval	29-Nov-24		29-Nov-24	Complete
Kanoa Contract executed	02-Dec-24		02-Dec-24	Complete
Detailed Design Commencement	13-Jan-25		13-Jan-25	Complete
Detailed Design Complete:				
- Rubbish Dump - Lined	18-Feb-25		18-Feb-25	Complete
- Rubbish Dump – Unlined	21-Feb-25		14-Mar-25	Complete
- Miltons' and Others Stopbank	26-Feb-25		13-Mar-25	Complete
- Havill's Extension	21-Mar-25	31-Mar-25		Tetratech Coffey currently working on design deliverable
- NZTA Stopbanks		TBC		Currently out of scope
Procurement Complete:				
- Rubbish Dump - Lined		14-Apr-25		Baseline master programme to be reviewed by WCRC.
- Rubbish Dump – Unlined		14-Apr-25		Baseline master programme to be reviewed by WCRC.
- Miltons' and Others Stopbank		14-Apr-25		Baseline master programme to be reviewed by WCRC.
- Havill's Extension		12-May-25		Baseline master programme to be reviewed by WCRC.
- NZTA Stopbanks		TBC		Currently out of scope
Construction Commencement		11-Apr-25		
Construction Complete:				
- Rubbish Dump - Lined		23-Jun-25		Baseline master programme to be reviewed by WCRC.
- Rubbish Dump - Unlined		06-Jul-25		Baseline master programme to be reviewed by WCRC.
- Miltons' and Others Stopbank		16-Jul-25		Baseline master programme to be reviewed by WCRC.
- Havill's Extension		19-Sep-25		Baseline master programme to be reviewed by WCRC.
- NZTA Stopbanks		TBC		Currently out of scope

9. CONSENTS

The Consents for each of the stopbanks are being managed as follows:

- Rubbish Dump Stopbanks:
  - Lined bank is being progressed under Condition 14 of RC01243/1. River diversion not required.
  - Unlined bank is being progressed under RC13197. River diversion consent is in place under the existing consent conditions.
- Miltons' and Others Stopbank:
  - This is being progressed under the future maintenance condition of RCN96/49. River diversion is not required.
- Havill's Wall Extension:
  - Currently closing out Stage 1 at which point the Stage 2 project can be progressed under the 10% construction and future maintenance condition of the existing consent.
  - River Diversion consent and conditions have been submitted for review by the WCRC Consents team.
- NZTA Stopbank:
  - Currently out of scope. However, if it is to proceed further work is required to understand the nature of the design, noting it is envisaged that the work could be progressed under a future maintenance condition of the existing consent.

The management strategies outlined above have been agreed by the West Coast Regional Council Consents team throughout December 2024. BTW have submitted the river diversion consent including proposed conditions for review. All other banks (excluding the NZTA bank, which is currently out of scope) are ready to proceed to construction.

The NZTA bank requires a high-level stakeholder discussion to agree the correct process for the project to proceed prior to investigating the consent strategy and progressing the design documentation.

10. PROJECT RISKS

ID #	Last Review	Short Risk Name	Source of Concern / Opportunity	Implications	Risk Owner	Governance Status	Rating	Trend	Governance Actions	Treatments / Mitigations
FJ2-R1	4/3/25	Weather	Flooding from weather events causing damage.	Delay to programme Health and Safety Equipment damage Environmental	Contractor	New Item	High	Existing from last report	Review plans and on-site implementation Forward look ahead for inclement weather and ensure preparedness	Construction management plans to be developed including inclement weather response strategies
FJ2-R2	4/3/25	Rock Supply	Rock supplied or installed under the contract does not meet specifications.	Work Quality Programme, Works not complete before next flood event	Engineer to Contract	New Item	Medium	Existing from last report	Put in place correct types and levels of insurance	Confirm material QA and monitoring plan Ensure regular inspections are taking place by design consultant
FJ2-R3	4/3/25	Adherence to resource consent conditions	Conditions in place that the contractor fails to adhere to.	Environmental damage, Reputational damage. Non - compliance notices. Work held up on site	Project Manager	New Item	Medium	Existing from last report	Review plans and on-site implementation Confirm monitoring plan and required actions with BTW	Construction management plans shall include assessment of works against RC conditions and how they will be met
FJ2-R4	4/3/25	Contractor Resources	Productivity of the contractor is not meeting the programme.	Delay to programme	Project Manager	New Item	Low	Existing from last report	Put in place a contract with a robust programme that also includes LDs to ensure there is a mechanism to encourage work to be completed	Undertake regular programme meetings, develop risk response strategies ready for implementation.

ID #	Last Review	Short Risk Name	Source of Concern / Opportunity	Implications	Risk Owner	Governance Status	Rating	Trend	Governance Actions	Treatments / Mitigations
									within the contract timeframe	Build in contingency time.
FJ2-R6	4/3/25	Insufficient Budget	Delays to programme and additional work required to obtain resource consent.	Increased cost	Project Manager	New Item	Low	Existing from last report	Approve variations when requested based on a recommendation from the Project manager that clearly articulates spend against contingency.	Budget has been prepared with design and construction contingency. Competitive tender of all works to ensure value for money.
FJ2-R7	4/3/25	Scope of works	Scope increases (Raise height around rubbish dump, NZTA height requirements, Miltons' extension).	Increased cost	Project Manager	New Item	Low	Existing from last report	Review and approve or decline scope change recommendations.	Undertake critical works first under a two stage approach. Review remaining budget and determine if scope changes can be made.
FJ2-R8	4/3/25	Consent Processing	Havill's extension is reliant on the completion of the Stage 1.	Delay to Programme	Project Manager	New Item	Low	Existing from last report	Provide support and input into consent when required.	Close out stage 1 promptly to allow for early application of consent for Stage 2 river diversion

No new risks have been identified in this reporting period. A full risk workshop will be held in the next reporting period and the risk register will be updated in line with the results of this workshop.

11. PROJECT ISSUES

ID #	Date Raised	Issue Description	Priority	Action Required	Issue Owner
FJ2-I1	28/02/2025	NZTA bank out of scope	Medium	WCRC and Inovo to present to the scope, reasoning and funding options for the project to the Joint Committee for review and consideration.	WCRC / Inovo
FJ2-I2	28/02/2025	NZTA Stakeholder Engagement – length of time required to meet, discuss and agree project solutions.	Medium	WCRC and Inovo to drive a conclusion with NZTA in order to progress with the design and consenting tasks within this construction season.	WCRC / Inovo
FJ2-I3	28/02/2025	Havill's Wall Extension	Medium	WCRC and Inovo to present to the scope and reasoning for the project to the Working Group & Joint Committee for review and consideration. This is scheduled for 08 May 2025 subject to the working group availability.	WCRC / Inovo

12. DEPENDENCIES

Ref #	Description	Urgency	Owner	Critical Date	Progress / Actions
FJ2-D1	Construction works are to commence within the 2024/25 construction season to meet the requirements of the Kanoa funding agreement.	High	Project Manager	30/06/2025	The project team are working to finalise the design, agree the procurement approach and finalise consent requirements to allow works to commence in this window. There are no identified risks or issues that will prevent this from happening at this stage.

13. IWI / HAPŪ / WHĀNAU

Partnership / Relationship	Notes
None Identified	

14. PARTNERSHIPS / RELATIONSHIP MANAGEMENT

Partnership / Relationship	Notes
Westland District Council	Affected party & asset owner in the area. Part of the Joint Committee governance process.
Franz Josef Rating District	Funding partner (40%) will be involved with reviews of project budget and scope and will have visibility of the project expenditure on a month by month basis. Separate working group to be established to allow for ongoing consultation out of sequence with the Joint Committee and Rating District Meetings.
Kanoa, MBIE funding partner	Funding partner (60%). Need to understand the benefit to the region including the use of local contractor resources to stimulate the economy. Have a requirement that work needs to be started by the end of June 2025.
Department of Conservation	Manager of National Parks and protected areas, consultation planned to understand requirements and any concessions required from them as land managers.
NZTA, Waka Kotahi	Asset owner for the NZTA stopbanks, and affected party as owner of State Highway.

15. HEALTH AND SAFETY

The physical work is yet to commence, at this stage there is nothing to report on Health and Safety for site-based works.

The tender documents will outline the requirements that each of the Contractors are required to meet during the project, these requirements will include but is not limited to the following items:

- Construction Management Plans, including resource consent compliance,
- Traffic Management Plans,
- Site Specific Risk Analysis and Mitigations
- Public access protection plan,
- Monthly auditing and reporting,
- Incident reporting process, including near miss reporting.

Once the construction works commence the following parties will be undertaking site inspections and audits on at least a monthly basis, key points from their inspections will be included in this report.

- Contractor Health and Safety representative,
- Inovo Project Manager, and
- West Coast Regional Council Area Engineer.

REPORTS

9.3	**Hokitika River Walls Operations Committee Project Status Report March 2025**
Author	Scott Hoare, Infrastructure Reference Group Programme Manager
Authorizer	Tom Hopkins, Capital Programme Manager | West Coast Regional Council
Public Excluded	No

Report Purpose

The purpose of this report is to present the Hokitika River Walls Operations Committee Project Status report for March 2025.

Report Summary

The report presents:

- An update on the progress of the project including construction of stage 1B and planning for stage 3.
- High level roadmap of the project outlining completion of stage 1B construction.

Recommendation

It is recommended that the Committee resolve to:

1. Receive the report.

Issues and Discussion

There are no issues that require discussion as a result of this report.

Considerations

Implications/Risks

No current implications or risks within this report that require discussion.

Significance and Engagement Policy Assessment

There are no issues within this report which trigger matters in this policy.

Tangata whenua views

Tangata whenua have been consulted on these matters and have issued their approval.
Staff are not aware of any issues within this report which would impact tangata whenua, noting that further consultation will be required for stage 3.

Views of affected parties

Planting plan has been agreed with Iwi and work is expected to start in April 2025.

Financial implications

Current budget
$ 7,505,226

Current expenditure
$ 4,104,331

Future implications
Works have been funded from the IRG Project budgets.

Legal implications

There are no issues within this report which trigger matters in this policy.

Attachments

Attachment 1: March 2025 WCRC Operations Committee Project Status Report - Hokitika River Walls.

WCRC OC PROJECT STATUS REPORT

HOKITIKA RIVER FLOOD WALLS

WEST COAST REGIONAL COUNCIL
ISSUE 25 - 1 APRIL 2025

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QUALITY ASSURANCE

PREPARED BY	Mike Murray	Senior Project Manager	1 April 2025	
REVIEWED / APPROVED BY	Scott Hoare	Programme Manager	1 April 2025	

1. PROJECT STRUCTURE

Reporting Month Ending	31/03/2025
Project Sponsor	Darryl Lew, CEO
Senior Responsible Owner	Gavin Palmer, Acting Group Manager – Catchment Management
Benefit Owner(s)	Hokitika Rating District
IRG Programme Manager	Scott Hoare
Council Project Manager	Tom Hopkins, Capital Programme Manager
IRG Project Manager	Mike Murray

2. OPERATIONS COMMITTEE MEETINGS

Last Operations Committee Meeting	18/03/2025	Next Operations Committee Meeting	15/04/2025

3. R.A.G (RED, AMBER, GREEN) STATUS

Category	Current Month	Commentary
Overall		Project is generally tracking ok but continual monitoring of budget and consenting risk is required.
Trend	→	Stage 1A & 1B construction has been completed, resulting in a lowering of the overall residual risk
Budget		The initial budget has been identified as being insufficient to complete all 3 stages. Stage 1A has been completed under the current budget. Stage 1B construction is forecast to be completed within budget. Final accounts to be certified. Stage 3 concept has been updated and the initial cost estimate is within the remaining budget.
Scope		The scope is well defined.
Resource		No resource issues at this time.
Schedule		Construction of stage 1B is complete. Stage 3 is to be consented and constructed in 2025/2026.
Risks/ Issues		No new risks/issues have arisen this reporting period.

4. GOVERNANCE DOCUMENTS AND RECOMMENDATIONS TO SRO / COUNCIL / KANOA

docCM #	Document	Submission Date	Approval Date	Comments
	Funding Agreement Variation (2)	16-Feb-23	09-Jun-23	Application for an extension of time with new completion date of May 2024.
	Funding Agreement Variation (4)	7-Jun-24	24-Jul-24	Application for an extension of time with new completion date of June 2025.

5. STATE OF PLAY

Last Month	Next Month
Stage 1B	
Stage 1B Construction ▪ Partial completion of defects. ▪ Practical completion now expected April 2025.	Stage 1B Construction: ▪ Asphalt Wadeson Island access crossing and complete rectifying other defects identified (asphalt delayed by availability of supplier) ▪ Award practical completion certificate ▪ Complete planting
Total Project (1B)	
▪ Placement and compaction of bulk fill of approximately 19,000 m^3, ▪ Supply and placement of approximately 8,200 T of quarry rubble. ▪ Supply and placement of approximately 3,200 T of toe rock.	
Stage 3	
Planning ▪ Stage 3 feasibility report completed 28 November 2024. Feedback received from WCRC 18 March 2025. ▪ The designer has been requested to provide schedule of quantities for option 2 design to provide additional information to Councilors as requested. ▪ Review and update the master programme.	Planning ▪ Meeting to confirm consultant procurement process with WCRC to be held. ▪ Progress procurement of the engineers and other consultants to progress design and consultation with stakeholders in preparation of the resource consent application. ▪ Develop schedule of quantities into full project estimate for approval by WCRC Councilors. ▪ Finalise master programme for approval.

Current Tasks and Decisions
▪ Complete planting at Stage 1B ▪ Complete work at Stage 1B and award practical completion ▪ Progress Stage 3 Consultant engagement

Cycleway surfacing complete

Hydroseeding complete, grass strike to be monitored

6. FINANCIAL SUMMARY

Financial Summary	
Current Budget	$ 7,505,226
Current Expenditure	$ 4,104,331
Remaining Funds	$ 3,400,895

7. HIGH LEVEL ROADMAP

Project Name	FY 2022/23				FY 2023/24				FY 2024/25				FY 2025/26	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2/Q3
Month Starting	July	October	January	April	July	October	January	April	July	October	January	April	July	October
Stage 1A Professional fees / Surveying / Project Management / Design														
Stage 1A Preparation of Resource Consent Documents														
Stage 1A Construction														
Stage 1B Professional fees / Surveying / Project Management / Design														
Stage 1B Preparation of Resource Consent Documents														
Stage 1B Construction														
Stage 3 Concepts / Budget														
Stage 3 Design														
Stage 3 Consenting														
Stage 3 Construction														

8. MILESTONES

Milestone	Baseline Date	Tracking	Actual Date	Comment
Stage 1A Professional fees / Surveying / Project Management / Design	31-Aug-23	18-Aug		Complete
Stage 1A Preparation of Resource Consent Documents and Monitoring	08-Sep-23	08-Sep-23	21-Jul-23	Complete
Stage 1A Construction complete	31-Aug-23	09-Sep-23	25-Sep-23	Complete
Stage 1B Professional fees / Surveying / Project Management / Design	22-Dec-23	22-Dec-23		Completion activities underway
Stage 1B Preparation of Resource Consent Documents and Monitoring	14-Jul-23	24-Apr-24	19 July 2024	Complete
Stage 1B Construction complete	15-Dec-23	29-Nov-24	29-Nov-24	Construction complete, as-builts and rectifying defects to be completed to allow Practical Completion Certificate to be awarded.
Stage 3 Concept Design Approval	31-Jul-23	20-May-25		Approval to proceed into detailed design is contingent on review of estimate costs for each option.
Stage 3 Detailed Design Complete		13-Aug-25		Baseline master programme to be reviewed by WCRC
Stage 3 Resource Consent		22-Oct-25		Baseline master programme to be reviewed by WCRC
Stage 3 Construction Commenced		07-Nov-25		Baseline master programme to be reviewed by WCRC
Stage 3 Construction Complete		16-Feb-26		Baseline master programme to be reviewed by WCRC

9. CONSENTS

- Retrospective WCRC Consent for Stage 1A granted 21/7/23.
- Retrospective WDC Stage 1A Consent received 19 July 2024
- Stage 1B WCRC Resource Consent received 18 July 2024
- Stage 1B WDC Consent received 19 July 2024
- Stage 3 Consents will be progressed once the concept design has been approved and the developed design is proceeding.

10. PROJECT RISKS

ID #	Date last Reviewed	Short Risk Name	Source of Concern / Opportunity	Implications	Risk Owner	Governance Status	Rating	Trend	Governance Actions	Treatments / Mitigations
HR-RIS-03		Insufficient Budget	QS estimates indicate that the budget is insufficient for all 3 stages.	Increased cost	Project Manager	Unresolved	Medium	No Change	Approve variations when requested.	Stage 2 not proceeding. Ensure Stage 3 design and scope within remaining budget.
HR-RIS-04		Scope of works	Scope increases due to requirements from WDC, Heritage Hokitika, etc.	Increased cost	Project Manager	Unresolved	Medium	No Change	Approve variations when requested.	Meet with WDC to review Concepts for Stage 3
HR-RIS-05		Weather	Flooding from weather events causing damage during construction	Delay to programme HS Equipment damage Environmental	Contractor	Unresolved	Low	Reducing	Review plans and on-site implementation	Contractor management plans.
HR-RIS-01		Consent Processing	Lack of response or changing response from affected parties	Delay to programme	Project Manager	Resolved for Stage 1B.	Low	No Change	Provide support and input where required.	Risk to be reviewed as Stage 3 progressed
HR-RIS-02		Existing Infrastructure	Upgrades may require relocation of power poles and have effect on adjacent roading network and	Delay to programme. Increased cost	Project Manager	Not fully resolved	Low	No Change	Approval of additional cost for relocations if required	Negotiations as needed with utility operators.

ID #	Date last Reviewed	Short Risk Name	Source of Concern / Opportunity	Implications	Risk Owner	Governance Status	Rating	Trend	Governance Actions	Treatments / Mitigations
			stormwater system							
HR-RIS-06		Iwi	Completing consultation for 1B planting plan	Delay to programme, increased cost	Project Manager, Planner	Resolved	Low	Reducing	Iwi have agreed planting plan	QA planting when complete and issue report to Iwi

11. PROJECT ISSUES

ID #	Date Raised	Issue Description	Priority	Action Required	Issue Owner
HR-ISS-01	15 May 2023	Joint Committee request was made to review the priority and investigate feasibility/costs to progress Stage 3 ahead of Stage 2. This will delay design until the next stage is agreed.	High	Prepare concepts and budgets for discussion/review by Joint Committee	Project Manager
		No current issues			

12. DEPENDENCIES

Ref #	Description	Urgency	Owner	Critical Date	Progress / Actions
HR-DEP-01	Joint Committee request was made to review the priority and investigate feasibility/costs to progress Stage 3 ahead of Stage 2. This will delay design until the next stage is established.	High	Project Manager	15-Sep-23	Concepts and budgets have been prepared for discussion/review by Joint Committee.
	No current dependencies				

13. IWI / HAPŪ / WHĀNAU

Partnership / Relationship	Notes
Ngāti Waewae - Philippa Lynch / Susan Aitken	▪ Stage 1B planting plan has been agreed ▪ Stage 3 Cultural Impact Assessment and stakeholder engagement to be progressed once consultants engaged.

14. PARTNERSHIPS / RELATIONSHIP MANAGEMENT

Partnership / Relationship	Notes
Heritage NZ	Discussion required for Stage 3 once consultants engaged.
WDC	WDC Land Use Consent for Stage 1B received 19 July 2024. Stage 3 engagement to be progressed once consultants engaged.
KiwiRail	1B Final rail survey to be provided to KiwiRail.
Ngāti Waewae	Stage 3 Cultural Impact Assessment and stakeholder engagement to be progressed once consultants engaged.
Waka Kotahi	Waka Kotahi Affected Party Approval for stage 1B received 4 December 2023.

15. HEALTH AND SAFETY

- Contractor disestablished from site after completion of Stage 1B

REPORTS

9.4	**Greymouth Operations Committee Project Status Report March 2025**
Author	Scott Hoare, Infrastructure Reference Group Programme Manager
Authorizer	Tom Hopkins, Capital Programme Manager | West Coast Regional Council
Public Excluded	No

Report Purpose

The purpose of this report is to present the Greymouth Operations Committee Project Status report for March 2025.

Report Summary

The report presents:

- An update on the progress of the project including construction activities on Stages 1 and 3.

Recommendation

It is recommended that the Committee resolve to:

1. Receive the report.

Issues and Discussion

There are no issues that require discussion as a result of this report.

Considerations

Implications/Risks

Concept design of the Westland Mineral Sands realignment has commenced. This work delays the completion of Stage 1 and a separable portion will be created to sign off the works completed to date elsewhere on Stage 1 and for Stage 3.

Significance and Engagement Policy Assessment

There are no issues within this report which trigger matters in this policy.

Tangata whenua views

Staff are not aware of any issues within this report which would impact tangata whenua.

Views of affected parties

Work is being carried out under pre-existing consents. Formal consultation was undertaken at the time consents were obtained. Informal consultation has been completed and public notices

issued.

Financial implications

Current budget
$ 2,605,822

Current expenditure
$ 1,766,099

Future implications
Works have been funded from the IRG Project budgets.

Legal implications

There are no issues within this report which trigger matters in this policy.

Attachments

Attachment 1: March 2025 WCRC Operations Committee Project Status Report - Greymouth

WCRC OC PROJECT STATUS REPORT

GREYMOUTH FLOOD WALLS (MAWHERA QUAY)

WEST COAST REGIONAL COUNCIL
ISSUE 26 - 1 APRIL 2025

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QUALITY ASSURANCE

PREPARED BY	Mike Murray	Senior Project Manager	1 April 2025	
REVIEWED / APPROVED BY	Scott Hoare	Programme Manager	1 April 2025	

1. PROJECT STRUCTURE

Reporting Month Ending	31/03/2025
Project Sponsor	Darryl Lew, CEO
Senior Responsible Owner	Gavin Palmer, Acting Group Manager – Catchment Management
Benefit Owner(s)	Greymouth Rating District
IRG Programme Manager	Scott Hoare
Council Project Manager	Tom Hopkins, Capital Programme Manager
IRG Project Manager	Mike Murray

2. OPERATIONS COMMITTEE MEETINGS

Last Operations Committee Meeting	18/03/2025	Next Operations Committee Meeting	15/04/2025

3. R.A.G (RED, AMBER, GREEN) STATUS

Category	Current Month	Commentary
Overall		Stage 1 is complete except for the section through the Westland Mineral Sands site (currently on hold). Stage 3 is complete. Stages 2, 4 and 5 cannot be completed under the current budget.
Trend	→	No change.
Budget		The initial budget was based on preliminary information. Received tenders have confirmed the project budget is insufficient to complete the full scope. A contract has been awarded to undertake stages 1 and 3, which can be completed within the current budget, while the scope for stages 2, 4 and 5 will require additional funding.
Scope		Scope is well defined, upgrade of existing stop banks to 1:150 year plus 600 mm freeboard.
Resource		No resource concerns at this stage.
Schedule		The Stage 3 works have been completed. The remaining Stage 1 work is on hold, WMS have confirmed they wish to proceed with the relocation of the section of stopbank adjacent to their site and the concept design and feasibility investigation is underway. To ensure a consistent crest level in the interim, the Contractor is to carry out an uplift of this section by placing aggregate to the finished formation level, but without placing rock rip-rap.
Risks/ Issues		Completing concept designs and budget for WMS realignment is in progress. Obtaining agreement from Westland Mineral Sands to undertake construction is yet to be confirmed.

4. GOVERNANCE DOCUMENTS AND RECOMMENDATIONS TO SRO / COUNCIL / KANOA

docCM #	Document	Submission Date	Approval Date	Comments
	Funding Agreement Variation (2)	16-Feb-23	09-Jun-23	Application for transfer or funds from Westport Early Warning Project and an Extension of Time with new completion date of May 2024
	Mawhera Quay Tender Evaluation and Recommendation	11 Dec 23	21 Dec 23	Contract signed by both WCRC and MBD received 23 Dec 23
	Funding Agreement Variation (4)	7-Jun-24	24-Jul-24	Application for an extension of time with new completion date of September 2024.

5. STATE OF PLAY

Last Month	Next Month
Construction ▪ Construction is complete apart from WMS section that is on hold. ▪ Defect remediation has been undertaken ▪ Relocation of power poles has been completed	Construction: ▪ Contractor to complete as-built drawings, warranty etc. ▪ Final inspection and award PC Design: ▪ Complete concept design and budget estimates for WMS realignment

Total Project

- Placement and compaction of approximately 7,000 m^3 of bulk fill
- Placement of approximately 2800 tonnes of rock armour

Current Tasks and Decisions

- Complete concept design and budget estimates for WMS realignment
- No current decisions required

Anzac Park Road crossing complete

Stage 1 complete apart from WMS section

6. FINANCIAL SUMMARY

Financial Summary	
Current Budget	$ 2,605,822
Current Expenditure	$ 1,766,099
Remaining Funds	$ 839,723

7. HIGH LEVEL ROADMAP

Project Name	FY 2022/23				FY 2023/24				FY 2024/25				FY 25/26
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1-Q3
Month Starting	July	October	January	April	July	October	January	April	July	October	January	April	July
Design													
Consent													
Stage 1													
Stage 1 WMS													
Stage 2													
Stage 3													
Stage 4													
Stage 5													

8. MILESTONES

Milestone	Baseline Date	Tracking	Actual Date	Comment
Scope of Works - Preliminary Design			03-Feb-23	Complete
Peer Review- Scope of Works			30-Mar-23	Complete
Feedback from GDC			16-May-23	Complete
GDC Engineering approval of revised drawings	9-Aug-23		24-Aug-23	Conditional approval provided
Consent Documentation/Application	31-May-23		19-Oct-2023	Complete
Tender Preparation, analysis, negotiation	31-May-23		11 Dec 2023	Complete
Council review and award	02-Jun-23		21 Dec 2023	Complete
Completion of Construction	31-May-24	Feb 25		Stage 3 complete. Stage 1 completion delayed pending WMS works

9. CONSENTS

Updated modelling received from Land River Sea (modelling was undertaken for other projects but is being reviewed to further inform the IRG project).

Wynn Williams legal opinion received confirming existing consent has been given effect.

Acceptance of legal opinion received from GDC.

Meeting held with Iwi 15 Feb 2024, letter of support received 28 Feb 2024.

Plans sent to Heritage NZ 5 Feb 2024, archaeological review carried out and confirmation no impact to Heritage Sites received 5 March 2024

Meeting held with Grey Heritage Trust 21 February 2024, positive feedback received. Site walk with Contractor held 24 August prior to starting work in this area.

10. PROJECT RISKS

ID #	Short Risk Name	Source of Concern / Opportunity	Implications	Risk Owner	Governance Status	Rating	Trend	Governance Actions	Treatments / Mitigations
G-RIS-07	Westland Mineral Sands (WMS)	WMS have requested stopbank along Gresson Street be realigned	Delay to Programme Increased cost	WCRC	Ongoing	Medium	No Change	Agreement required from WMS to undertake work	Concept design and budgets being prepared for agreement
G-RIS-05	Weather	Flooding from weather events causing damage during construction	Delay to programme HS Equipment damage Environmental	Contractor	Ongoing	Low	No Change	Review plans and on-site implementation	Contractor management plans.
G-RIS-06	Unforseen Ground conditions	Unforseen ground conditions and unmapped services	Delay to programme, additional costs	Project Manager	Ongoing	Low	No Change	Engineers to address any issues as they arise	Engineers to address any issues as they arise
G-RIS-02	Existing Infrastructure	Upgrades require relocation of power poles.	Delay to Programme Increased cost	Project Manager	Resolved	Low	No Change	Negotiate with Westpower to remove betterment	Reduced scope for relocations agreed, removed requirement for fibre to be relocated
G-RIS-04	Scope of works	Scope increases	Increased cost	Project Manager	Unresolved	Low	No Change	Approve variations when requested.	Forecast expenditure and apply for variations.
G-RIS-03	Insufficient Budget	Tenders have confirmed insufficient budget	Increased cost	Project Manager	Complete	Low	Confirmed - extent of issue now known	Scope reduced, funding for remainder in Tranche 2	
G-RIS-01	Consent Processing	Public opposition to works, delaying obtaining resource consent amendments or new Consents	Delay to Programme	Project Manager	Complete	Low	Closed	Provide support and input when required.	Legal opinion and GDC acceptance to progress under existing Consent

11. PROJECT ISSUES

ID #	Date Raised	Issue Description	Priority	Action Required	Issue Owner
G-ISS-01	16 March 2023	Amendment to existing Consent will require additional Consents due to updated District Plans and TTP	High	Review design and GDC feedback to meet existing Consent requirements where possible.	Closed
G-ISS-02	4 April 2023	GDC Engineering Sign Off delayed due to lack of resource	High	GDC to be advised of pending documentation and date sign off required by 9 August 023	Closed
		No current issues			

12. DEPENDENCIES

Ref #	Description	Urgency	Owner	Critical Date	Progress / Actions
G-DEP-01	GDC to sign off design before tendering	High	Project Manager	09-Aug-23	GDC provided Conditional acceptance 24 August 2023
G-DEP-02	Tender Evaluation	High	Project Manager	13-Nov-23	Recommendation provided to WCRC and Contract awarded 23 December 2023
G-DEP-03	Completion of the Stage 1 works	High	Project Manager	20-Dec-24	WMS signed agreement with WCRC to proceed with investigation and design into the relocation of the bank.

13. IWI / HAPŪ / WHĀNAU

Partnership / Relationship	Notes
Ngāti Waewae - Philippa Lynch / Susan Aitken	Final plans issued 5 Feb 2024, discussion held 15 Feb 2024. No CIA required as operating under existing consent. Letter of support received 28 Feb 2024

14. PARTNERSHIPS / RELATIONSHIP MANAGEMENT

Partnership / Relationship	Notes
Heritage NZ	Archaeological review carried out and confirmation no impact to Heritage sites received 5 March 2024 and issued to HNZ (Note existing consent does not require any sign off from HNZ).
GDC	CCTV survey sent to GDC 17 May 2024 A shallow undocumented water pipe was uncovered 8 May 2024. Pipe capped by GDC. Coal tar uncovered beneath existing bank on 8 May 2024. Coal tar encapsulated in-situ.
Grey Heritage Trust	Meeting held 21 February, 2024.

15. HEALTH AND SAFETY

The Engineer undertook a site inspection following completion of the works carried out to date. The Contractor had demobilized from site.

10 Public Excluded Business

To: Chair, Operations Committee

I move that:

1. *The public be excluded from the following parts of the proceedings of this meeting, namely* ***– items 12 to 15*** *(all inclusive).*

   The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

Agenda 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**
12.1	*Minutes of Operations Committee public excluded meeting – 18 March 2025*	*The item contains information relating to commercial, privacy and security matters*	*To protect commercial and private information and to prevent disclosure of information for improper gain or advantage (s7(2)(a), s7(2)(b), and s7(2)(j)).*
13.1	*Actions List – public excluded*	*The item contains information relating to commercial, privacy and security matters*	*To protect commercial and private information and to prevent disclosure of information for improper gain or advantage (s7(2)(a), s7(2)(b), and s7(2)(j)).*
14.1	*Franz Josef FPS Upgrade (Stage 2) – Proposed Procurement Approach*	*This item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*

Agenda 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
14.2	*O'Conor Home Flood Protection*	*The item contains information relating to commercial, privacy and security matters*	*To protect commercial and private information and to prevent disclosure of information for improper gain or advantage (s7(2)(a), s7(2)(b), and s7(2)(j)).*
15.1	*Franz Josef Operations Committee Project Status Report March 2025 - Financial Public Excluded*	*The item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*
15.2	*Franz Josef Stage 2 Operations Committee Project Status Report March 2025 - Financial Public Excluded*	*The item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*
15.3	*Hokitika Operations Committee Project Status Report March 2025 - Financial Public Excluded*	*The item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*
15.4	*Greymouth Operations Committee Project Status Report March 2025 - Financial Public Excluded*	*The item contains information relating to commercial matters*	*To protect commercial information s7(2)(b)).*