

# Safety and Resilience Committee 7 August 2024

Meeting will be held in the Council Chamber at Level 2, Philip Laing House  
144 Rattray Street, Dunedin  
[ORC Official YouTube Livestream](#)



## Members:

Cr Gary Kelliher (Co-Chair)  
Cr Alan Somerville (Co-Chair)  
Cr Alexa Forbes  
Cr Michael Laws  
Cr Kevin Malcolm  
Cr Lloyd McCall  
Cr Tim Mephram  
Cr Andrew Noone  
Cr Gretchen Robertson  
Cr Bryan Scott  
Cr Elliot Weir  
Cr Kate Wilson

Senior Officer: Richard Saunders Chief Executive

Meeting Support: Kylie Darragh Governance Support Officer

07 August 2024 01:30 PM

## Agenda Topic

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### [Agenda](#)

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1. WELCOME

2. APOLOGIES

No apologies were submitted prior to publication of the agenda.

3. PUBLIC FORUM

No requests to address the Committee under Public Forum were received.

4. CONFIRMATION OF AGENDA

Note: Any additions must be approved by resolution with an explanation as to why they cannot be delayed until a future meeting.

5. DECLARATION OF INTERESTS

Members are reminded of the need to stand aside from decision-making when a conflict arises between their role as an elected representative and any private or other external interest they might have. [Councillor interests are published on the ORC website.](#)

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7.	OPEN ACTIONS FROM THE RESOLUTIONS OF THE COMMITTEE	
	There are currently no open actions for this Committee.	
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	To update the Committee on progress towards development of a natural hazards adaptation strategy for the Head of Lake Whakatipu area.	
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	To update Council on progress with the Clutha Delta natural hazards adaptation programme including engagement planning and natural hazards assessments.	
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	To report on ORC's delivery of its responsibilities under the Otago Civil Defence and Emergency Management Agreement, for the second half of 2023/24.	
9.3.1	<a href="#">Otago Civil Defence Emergency Management Agreement 2022 table</a>	41
10.	CLOSURE	



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## Safety and Resilience Committee MINUTES

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Minutes of an ordinary meeting of the Safety and Resilience Committee held in the Council Chamber, Level 2 Philip Laing House, 144 Rattray Street, Dunedin on Wednesday 8 May 2024, commencing at 1:00PM

[Link to YouTube Recording](#)

**PRESENT**

Cr Alan Somerville

*(Chairperson)*

Cr Alexa Forbes

Cr Gary Kelliher

Cr Michael Laws

Cr Kevin Malcolm

Cr Lloyd McCall

Cr Tim Mephram

Cr Andrew Noone

Cr Gretchen Robertson

Cr Bryan Scott

Cr Elliot Weir

Cr Kate Wilson

## 1. WELCOME

Chair Somerville welcomed Councillors, members of the public and staff to the meeting at 1 pm. Staff present included Richard Saunders (Chief Executive), Nick Donnelly (GM Corporate Services), online, Anita Dawe (GM Policy and Science), Gavin Palmer (GM Operations), Joanna Gilroy (Acting GM Regulatory), Amanda Vercoe (GM Governance, Culture and Customer), Kylie Darragh (Governance Support), and online, Jamie Mackenzie (Natural Hazards Adaptation Specialist) Pam Wilson (Principal Technical Advisor), Charlotte Lea and Jo Healy from BECA

## 2. APOLOGIES

There were no apologies.

## 3. PUBLIC FORUM

There was no public forum.

## 4. CONFIRMATION OF AGENDA

It was moved that by Cr Somerville and seconded by Cr Noone:

**Matter 9.1 Head of Lake Whakatipu Natural Hazards Adaptation** to be taken last to enable Jo Healy to join.

## 5. DECLARATIONS OF INTERESTS

Members were reminded of the need to stand aside from decision-making when a conflict arises between their role as an elected representative and any private or other external interest they might have.

## 6. CONFIRMATION OF MINUTES

There was an amendment noted in the Minutes.

**Resolution: Cr Malcolm Moved, Cr Weir Seconded**

*That the minutes of the (public portion of the) Safety and Resilience Committee meeting held on 8 February 2024 be confirmed as a true and accurate record.*

**MOTION CARRIED**

## 7. OPEN ACTIONS FROM RESOLUTIONS OF THE COMMITTEE

The Update on Wildfire Hazard in Otago was scheduled in Presentations.

## 8. PRESENTATIONS

### 8.1. Update on Wildfire Hazard in Otago

A verbal report back on the Wildfire Hazards in Otago was provided by the Chief Executive Richard Saunders. FENZ and other civil defense groups have been working on defining the roles and responsibilities in the case of wildfire and this will be reported back through their respective groups to Council.

## 9. MATTERS FOR CONSIDERATION

### 9.1 to be taken last.

*Cr Laws left the meeting at 1:22 pm.*

*Cr Laws returned to the meeting 1:33 pm.*

### 9.2. Clutha Delta Natural Hazards Adaptation

(YouTube 00:11:15) This report was provided to update Council on progress with the Clutha Delta natural hazards adaptation programme including engagement planning and natural hazards assessments. Ann Conroy (Team Leader Natural Hazards Adaptation), Tim van Woerden (Senior Natural Hazards Analyst), Jean-Luc Payan, Gavin Palmer (GM Operations) and online, Jamie Mackenzie (Natural Hazards Adaptation Specialist), Pam Wilson (Principal Technical Advisor) were available to respond to questions.

#### **Resolution SRC24-107: Cr McCall Moved, Cr Mephram Seconded**

*That the Committee:*

- 1. Notes this report.**
- 2. Notes the Clutha Delta natural hazards adaptation work programme and community engagement planning.**

#### **MOTION CARRIED**

### 9.3. Asset Management Plan 2024

(YouTube 00:42:45) This paper was brought to this Committee seek Council endorsement of the Otago Regional Council Asset Management Plan 2024 – Flood Protection, Land Drainage, and River Management Infrastructure (AMP). Arsalan Ali (Asset Management Engineer), Brett Patterson (Project Delivery Lead), Gavin Palmer (General Manager Operations) online Pam Wilson (Principal Technical Advisor) were available to answer questions.

#### **Resolution SRC24-108: Cr Weir Moved, Cr Robertson Seconded**

*That the Committee:*

- 1. Notes this report.**

#### **MOTION CARRIED**

**Resolution SRC24-109: Cr Mephram Moved, Cr Weir Seconded**

*That the Committee:*

- 1. Recommends that Council endorses the Otago Regional Council Asset Management Plan 2024 – Flood Protection, Land Drainage and River Management Infrastructure and any amendments arising from adoption of the 2024-34 Long-Term Plan and Infrastructure Strategy 2024-2054.**

**MOTION CARRIED**

*Cr Scott left the meeting at 2:14 pm.*

*Cr Scott returned to the meeting at 2:16 pm.*

*Cr Laws returned to the meeting at 2:51 pm.*

*Cr Laws left the meeting at 2:40 pm.*

**9.1. Head of Lake Whakatipu Natural Hazards Adaptation**

(YouTube 01.14.44) This report updated the Committee on progress towards development of a natural hazards adaptation strategy for the Head of Lake Whakatipu area, including informing the Committee of the findings of the Socio-economic Impact Assessment (Phase 1). Ann Conroy (Team Leader Natural Hazards Adaptation), Tim van Woerden (Senior Natural Hazards Analyst), Simon Robinson (Team Leader Natural Hazards Analysis), Jean-Luc Payan (Manager Natural Hazards), Gavin Palmer (GM Operations), online Jamie MacKenzie (Natural Hazards Adaptation Specialist) and Jo Healy and Charlotte Lea from BECA went through slides on the Socio-economic Impact Assessment - Phase One and responded to questions.

**Resolution SRC24-110: Cr Forbes Moved, Cr Weir Seconded**

*That the Safety and Resilience Committee:*

- 1. Notes this report.**
- 2. Notes the report by Beca Ltd; Socio-economic Impact Assessment – Head of Lake Whakatipu Adaptation Strategy - Phase 1, dated 3 April 2024.**
- 3. Notes the findings presented in the above report.**
- 4. Recommends that Council endorses the use of the information presented in this report to inform natural hazard management and adaptation planning for the Head of Lake Whakatipu area.**
- 5. Notes the Head of Lake Whakatipu natural hazards adaptation work programme and community engagement.**

**MOTION CARRIED**

**12. CLOSURE**

There was no further business and Chair Somerville declared the meeting closed at 3:01 pm.

\_\_\_\_\_  
Chairperson

\_\_\_\_\_  
Date

### 9.1. Head of Lake Whakatipu Natural Hazards Adaptation

**Prepared for:** Safety and Resilience Committee

**Report No.** OPS2428

**Activity:** Governance Report

**Author:** Ann Conroy, Team Leader Natural Hazards Adaptation  
Tim van Woerden, Senior Natural Hazards Analyst  
Jamie MacKenzie, Natural Hazards Adaptation Specialist  
Jean-Luc Payan, Manager Natural Hazards

**Endorsed by:** Tom Dyer, General Manager Science and Resilience

**Date:** 7 August 2024

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#### PURPOSE

- [1] To update the Committee on progress towards development of a natural hazards adaptation strategy for the Head of Lake Whakatipu area.

#### EXECUTIVE SUMMARY

- [2] Otago Regional Council (ORC) is following the Dynamic Adaptive Pathways Planning approach (DAPP or 'Adaptation Pathways') as a framework for development of a Head of Lake Whakatipu natural hazards adaptation programme.
- [3] The ORC led natural hazards adaptation programme for the area at the Head of Lake Whakatipu is progressing well. This paper provides an update on activities since the previous committee paper presented in May 2024.
- [4] A revised sequence of key programme activities is proposed which aims to present a finalised strategy document to Council for endorsement in early 2025.
- [5] Natural hazard investigations are progressing: it is expected that the natural hazards risk assessment for Glenorchy and Kinloch and the feasibility assessment for floodplain hazard management approaches for the Dart-Rees floodplain will be completed in the middle of 2024.
- [6] Updates are given on engagement activities completed since May 2024. Engagement planning is underway for the next series of engagement activities proposed for September 2024. The focus will be to share the findings of two significant technical studies and discuss preferred adaptation responses and pathways.

#### RECOMMENDATION

*That the Safety and Resilience Committee:*

- 1) **Notes** this report.
- 2) **Notes** the Head of Lake Whakatipu natural hazards adaptation work programme and community engagement.

#### BACKGROUND

- [7] Otago Regional Council (ORC), in collaboration with project partners, is leading a programme of work to develop a natural hazards adaptation strategy for the head of Lake Whakatipu area.
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- [8] The area at the head of Lake Whakatipu (Whakatipu-Wai-Māori) is exposed to multiple natural hazard risks, including those due to seismic events, flooding and slope-related processes. This risk setting is compounded by a changing climate and landscape-scale geomorphic change.
- [9] ORC is using the Dynamic Adaptative Pathways Planning approach (DAPP, or 'Adaptation Pathways') as a framework for development of a head of Lake Whakatipu natural hazards adaptation programme. ORC is also using this approach in natural hazards adaptation planning for the South Dunedin Future<sup>1</sup> and Clutha Delta<sup>2</sup> natural hazards adaptation programmes.
- [10] The adaptation project approach and work activities completed are outlined in the series of papers previously presented in 2021-2024<sup>3</sup>. The most recent paper, presented in May 2024, proposed to deliver the completed (first iteration) strategy by November 2024.
- [11] Quarterly update papers to the Safety and Resilience Committee will continue through until the delivery of the strategy.
- [12] This paper is focused on updates on current or planned activities in this work programme, including community engagement activities; natural hazard risk assessment for Glenorchy and Kinloch; and feasibility assessment for floodplain hazard management approaches for the Dart-Rees floodplain (including nature-based solutions).
- [13] Figure 1 shows an overview of key activities in the Head of Lake Whakatipu natural hazards adaptation work programme, with the programme currently focussing on the third phase "*What can we do about it?*" and building towards delivery of a first iteration of the strategy document. Figure 1 updates the similar figure presented in the previous committee papers.

## DISCUSSION

- [14] The ORC-led natural hazards adaptation programme for the area at the Head of Lake Whakatipu is progressing well. Two significant technical studies are aiming for completion in the middle of 2024.
- [15] ORC is proposing a revised schedule to deliver the completed (first iteration) strategy in early 2025, with timing subject to partners, stakeholders and community feedback on the draft documents. A draft of the strategy document will be available for community/public consideration and feedback from late 2024.
- [16] The revised schedule is partly to allow more time for external review (partners and peer-reviewers) of the natural hazards risk assessment for Glenorchy and Kinloch, and to address reviewer comments. This will contribute to the robustness in the findings of the assessment. The revised schedule also extends the public feedback period to three

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<sup>1</sup> <https://www.dunedin.govt.nz/council/council-projects/south-dunedin-future>

<sup>2</sup> van Woerden T, Conroy A and Payan J, 2023. Clutha Delta Natural Hazards Adaptation. Report OPS2341 to the Otago Regional Council Safety and Resilience Committee, 9 November 2023.

<sup>3</sup> Reports to Council (27 May 2021), the ORC Data and Information Committee (9 June 2022) and the ORC Safety and Resilience Committee (10 May 2023, 10 August 2023, 9 November 2023, 8 February 2024 and 8 May 2024)



months (instead of one month previously allowed for), since it now falls over the busy summer season for the community.

**ADAPTATION STRATEGY DEVELOPMENT**

- [17] The revised sequence of key programme activities with Council and community is as follows:
- Presentation of technical assessment results (Aug/Sept 2024)
  - Adaptation pathways discussion (Sept 2024)
  - Draft of strategy documents released for community feedback and comment (late 2024)
  - Finalised strategy document presented to Council (early 2025) – timing is subject to the feedback on the draft documents
- [18] A screening assessment of the potential cultural significance of a long-list of possible adaptation responses at the Head of Lake Whakatipu is being undertaken separately by Aukaha to incorporate a Te Ao Māori worldview into decision-making processes.
- [19] Adaptation strategy development is currently focussed on drafting potential pathways, including suitable signals, triggers, and thresholds, to support community discussion and input.
- [20] The Strategy will include Action Plans that describe adaptation responses that are underway or in progress.

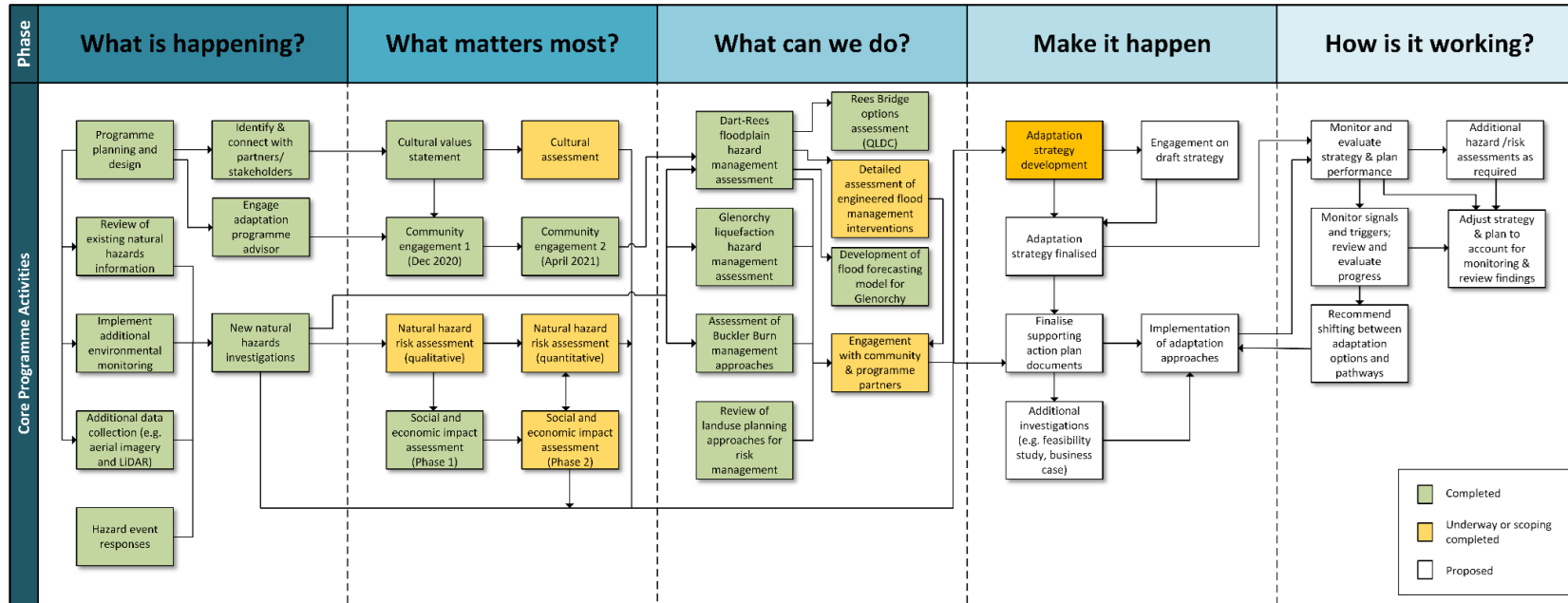


Figure 1: Head of Lake Whakatipu programme overview of key activities. This diagram updates from the previous (May 2024) and earlier committee papers.

## COMMUNITY ENGAGEMENT

[21] Proposed engagement activities to align with the updated programme delivery schedule are outlined in Table 1. This table updates overviews presented in previous Committee updates. In addition to these activities, regular programme updates are provided to the community through the monthly newsletter (attached) and programme webpage.

**Table 1: Overview of proposed engagement activities for the delivery of the programme.**

Engagement activity (and level of participation*)	Purpose	Early 2024	Sept 2024	Late 2024 - early 2025
Collaborate with Enviroschools to facilitate learning activities at Glenorchy Primary School ➤ 'Involve'	Build youth understanding of hazardscape and adaptation approaches	✓		
Head of the Lake youth art competition ➤ 'Involve/Collaborate'	Involve youth in Strategy design	✓		
Share Socio-Economic Impact Assessment (SEIA) Phase 1 findings ➤ 'Inform'	Update community of the findings of technical studies in an accessible way	✓		
Share natural hazards risk assessment and feasibility assessment findings ➤ 'Inform'	Update the community on the findings of technical studies, in an accessible way			
Discuss and develop preferred adaptation responses and pathways ➤ 'Involve/Collaborate'	Build understanding and generate ideas on signals, triggers, trade-offs, preferred pathways and how to monitor changes			
Gain feedback on draft strategy document ➤ 'Consult'	Receive feedback on the Strategy document and strategic framework for adaptation so that the Strategy works for this community			

[22] The programme team collaborated with Enviroschools to facilitate two sessions with senior students at Glenorchy Primary School, during April and May. The first session focused on landscape changes over time and how people have adapted to these changes in the past and present, linking to the school focus on gold mining history. The second session used NIWA's Township Flood Challenge<sup>4</sup> to facilitate discussions around climate change and its impacts, potential adaptation responses, complex decision-making and risk.

[23] From 8 April to 9 May 2024, ORC held the 'Head of the Lake Youth Art competition'. The theme was 'what does the Head of the Lake mean to you?' and the competition was open to children and young people aged 17 and under. In total there were 17 entries (see Figure 2), with one overall winner and three age group winners (5 and under, 6-8 and 9 and above).

<sup>4</sup> <https://niwa.co.nz/township-flood-challenge-game>



3. Drop-in session with interactive activities to facilitate discussion about adaptation pathways

[28] A multi-pronged approach to engagement aims to provide opportunities for different parts of the community to better understand what this new information means for them, and to provide feedback on how best to respond and adapt for the future.

[29] Engagement planning is a collaborative process, working with QLDC and the community. Engagement planning is considering other community engagement programmes across Queenstown Lakes District, or that local communities may be interested over the same time period. This aims to avoid engagement fatigue and better support alignment across ORC community engagement programmes.

### **NATURAL HAZARD RISK ASSESSMENT**

[30] Beca Group Limited (Beca) has been undertaking a detailed natural hazard risk assessment for Glenorchy and Kinloch. This includes reviewing and analysing natural hazard investigations previously completed in the area by ORC and others. Beca is conducting qualitative and quantitative risk analyses using this data. The analyses are nearing completion and independent peer-review of the work and findings is underway.

[31] The results of this study will inform decision-makers and the community about the varying levels of natural hazard risk. Additionally, it will guide future efforts in risk management and adaptation. This initiative is in line with the Adaptation Pathways approach developed by the Ministry for the Environment, which aims to utilise insights into natural hazards and risk to identify optimal pathways for managing, mitigating and avoiding risks effectively.

[32] Details about the investigations were provided in a May 2024 paper<sup>6</sup> to this committee.

[33] All risk assessment findings will be presented to both the community and to councillors once they have been externally reviewed and finalised. This is expected to be from late August 2024.

### **FLOOD AND EROSION MITIGATION AND NATURE-BASED SOLUTIONS FEASIBILITY ASSESSMENTS**

[34] Damwatch Engineering Ltd (Damwatch) are nearing completion of a technical feasibility study to explore potential floodplain hazard management approaches for the Dart-Rees floodplain.

[35] Details about the investigations were provided in a May 2024 paper<sup>7</sup> to this committee.

[36] The 'nature-based solutions' aspects of the investigations are being supported financially by the Ministry for the Environment (MfE) funding programme, *Nature Based Solutions for Resilience Planning*.

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<sup>6</sup> Report OPS2407, dated 8 May 2024: <https://www.orc.govt.nz/media/2pyhtc30/safety-and-resilience-committee-agenda-8-may-2024.pdf>

<sup>7</sup> Report OPS2407, dated 8 May 2024: <https://www.orc.govt.nz/media/2pyhtc30/safety-and-resilience-committee-agenda-8-may-2024.pdf>

- [37] All findings from this study will be presented to both the community and to councillors once they have been externally reviewed and finalised, expected to be from late August 2024.

## CONSIDERATIONS

### Strategic Framework and Policy Considerations

- [38] The information presented and the adaptation approach discussed in this paper reflects Council's Strategic Directions, "*Otago builds resilience in a way that contributes to the wellbeing of our communities and environment through planned and well-managed responses to shocks and stresses, including natural hazards*".<sup>8</sup>
- [39] The proposed Otago Regional Policy Statement June 2021<sup>9</sup>, notified in late March 2024,<sup>10</sup> states that ORC and territorial authorities are both responsible for specifying objectives, policies, and methods in regional and district plans for managing land subject to natural hazard risk. ORC specifically is responsible for "*identifying areas in the region subject to natural hazards and describing their characteristics as required by Policy HAZ–NH–P1, mapping the extent of those areas in the relevant regional plan(s) and including those maps on a natural hazard register or database*".<sup>11</sup>

### Financial Considerations

- [40] The Ministry for the Environment (MfE) funding programme, *Nature Based Solutions for Resilience Planning* is financially supporting the 'nature-based solutions' aspects of the flood protection feasibility assessments.
- [41] The budget in the 2024-34 Long Term Plan provides funding towards delivery, implementation and monitoring of the Head of Lake Whakatipu natural hazards adaptation strategy. The proposed budget for the 2024/25 financial year is approximately \$175,000.

### Significance and Engagement

- [42] Engagement planning considers and is designed to be consistent with organisational commitments made through He Mahi Rau Rika: ORC Significance, Engagement and Māori Participation Policy.

### Legislative and Risk Considerations

- [43] The work described in this paper helps ORC fulfil its responsibilities under sections 30 and 35 of the RMA.
- [44] There is not currently a formalised programme governance agreement between ORC and QLDC for this adaptation programme, although there is a strong collaborative relationship at staff level. It will be critical to the successful delivery and implementation of the strategy that both councils endorse the strategy. Joint ELT discussions occurred in late May. It was agreed that having a joint Natural Hazards Steering Group would be useful and staff are working on standing it up.

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<sup>8</sup> ORC Draft Strategic Directions: <https://consult-orc.objective.com/kseapi/public/keyplan/events/800B1ECE-7245-4C6B-A6DA-49709F913F94/supportingfiles/876/content>

<sup>9</sup> Section HAZ-NH-M1

<sup>10</sup> Note that the RPS is still subject to appeal.

<sup>11</sup> ORC Natural Hazards Portal: <http://hazards.orc.govt.nz>

- [45] The QLDC 2024-2034 draft Long-Term Plan (LTP)<sup>12</sup> and QLDC 30-year Infrastructure Strategy<sup>13</sup> were released for consultation in late June 2024. The 'Community Associations Work Programme' of the LTP includes support for ORC's Head of Lake Whakatipu natural hazards project. The QLDC Infrastructure Strategy also highlights the area in its key initiatives; for example, Glenorchy/Kinloch area resilience of the transportation network; and Glenorchy adaptation in the response to natural hazard risks and the effects of climate change.
- [46] Central government has repealed the Natural and Built Environment Act and the Spatial Planning Act. In May 2024, central government moved for the Finance and Expenditure Committee to conduct an inquiry into climate adaptation<sup>14</sup>. The purpose of the inquiry is to develop and recommend guiding objectives and principles for the design of a climate adaptation framework for New Zealand. Any legislation required to support the framework is expected to be introduced in early 2025.
- [47] There is no clear, specific, mandated requirement to reduce risk through planning and implementation of adaptation or relocation. Gaps identified in the current adaptation planning and planned relocation frameworks include the lack of national direction, insufficient powers, tools and mechanisms, and the lack of articulated roles and responsibilities<sup>15</sup>.

#### **Climate Change Considerations**

- [48] The effects of climate change have been considered in flood hazard assessments for Dart and Rees Rivers, and Buckler Burn, and in the assessment of risks and potential hazard management responses for those hazards.
- [49] Councillors recently endorsed ORC's draft Strategic Climate Action Plan for public consultation.<sup>16</sup> ORC's vision is for a *"low-emissions Otago that is climate-resilient in its ecosystems, communities, and businesses has two components: climate mitigation and climate adaptation."*

#### **Communications Considerations**

- [50] ORC will continue to make all investigation findings available to the Head of Lake Whakatipu community and provide regular programme updates via the email newsletter<sup>17</sup>. The July 2024 newsletter is attached.
- [51] A communications plan has been developed as part of this work programme. The programme team is working closely with the Communications team to ensure communications and engagement planning is integrated, complementary and build off each other.

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<sup>12</sup> [https://www.qldc.govt.nz/media/hw3lhj3/qldc\\_long-term-plan\\_2024-2034\\_v17-260624.pdf](https://www.qldc.govt.nz/media/hw3lhj3/qldc_long-term-plan_2024-2034_v17-260624.pdf)

<sup>13</sup> <https://letstalk.qldc.govt.nz/93956/widgets/440044/documents/289262>

<sup>14</sup> <https://www.beehive.govt.nz/release/climate-change-%E2%80%93-mitigating-risks-and-costs>

<sup>15</sup> Expert Working Group on Managed Retreat. 2023. Report of the Expert Working Group on Managed Retreat: A Proposed System for Te Hekenga Rauora/Planned Relocation. Wellington: Expert Working Group on Managed Retreat.

<sup>16</sup> Report STG2403, 26 June 2024 <https://www.orc.govt.nz/media/nvjhft0/council-agenda-20240626.pdf>

<sup>17</sup> <https://www.orc.govt.nz/managing-our-environment/natural-hazards/head-of-lake-whakatipu/community-get-intouch-be-involved>

**NEXT STEPS**

- [52] The key next step activities for the work programme which are in progress or scheduled are identified in Figure 1.
- [53] A high-level timeline for key programme and engagement activities, and development of an adaptation strategy, is given in Table 2.
- [54] Quarterly programme updates for the Safety and Resilience Committee are scheduled for 2024, and likely to continue into 2025. These may include workshops and/or committee papers, as appropriate.



**Table 2: High-level timeline for key programme and engagement activities, and development of an adaptation strategy, for the Head of Lake Whakatipu programme.**

	<b>Programme Activity</b>	<b>Community Engagement</b>
<b>Aug/Sept 2024</b>	Deliver technical studies: <ul style="list-style-type: none"> <li>• Cultural assessment</li> <li>• Natural hazard risk assessment for Glenorchy and Kinloch</li> <li>• Flood mitigation and nature-based solutions feasibility assessments</li> </ul> Strategy development and design	Focus of community engagement: <ul style="list-style-type: none"> <li>• Technical studies update</li> <li>• Discussion of adaptation pathways</li> </ul>
<b>Late 2024</b>	Deliver draft strategy and action plans (approved for public feedback)	Focus of community engagement: <ul style="list-style-type: none"> <li>• Draft strategy</li> </ul>
<b>Early 2025</b>	Feedback period for draft strategy  Deliver finalised strategy document to Council	Focus of community engagement: <ul style="list-style-type: none"> <li>• Draft strategy</li> <li>• Final strategy</li> </ul>

**ATTACHMENTS**

1. Appendix 1 - Head of Lake newsletter update July 2024 [9.1.1 - 5 pages]

17/07/2024, 13:10

Head of Lake Whakatipu - Update 38 | July 2024

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[View this email in your browser](#)

## HEAD OF LAKE WHAKATIPU



### COMMUNITY UPDATE 38 | JULY 2024

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Kia ora koutou,

In this edition we provide a programme update and share plans for an upgraded lake level recorder at the Glenorchy boat ramp.

In August, we'll be presenting a general programme update to Councillors at the ORC Safety and Resilience Committee meeting.

This is a chance for us to share how different parts of the work programme are progressing, and we will include a link to this meeting in the next newsletter.

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### Programme updates

The following assessments are progressing well:

- **The flood and erosion mitigation and nature-based solutions feasibility assessment** studies potential engineered flood and erosion management and a 'nature-based solutions' approach for the Rees and Dart floodplain areas and the Glenorchy township.

<https://mailchi.orc/head-of-lake-whakatipu-update-38-july-8324361?e=64efad4f20>

1/6

17/07/2024, 13:10

Head of Lake Whakatipu - Update 38 | July 2024

- **The Glenorchy and Kinloch natural hazard risk assessment** studies flooding from the Rees and Dart rivers, Lake Whakatipu and the Buckler Burn, and liquefaction and lateral spreading at Glenorchy.

The consultants are working hard to finalise these studies, and they will be completed in the coming weeks. We know some of you may be eager to see the findings of these studies, and we plan to share the results with the community within the next few months.



Image: Current water level recorder at the Glenorchy boat ramp

## **Upgrade of Lake Whakatipu water level recorder planned at Glenorchy boat ramp**

An upgrade of monitoring equipment at the Glenorchy boat ramp will improve the reliability of the information we collect about Lake Whakatipu level changes.

<https://mailchi.mp/orc/head-of-lake-whakatipu-update-38-july-8324361?e=64efad4f20>

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17/07/2024, 13:10

Head of Lake Whakatipu - Update 38 | July 2024

Over the next few months, the solar-powered water level recorder will be upgraded and raised to ensure it keeps monitoring, even at very high lake levels.

The boat ramp recorder was installed three years ago as a trial to complement the Glenorchy Lagoon water level recorder installed in December 2020 and the Rees River flow recorder installed in December 2021.

The data has been so valuable that we are futureproofing this monitoring site and making it a permanent part of the monitoring network.



Image: Proposed water level recorder at the Glenorchy boat ramp (mockup)

### **How is lake and river level information used?**

The near real-time information we receive from these recorders enhances our monitoring and response during heavy rainfall events and provides a longer-term dataset of baseline information we can use to analyse flooding hazards.

For example, during a heavy rain event that caused elevated river and lake levels across Otago in September 2023, we could see:

<https://mailchi.mp/orc/head-of-lake-whakatipu-update-38-july-8324361?e=64efad4f20>

3/6

17/07/2024, 13:10

Head of Lake Whakatipu - Update 38 | July 2024

- the Rees River reach its highest flow (235 cumecs) since the installation of the flow recording station in December 2021.
- the Glenorchy Lagoon also reach its highest level (312.49 m) since monitoring of its levels began in October 2020.
- Lake Whakatipu reach a level of 310.83 m.

The water level recorder also helps us compare lake levels between the head of the lake and the NIWA monitoring station at Frankton.

Data from environmental monitoring (e.g. rainfall, river flow and lake levels) is used to alert Emergency Management Otago of potential flooding to inform a response.

It also complements our other flood response tools, such as flood forecasting models which can be used to forecast water levels for Lake Whakatipu and the Glenorchy Lagoon.

Near real-time data from the Glenorchy boat ramp water level recorder is available on the [ORC's Environmental Data Portal](#).



Image: Example of water level data for Glenorchy on ORC's Environmental Data Portal

17/07/2024, 13:10

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## As always, we value your feedback

This adaptation programme was initiated because complex, increasing natural hazards in the Head of Lake Whakatipu require a comprehensive management response that takes a long-term view and encompasses all types of natural hazards.

This is your community, and we want to work with you to develop understanding and resilience. Check [here](#) to learn more about the whole programme.

If you have questions or need information, visit our [website](#) to see the [reports](#) and get [answers](#).

You can also speak to a member of the ORC Natural Hazards team on 0800 474 082 or email us for more information at [headofthelake@orc.govt.nz](mailto:headofthelake@orc.govt.nz).

We will provide responses to any emailed questions and facilitate answers from our consultants if needed.

### Head of Lake Whakatipu newsletter sign-up

If you are currently not receiving our monthly newsletters, you can [sign up here](#) and view archives of past editions.

### Contacts

If you have any questions or would like to get in touch with us, please email us at [headofthelake@orc.govt.nz](mailto:headofthelake@orc.govt.nz).



Otago  
Regional  
Council

## 9.2. Clutha Delta Natural Hazards Adaptation

<b>Prepared for:</b>	Safety and Resilience Committee
<b>Report No.</b>	OPS2429
<b>Activity:</b>	Governance Report
<b>Author:</b>	Ann Conroy, Team Leader Natural Hazards Adaptation Tim van Woerden, Senior Natural Hazards Analyst Jamie MacKenzie, Natural Hazards Adaptation Specialist Jean-Luc Payan, Manager Natural Hazards
<b>Endorsed by:</b>	Tom Dyer, General Manager Science and Resilience
<b>Date:</b>	7 August 2024

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### PURPOSE

- [1] To update Council on progress with the Clutha Delta natural hazards adaptation programme including engagement planning and natural hazards assessments.

### EXECUTIVE SUMMARY

- [2] The low-lying plains of the Clutha Delta are exposed to a range of coastal, fluvial, and seismic natural hazard risks. Coastal hazard and flooding hazard risks are projected to be exacerbated by potential impacts of ongoing or projected geomorphic and climatic changes.
- [3] Otago Regional Council (ORC) is following the Dynamic Adaptive Pathways Planning approach (DAPP, or 'Adaptation Pathways') as a framework for development of a Clutha Delta natural hazards adaptation programme.
- [4] This paper provides an update on activities since the previous committee papers on this work programme, presented in November 2023<sup>1</sup>, February 2024<sup>2</sup> and May 2024<sup>3</sup>.
- [5] The development of an engagement plan is underway. This programme is piloting aspects of the in-development ORC engagement framework.
- [6] Work on natural hazard investigations is progressing well. These include a natural hazard and engineering investigation at the Koau Mouth and Puerua outfall, a flood hazard assessment and a liquefaction hazard assessment.
- [7] Other related activities are being undertaken to improve coastal monitoring and forecasting; and gather additional data to inform assessments and modelling.

### RECOMMENDATION

*That the Committee:*

- 1) **Notes this report.**

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<sup>1</sup> van Woerden T, Conroy A and Payan J, 2023. Clutha Delta Natural Hazards Adaptation. Report OPS2341 to the Otago Regional Council Safety and Resilience Committee, 9 November 2023.

<sup>2</sup> Conroy A, MacKenzie J, van Woerden T, Robinson S and Payan J, 2024. Clutha Delta Natural Hazards Adaptation. Report HAZ2307 to the Otago Regional Council Safety and Resilience Committee, 8 February 2024.

<sup>3</sup> Conroy A, MacKenzie J, van Woerden T, and Payan J, 2024. Clutha Delta Natural Hazards Adaptation. Report OPS2410 to the Otago Regional Council Safety and Resilience Committee, 8 May 2024.

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## BACKGROUND

- [8] Otago Regional Council (ORC) is leading a programme of work to develop a natural hazard adaptation strategy for the Clutha Delta area (Figure 1).
- [9] The hazards context and the proposed natural hazards adaptation work programme for the Clutha Delta were summarised in the November 2023 update paper to the Safety and Resilience Committee.
- [10] The February 2024 update to the Safety and Resilience Committee summarised this programme's approach to engagement. This programme is piloting aspects of the in-development ORC engagement framework, including practical kete/toolkits and templates, and is informed by best practice research and policy.
- [11] The work programme is currently in the first phase of the 10-step DAPP cycle ("*what is happening?*") outlined in Figure 2, with progress on the scoping or early stages of investigations to increase our understanding of the key natural hazards on the delta, and early engagement planning.
- [12] This paper provides an update on current and proposed programme activities including programme and engagement planning, and natural hazards investigations.

## DISCUSSION

- [13] Work is in progress to refine an integrated programme plan for Natural Hazards and Engineering activities. The integrated plan will also consider key drivers, adaptation focus areas and how the work might be phased to address the most immediate needs first.
- [14] A key step of programme planning is the development of strategic and operational objectives to guide the direction of the programme and integration of ORC workstreams. This will be informed by engagement with partners including iwi, communities and stakeholders.
- [15] The first iteration of a natural hazards adaptation strategy for the Clutha Delta is proposed to be completed by December 2025. This strategy document will then be used to inform planning for the next ORC Long-Term Plan cycle (2027-2037) and review of the 2024-54 Infrastructure Strategy.



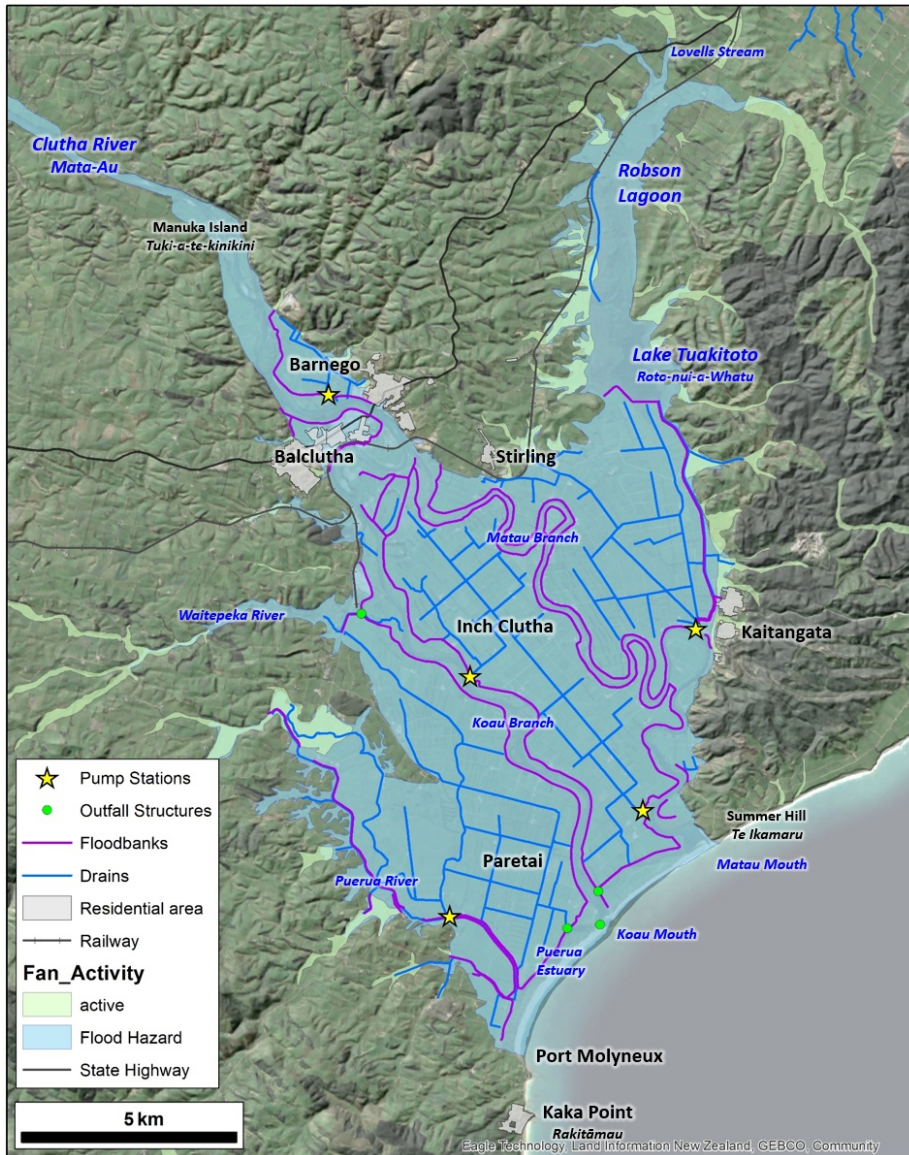


Figure 1: Overview map of the Clutha Delta, showing the main locations and ORC scheme infrastructure (e.g. floodbanks, drains). The blue shaded area is the mapped flood hazard area, and the green shaded areas are mapped as active floodwater-dominated alluvial fans. Maori place names are from the Ngāi Tahu atlas Kā Huru Manu.



**Figure 2: Overview of the 10-step decision cycle from Ministry for Environment (2024) guidance for Adaptation Pathways planning.**

### PARTNER RELATIONSHIPS

- [16] Following on from staff discussions in April 2024, ORC and CDC continue to progress collaboration, governance and partnership arrangements.
- [17] At the 9 May 2024 Clutha District Council meeting, CDC Deputy Chief Executive submitted a request from ORC to work collaboratively with CDC to look at the impacts of the changing environment on the Clutha Delta, and the potential impacts on the community and infrastructure. The following motions were carried:
- “That Clutha District Council receives the ‘Clutha Delta Natural Hazards Adaption Project’ report.”<sup>4</sup>
  - “That Clutha District Council agrees to enter into a Memorandum of Understanding (MOU) to work collaboratively with the Otago Regional Council on the Clutha Delta Natural Hazards Adaption Project and the Mayor & Chief Executive are delegated to confirm and agree the details of the MOU with the Otago Regional Council.”<sup>5</sup>
- [18] Staff are preparing an MOU to formalise the collaboration arrangements between CDC and ORC. It is expected that an MOU will guide collaboration at both governance and operational levels, and will be submitted to council for approval

<sup>4</sup> Clutha District Council Agenda – 9 May 2024, [https://www.cluthadc.govt.nz/repository/libraries/id:2c0gik8bh17q9s5atec4/hierarchy/Meetings\\_documents/Council/2024-05-09/Council%20Agenda%20-%2009%20May%202024.pdf](https://www.cluthadc.govt.nz/repository/libraries/id:2c0gik8bh17q9s5atec4/hierarchy/Meetings_documents/Council/2024-05-09/Council%20Agenda%20-%2009%20May%202024.pdf)

<sup>5</sup> Clutha District Council Meeting Minutes – 9 May 2024, [https://www.cluthadc.govt.nz/repository/libraries/id:2c0gik8bh17q9s5atec4/hierarchy/Meetings\\_documents/Council/2024-05-09/Council%20Meeting%20-%2009%20May%202024.pdf](https://www.cluthadc.govt.nz/repository/libraries/id:2c0gik8bh17q9s5atec4/hierarchy/Meetings_documents/Council/2024-05-09/Council%20Meeting%20-%2009%20May%202024.pdf)

- [19] ORC is taking a Te Tiriti partnership approach with iwi as consistent with He Mahi Rau Rika: Significance, Engagement and Māori Participation Policy. An initial outline of the programme has been shared with mana whenua representatives at Aukaha and Te Ao Marama Inc and additional kaitiaki as a starting point for further conversations around involvement in the programme.

#### **NATURAL HAZARDS INVESTIGATIONS**

- [20] The February and May 2024 papers to the Safety and Resilience Committee noted as next steps several natural hazards investigations for the Clutha Delta area which were in progress or planned. This section provides an update on progress towards completion of those studies. The investigations noted here are targeted for completion by December 2024.
- [21] These investigations will be externally peer reviewed to provide assurance of the robustness of findings.
- [22] All investigation findings will be made publicly available, and opportunities given for discussion of findings with community, partners/stakeholders and councillors.
- [23] Natural hazards studies will inform future engineering responses.

#### **Koau Mouth and Puerua Investigations**

- [24] A natural hazard and engineering investigation project focusing on the Koau mouth of the Clutha River/Mata-Au and Puerua-Paretai area is being undertaken by Jacobs (NZ) Ltd. The finalised technical report for this investigation is expected to be completed by September 2024.
- [25] Technical assessments are being undertaken to allow for thorough consideration of the potential benefits and challenges in potential infrastructure management decisions. Collection of associated survey data has been completed, including data on key infrastructure in the lower Puerua, to inform refinement of flood/drainage modelling.

#### **Flood Hazard Assessment**

- [26] A comprehensive flood hazard assessment for the Clutha Delta has been scoped and the first preparatory studies are being procured with expert advisors. The project findings will be used to further develop flood hazard mapping and understanding, to inform evaluation of the flood protection scheme performance, and to guide Emergency Management Otago planning for flooding events.
- [27] The proposed scope includes hydraulic modelling of the Clutha River/Mata-Au and significant tributary catchments, for a range of flow magnitudes including a “maximum credible” event. Modelling scenarios will consider the effects of climate change on river flows, the impacts of sea level rise, and potential breaches of floodbank structures.
- [28] Hydraulic modelling and flood hazard assessments will be carried out by ORC staff, with external expertise as required. Model development is in progress.

#### **Coastal hazards forecasting**

- [29] Coastal hazards forecasting is now in place for the Otago region, provided by MetService through an online portal. Forecasts are provided for 12 locations spaced along the Otago coastline (Figure 3).
- [30] This information will be used to provide early awareness of sea conditions that may cause impacts (such as inundation or erosion) on infrastructure and properties along the coast. Forecast parameters in the 7-day outlook include wave characteristics (height, period, direction), sea height (storm tide), and wind characteristics (speed, direction). Examples of forecast information from the portal are shown in Figure 4.
- [31] Forecasts for the Molyneux Bay location provide early awareness of sea conditions which may cause potential impacts, and enable proactive monitoring of the coastal margin and ORC's coastal infrastructure at the Clutha Delta.

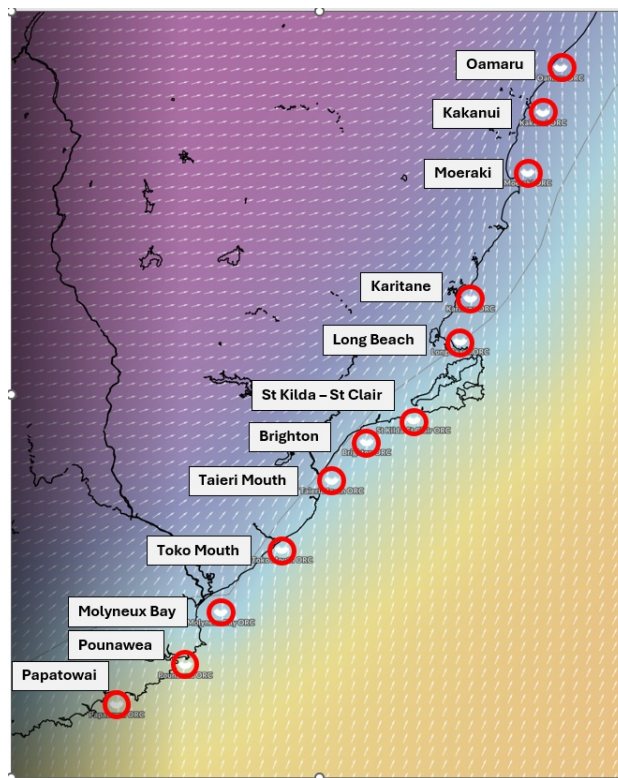


Figure 3: Coastal forecasts are provided by MetService for 12 locations along the Otago coastline.

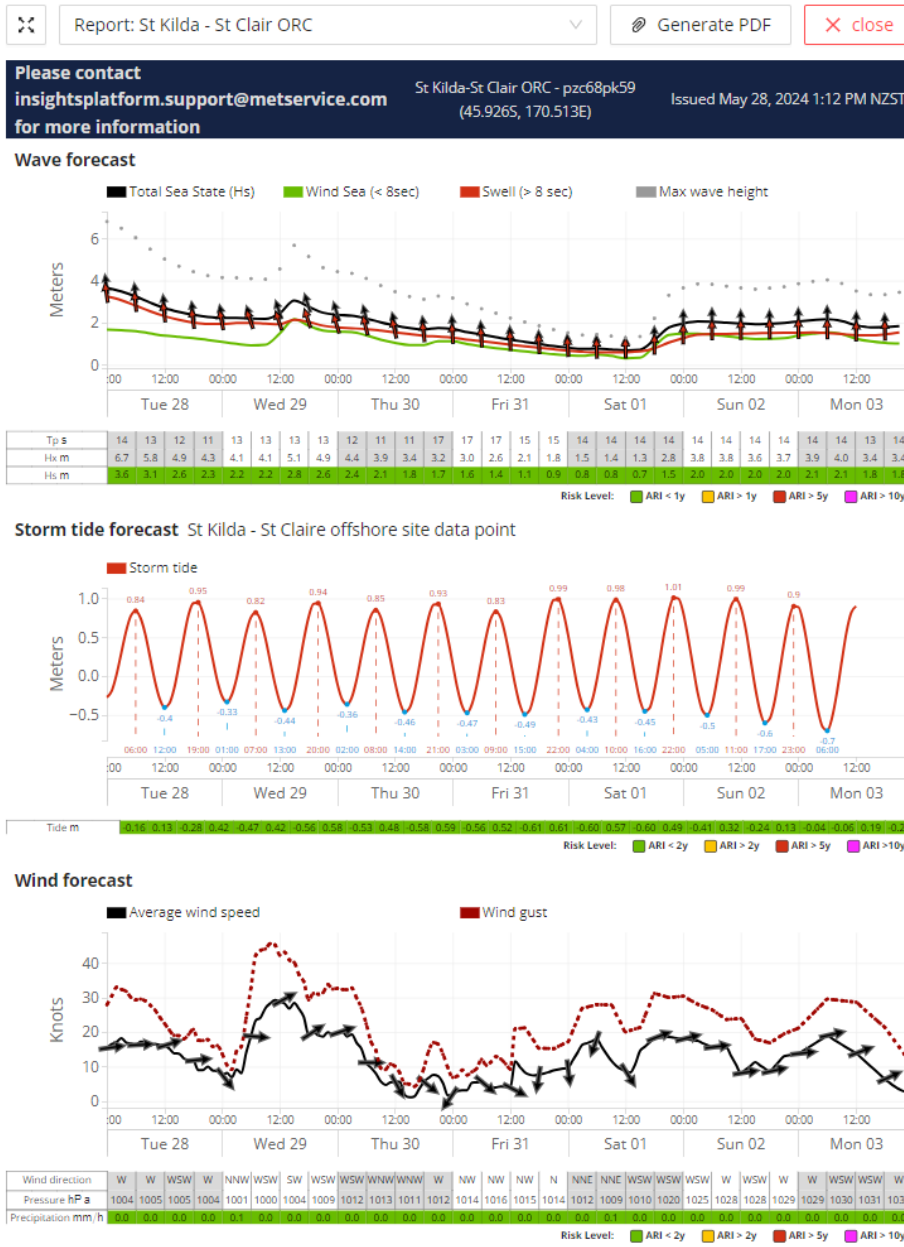


Figure 4: Example of Otago coastal forecast information accessible on MetService online portal.

### **Liquefaction hazard assessment**

- [32] ORC have engaged a Tonkin + Taylor Ltd to undertake a high-level liquefaction hazard assessment for the wider Clutha Delta area, including Balclutha township.
- [33] The project findings will be used to inform the local community, ORC, and other project partners/stakeholders of the potential risks posed by these hazards.
- [34] Liquefaction and lateral spreading may impact townships, businesses, critical facilities, and infrastructure in the Lower Clutha area. These impacts could affect the flood protection and drainage scheme, leading to increased flooding hazards and drainage issues. The study aims to enhance understanding of the potential liquefaction hazard beyond publicly available regional-scale information,<sup>6</sup> such as hazard mapping by GNS Science and the CDC.
- [35] The proposed investigation scope includes;
1. Collection of additional geotechnical data within the Clutha Delta area,
  2. Geotechnical analysis including liquefaction vulnerability categorisation mapping and estimation of key liquefaction hazard descriptors<sup>7</sup>, and
  3. Qualitative risk assessment for seismic hazards in the Clutha Delta area, including fault rupture, seismic shaking and liquefaction/lateral spreading.
- [36] The first phase of the investigation is expected to be completed by November 2024, and will be made publicly available, and opportunities given for discussion of findings with community, partners/stakeholders and councillors. The risk assessment phase will then commence.

### **Clutha River bed level trends analysis**

- [37] ORC regularly monitors riverbed profiles for the entire Lower Clutha River (Roxburgh to the coast), especially within the area of the Lower Clutha Flood Protection and Land Drainage Scheme (from Barnego downstream).
- [38] ORC is aware of concerns from community members that bed levels may be building up, particularly in the Balclutha township area, and the potential impact on flood hazard.
- [39] Since 2008, ORC has regularly analysed and reported on the monitoring datasets to assess and quantify changes in riverbed levels and morphology. The last assessment was completed in 2020.
- [40] ORC is scoping for an updated assessment that will compare and analyse all known survey data for the Clutha River in the vicinity of Balclutha, aiming to be a comprehensive review of bed level trends and potential effects on water levels. Historical bed level information will also be considered, including ORC's long-term dataset of surveyed cross sections at Balclutha, and bridge surveys dating from the late

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<sup>6</sup> ORC Natural Hazards Portal: <http://hazards.orc.govt.nz>

<sup>7</sup> e.g. Estimation of Liquefaction Severity Number (LSN), liquefaction triggering thresholds, cumulative thickness of liquifiable material, magnitude of shaking-induced reconsolidation settlement, and the expected lateral displacement at the ground surface due to lateral spreading and/or lateral stretch.

1800's<sup>8</sup>. The locations of the cross-section locations in the Balclutha area are shown in Figure 5 below.

- [41] ORC's most recent survey of the cross-section profiles at Balclutha was completed in June 2024, including the collection of bathymetric LiDAR, and processing of the new data is underway. Bathymetric LiDAR was acquired for the same area and at approximately the same time as the cross-section survey.
- [42] Bathymetric LiDAR is a new survey method and the purpose for its inclusion was two-fold:
1. Bathymetric LiDAR provides bed elevation data that is high-resolution and continuous (compared to cross-section surveys that are generally spaced hundreds of metres apart), allowing for a spatially comprehensive analysis of morphological changes. This first survey provides the baseline data.
  2. Allowing us to test and assess the new method and its outputs with a view to its suitability for wider application (such as input data for the hydraulic modelling required in the flood hazard assessment).



**Figure 5: Overview of the Clutha River/Mata-Au at Balclutha, showing the location of ORC cross section surveys.**

### COMMUNITY ENGAGEMENT PLANNING

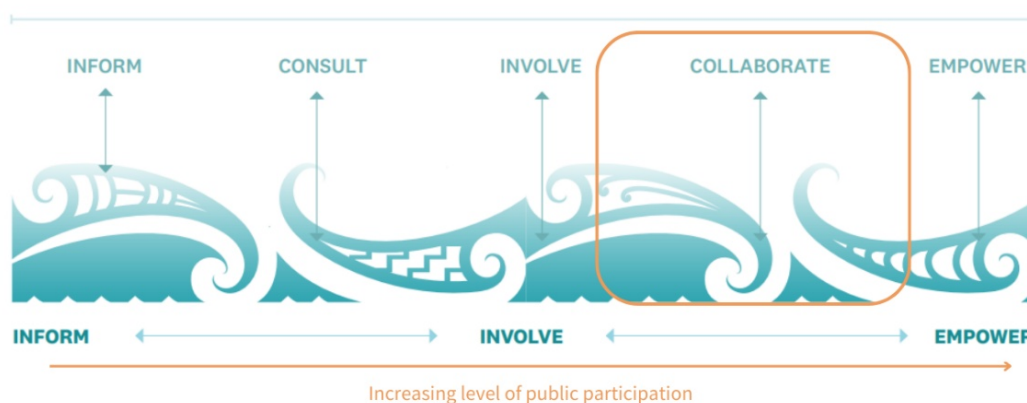
- [43] The development of an engagement plan is in progress. Engagement planning is piloting resources from Council's in-development community engagement approach, as presented to Council<sup>9</sup>.

<sup>8</sup> ORC, 2008. Channel morphology and sedimentation in the Lower Clutha River.

<sup>9</sup> Report GOV2402, 26 July 2024. <https://www.orc.govt.nz/media/nvjhft0/council-agenda-20240626.pdf>

[44] Updates to the Safety and Resilience Committee in February and May 2024 noted engagement planning has progressed from an initial discovery phase to an early development phase.

[45] As an outcome of the discovery phase, ‘collaborate’ was recommended as the level of engagement for the work programme (see spectrum of participation in Figure 6). This is because adapting to natural hazards and a changing climate at the Clutha Delta is a highly complex issue, which will require the integration of local knowledge, science and mātauraka Māori to develop solutions. It is anticipated that this programme is of high interest and significance to affected communities, stakeholders and Council and the purpose of engagement will be to come up innovative solutions and gain community support for the programme, decisions made and implementing successful long-term adaptation actions.



**Figure 6: Public Participation Spectrum, adapted from He Mahi Rau Rika: Significance, Engagement and Māori Participation Policy.**

[46] Whakawhanaukataka, or the process of relationship building, is key to support further development and design of an engagement plan. This will help to understand stakeholder and community interest, expectations and capacity to engage with the work programme.

[47] The creation of an MOU with CDC will ensure a coordinated and aligned approach to partnership with iwi and community engagement. Relationship building with mana whenua and additional kaitiaki is noted in paragraph 19. Relationship building will then extend to key stakeholders and affected communities.

[48] Engagement planning is an iterative process and planning will be regularly revisited as the programme moves forward into a new stage, or if there are any notable changes.

## CONSIDERATIONS

### Strategic Framework and Policy Considerations

[49] The information presented in this paper reflects Council’s Strategic Directions, *“Otago builds resilience in a way that contributes to the wellbeing of our communities and*



*environment through planned and well-managed responses to shocks and stresses, including natural hazards”.*<sup>10</sup>

[50] The proposed Otago Regional Policy Statement June 2021<sup>15</sup>, notified in late March 2024, states that ORC and territorial authorities are both responsible for specifying objectives, policies and methods in regional and district plans for managing land subject to natural hazard risk. ORC specifically is responsible for “identifying areas in the region subject to hazards and describing their characteristics as required by Policy HAZ–NH–P1, mapping the extent of those areas in the relevant regional plan(s) and including those maps on a natural hazard register or database.”<sup>11</sup>

[51] The ORC Infrastructure Strategy 2024-2054 was adopted in June 2024, together with 2024-2034 Long-Term Plan adoption.<sup>12</sup> Diagram 3 of the Infrastructure Strategy outlines the timeline of proposed management activities for the Lower Clutha Flood Protection and Drainage Scheme over the coming three decades. The natural hazards adaptation work programme will complement and help guide these activities.

#### **Financial Considerations**

[52] The forward work programme is included in the 2024-34 Long-Term Plan budget, which provides funding towards delivery, implementation and monitoring of the Clutha Delta natural hazards adaptation strategy. The total proposed budget for the 2024/25 and 2025/26 financial year is \$600,000.

#### **Significance and Engagement Considerations**

[53] Engagement planning considers and is designed to be consistent with organisational commitments made through He Mahi Rau Rika: ORC Significance, Engagement and Māori Participation Policy. The engagement approach is outlined in this report.

#### **Legislative and Risk Considerations**

[54] The work described in this paper helps ORC fulfil its responsibilities under sections 30 and 35 of the RMA and the Soil Conservation and Rivers Control Act 1941.

[55] Engagement planning will include a risk management plan for engagement related activities throughout the delivery of the programme.

#### **Climate Change Considerations**

[56] Climate change and sea level rise are key factors influencing natural hazards in the Clutha Delta area. These factors will be considered in natural hazard and risk assessments, particularly for flooding and coastal hazards.

[57] CDC recently consulted on its Draft Clutha District Climate Change Strategy<sup>13</sup> (as part of CDC LTP consultation). The CDC strategy identifies ORC as a key partner for some actions items and includes references to the Clutha Delta adaptation programme. The upcoming climate change strategies for ORC will also reference the programme.

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<sup>10</sup> ORC Draft Strategic Directions: <https://consult-orc.objective.com/kseapi/public/keyplan/events/800B1ECE-7245-4C6B-A6DA-49709F913F94/supportingfiles/876/content>

<sup>11</sup> ORC Natural Hazards Portal: <http://hazards.orc.govt.nz>

<sup>12</sup> ORC Long-Term Plan (LTP) 2024-2034: <https://www.orc.govt.nz/your-council/plans-and-strategies/long-term-plan-ltp/long-term-plan-ltp-2024-2034/>

<sup>13</sup> [https://connect.cluthadc.govt.nz/download\\_file/23/480](https://connect.cluthadc.govt.nz/download_file/23/480)

**Communications Considerations**

- [58] The programme team are continuing to work with the Communications team to ensure communications and engagement planning are integrated, complementary and build off each other.

**NEXT STEPS**

- [59] The three current natural hazards investigations (Koau Mouth and Puerua investigations, flood hazard assessment and liquefaction hazard assessment) are scheduled to be completed by December 2024. Following this a natural hazard risk assessment will be required. It is expected this assessment would include detailed assessments of the main natural hazard risks in the delta area, and include consideration of the changing future risk profile, and of residual risks for the scheme areas.
- [60] Next steps for engagement focus on building relationships with partners, stakeholders and communities. This will help guide the co-development of engagement planning. The development of an engagement plan is underway.
- [61] Progress to develop strategic and operational objectives of the programme and an integrated work programme across Council and with partners is ongoing, and will be included in the next update to committee.

**ATTACHMENTS**

Nil

### 9.3. CDEM Partnership Report 2023 - 2024

**Prepared for:** Safety and Resilience Committee  
**Report No.** OPS2430  
**Activity:** Governance Report  
**Author:** Tom Dyer, General Manager Science and Resilience  
**Endorsed by:** Tom Dyer, General Manager Science and Resilience  
**Date:** 7 August 2024

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#### PURPOSE

- [1] To report on ORC's delivery of its responsibilities under the Otago Civil Defence and Emergency Management Agreement, for the second half of 2023/24.

#### EXECUTIVE SUMMARY

- [2] ORC and the five Otago territorial authorities have responsibilities under the Civil Defence and Emergency Management Act 2002 within the Otago Civil Defence and Emergency Management Group area. Those responsibilities are delivered through Emergency Management Otago with support from each local authority, including ORC. The responsibilities of ORC and four of the five territorial authorities are recorded in the Otago Civil Defence and Emergency Management Agreement (June 2022). ORC's achievement in relation to its functions and responsibilities specified in the Agreement, for the second six months of 2023/24, is summarised as follows:

49 – Achieved  
5 – Partially Achieved  
1 – Not Achieved  
4 – Not Applicable.

#### RECOMMENDATION

*That the Safety and Resilience Comm:*  
1) **Notes this report.**

#### BACKGROUND

- [3] ORC and the five Otago territorial authorities have responsibilities under the Civil Defence and Emergency Management Act 2002 within the Otago Civil Defence and Emergency Management Group area. The Group area includes the whole of Waitaki District.
- [4] Whilst the Act prescribes governance and oversight arrangements for the Civil Defence and Emergency Management (CDEM) functions undertaken by local authorities, it is silent on the operational arrangements and how they should be structured. This gives the Groups discretion on how they choose to deliver the responsibilities and the associated delivery structure. For the Otago CDEM Group those responsibilities are delivered through Emergency Management Otago with support from each local authority, including ORC (Figure 1). The responsibilities of ORC and four of the five

territorial authorities are recorded in the Otago Civil Defence and Emergency Management Agreement (June 2022)<sup>1</sup>.

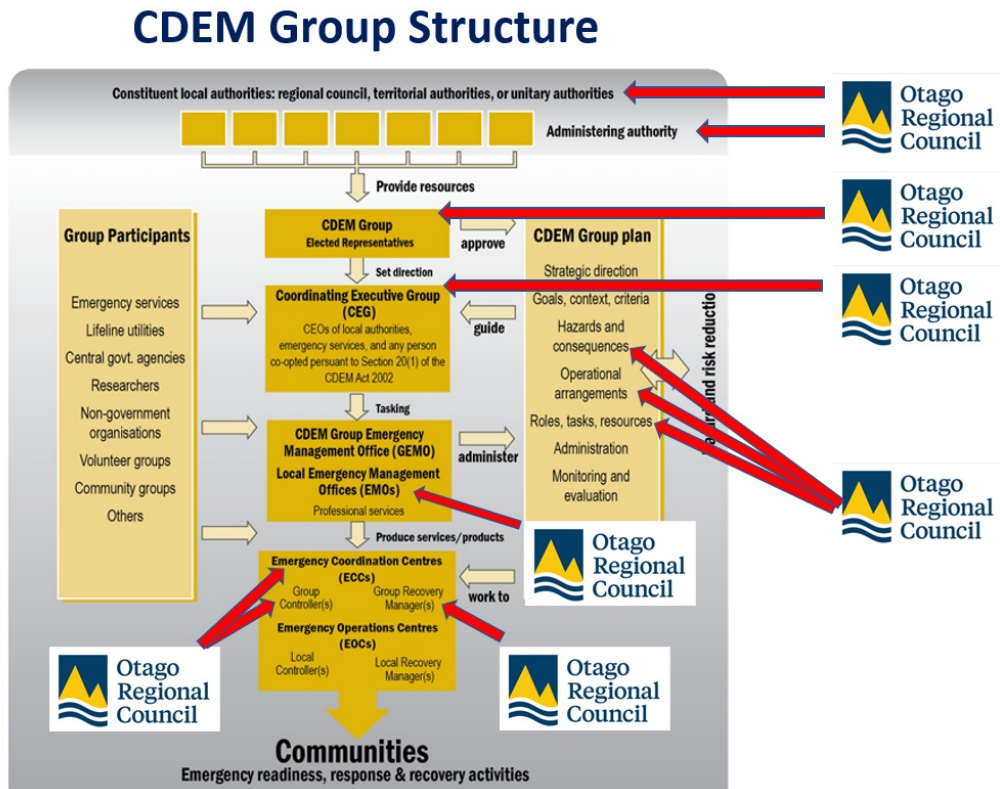


Figure 1: ORC’s participation in the Otago CDEM Group.

- [5] This report describes ORC’s achievements in relation to each of its responsibilities set out in the Agreement. It also provides detail and context for reporting against the 2023/24 Annual Plan measures and targets. Those measures and targets are presented in Figure 2, for reference.

<sup>1</sup> *Emergency Management Otago Partnership Agreement*, Report OPS2104, Report to 25 May 2022 Council.

### Level of Service Statements, Measures and Targets

The service statements (LoS), measures and targets for this activity are defined in the table(s) below.

<b>Level of Service:</b> Support the Otago CDEM Group in improving the resilience of Otago to civil defence emergencies.	
<b>Performance measure</b>	<b>Target</b>
Support is provided to the Otago CDEM Group as per the CDEM Act and Otago CDEM Partnership Agreement.	Fulfil all requirements as the administering authority

<b>Level of Service:</b> Provide resources to coordinate an efficient and effective region-wide response to a civil defence emergency.	
<b>Performance measures</b>	<b>Targets</b>
An adequate Emergency Coordination Centre (ECC) facility and staffing are available.	Adequate staff who are trained and available for any activation of the ECC
	An appropriate facility is available for activation at all times
Maintain response functionality to enable operational situational awareness when ECC activated.	Response solutions are checked as scheduled and any issues remedied

**Figure 2: ORC Annual Plan 2023/24 targets for civil defence and emergency management.**

### DISCUSSION

[6] The functions and responsibilities of ORC under the Agreement are listed in Attachment 1. Achievement against each of those responsibilities for the second half of 2023/24 is noted, with commentary. This is summarised as follows:

- 47 – Achieved
- 5 – Partially Achieved
- 1 – Not Achieved
- 4 – Not Applicable.

[7] There were no Group declarations in Otago in the second half of 2023/24.

[8] ORC staff have been providing technical support to Emergency Management Otago for risk assessment and response planning for the Phoenix Dam near Lawrence. Emergency Management Otago established a D4H<sup>2</sup> channel specifically to facilitate information sharing between stakeholders in monitoring the dam, including developing a dam inspection reporting module to replace a paper-based reporting system.

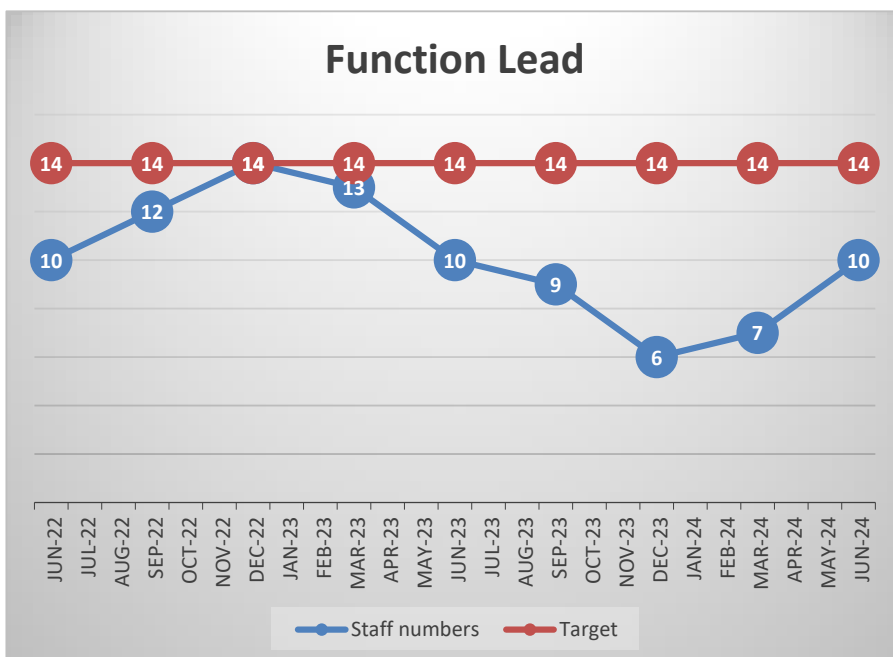
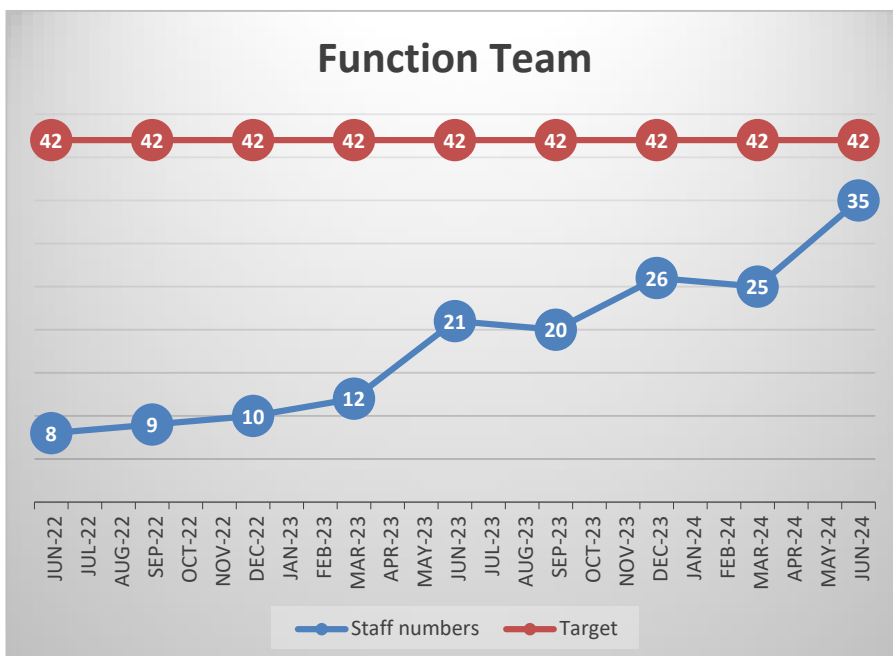
[9] An effective CDEM response is critically dependent on staff capability and capacity. EMO has a core complement of professionally trained staff with a wider pool of trained staff available from ORC. ECC staff capability throughout 2022/23 and 2023/24 is shown in Figure 3 (available, trained staff) along with target levels recommended by Emergency Management Otago and approved by the Coordinating Executive Group (CEG)<sup>3</sup>. There is

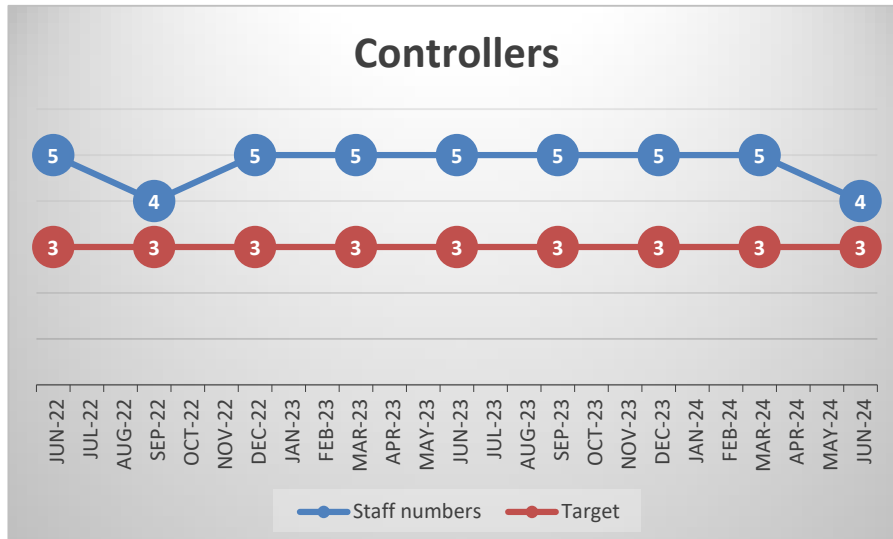
<sup>2</sup> D4H is the proprietary system used by Emergency Management Otago and its partners to maintain a common operating picture, to manage workflows and to provide ready-access to Standard Operating Procedures.

<sup>3</sup> A Function Lead leads one of the following functions as defined in the Coordinated Incident Management System (CIMS) model: Intelligence, Logistics, Operations, Planning, Public Information Management (PIM), Safety, Welfare.

a shortfall of 11 trained staff across the three role-types (Function Team, Function Lead, Controller). This is down from 22 for the first half of 2023/24.

- [10] A larger number of ORC staff are potentially available to support ECC operations but not all are trained to the minimum standard. The Function Team staff numbers are the combined totals across all seven Coordinated Incident Management System (CIMS) functions. As a generalisation, ORC staff that are directly involved in responding to flood events (principally from the Engineering, Environmental Monitoring and Natural Hazards teams) are not part of the ECC and are not counted in Figure 3.





**Figure 3: ECC staff capacity and capability (trained staff) during 2022/2023 and the first six months of 2024.**

- [11] Steps taken to attain and maintain the target levels for staff trained to (or better than) the minimum standard include:
  - a. Pro-active recruitment within ORC of staff for the ECC.
  - b. Monthly reporting of ECC staffing levels to the Executive Leadership Team so that levels are actively monitored and managed by ELT.
  - c. Setting the expectation that ECC responsibilities will be incorporated into performance plans, for staff that fulfil ECC roles.
  - d. Regular (quarterly) training opportunities for staff that fulfil Function and Function Lead roles, to provide flexibility and allow training to be fitted around other work.
  - e. Clarity around the budgeting for staff training and exercises, and (from 1 July 2024) centralisation of the budget.
  
- [12] Despite these steps, and the relatively low demand on ORC (less than 20% of total ORC staff), it continues to be difficult to maintain the target levels for staff trained to the minimum standard. There will be increased focus over 2024/25 to place staff on the training courses that are provided.

**CONSIDERATIONS**

**Strategic Framework and Policy Considerations**

- [13] The partnership is aligned with Council’s Strategic Directions where the vision states: *communities that are resilient in the face of natural hazards, climate change and other risks.*

**Financial Considerations**

- [14] Financial reporting is part of the Annual Report for 2023/24, and quarterly reporting throughout the year.

**Significance and Engagement Considerations**

- [15] Not relevant.

**Legislative and Risk Considerations**

[16] There is no legislative requirement for ORC and the rest of the Otago CDEM Group to have a written agreement however an agreement is good practice and reduces risk for all parties by ensuring respective responsibilities are clear.

[17] As noted in the report, it continues to be difficult to maintain the target levels for ORC staff trained to the minimum standard for the ECC.

**Climate Change Considerations**

[18] Robust and effective CDEM arrangements assist ORC in delivering its climate change adaptation programme of work.

**Communications Considerations**

[19] Not relevant.

**NEXT STEPS**

[20] To provide an update to the Safety and Resilience Committee in early 2025 on progress with achievement of the Partnership Agreement responsibilities, for the first six months of 2024/25.





**ATTACHMENTS**

1. Otago Civil Defence Emergency Management Agreement 2022 table [9.3.1 - 11 pages]










**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**

-  Achieved
-  Partially Achieved
-  Not Achieved
-  Not Applicable

Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
<p><b>Business Continuity Management</b> Disruptions are an expected part of business, so it's important to be prepared for when they occur. Disruptions can be internal events that impact on organisation alone (e.g: IT system failure), or external events that could impact across several organisations and locations (e.g., earthquake).</p>	<p>Undertake business continuity planning for Otago Regional Council to be capable of delivering essential services and a functioning Group Emergency Coordination Centre (GECC) during a crisis/ emergency event and through the recovery.</p>			<p>Arrangements for the ORC flood team to operate remotely were established and tested during the 2020 pandemic lockdown. ORC does not have a Business Continuity Plan. A Business Continuity Plan is being scoped.</p>
<p><b>Capability Development, Training and Exercises</b> Training and exercising progressively enhances individuals, local authorities and the Otago CDEM Group's capability to prepare for and manage emergencies and resources, using lessons learnt. The CDEM Group and each member of the Group are to take all steps necessary on an ongoing basis to maintain and provide, or to arrange the provision of, or to otherwise make available suitably trained and</p>	<p>Agree sufficient access to all ORC staff identified in CDEM roles with supervisors to ensure they're available for, attend and complete all competencies associated with training and exercises in accordance with the agreed training schedule.</p>			<p>The target number of staff for Function Leads and Function Teams have not been available.</p>



**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**

Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
competent personnel, including volunteers, and an appropriate organisational structure for those personnel, for effective civil defence emergency management.				
<b>Community Resilience and Partnership</b> Community resilience in the Civil Defence and Emergency Management context, can best be described as the community's ability to cope with, bounce back and learn from adversity encountered during and after disasters. There are activities to support in building community resilience. These activities are community engagement, community planning, public education, monitoring and evaluation to measure community resilience. The integration and inclusion of iwi in community resilience activities cements the Otago CDEM principles of Māori partnership.	Support Emergency Management Otago (EMO) and local level Community Resilience activities by commitment of staff resources and technical information to assist in local Community Resilience activities (hazard specific) as required.			
	Ensure whole-of-council approach to Regional Council Community Resilience activities.			
<b>Equipment</b> Includes all equipment to support readiness, response and recovery activities.	Fit out and provide associated Information Technology (IT) equipment and infrastructure for EMO staff and GECC facilities (and alternate sites).			

**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**

Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
	Implement minimum equipment standards required for GECC in line with CDEM Group policy.	●	●	
	Own equipment and associated infrastructure, to cover costs to maintain it to an operational standard and to manage and conduct maintenance programme.	●	●	
	Provide EMO with furniture and equipment for staff located at Otago Regional Council offices.	●	●	
	Undertake fleet management of all Emergency Management Otago vehicles.	●	●	
	Procure any priority equipment required by the activated GECC to ensure effective operational capability of the GECC.	●	●	No priority equipment was required.
<b>Facilities</b> Includes any facility to support readiness, response and recovery activities.	Provide and maintain GECC facilities (and alternate facilities) for operational response.	●	●	The Philip Laing House Council Chamber has been tested as an alternative ECC during an exercise and shown to have limited functionality. The specifications developed for the ECC in the new Head Office will be used to identify suitable alternative ECC Facilities.
	Provide EMO with fit for purpose office space.	●	●	

**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**

Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
	Support the activation of the GECC facility if required for response if requested by the Group Controller.	●	●	
<b>Financial Management</b> The CDEM Group is to ensure allocation of financial budget to ensure effective delivery of the of CDEM services as outlined in the Group Plan.	Provide financial management and accounting services for CDEM Group budget.	●	●	
	Manage, administer and submit reporting to the CDEM Group of Regional Council budgets for regional CDEM delivery.	●	●	
	Provide staff time and travel and accommodation costs associated with attendance at training and exercises.	●	●	
<b>Governance and Management</b>	<b>Joint Committee</b>			
	Active participation through appointed designates.	●	●	
	As Administrating Authority provide governance and secretarial support to the Joint Committee.	●	●	
	Provide reports and recommendations on Regional Council matters to the Joint Committee.	●	●	A report to the Joint Committee on Otago weather radar is in preparation.
	Provide reports, decisions and recommendations back to Regional Council on CDEM Group matters	●	●	













**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**

Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
	<b>Coordinating Executive Group (CEG)</b>			
	Active participation through appointed designates and provide support as agreed to lead delivery of the regional CDEM work programme.	●	●	
	Develop and implement specific Regional Council Annual Plan tasking in a Regional Council CDEM work programme with alignment to CDEM Group Annual Plan.	●	●	
	<b>CEG Operations Sub-committee</b>			
	Active participation through appointed designates and support the CEG Sub-committees.	●	●	
	Ensure the alignment of CDEM Group Annual Plan and Regional CDEM work programmes.	●	●	
<b>Hazard and Risk Management</b> In relation to relevant hazards and risks: identify, assess, and manage those hazards and risks; consult and communicate about risks; identify and implement cost-effective risk reduction. Identification of the hazards and risks in a Group area that may result in an emergency that requires national-level support and co-ordination.	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 Otago CDEM Group Plan.	●	●	













**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**

Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
	Fund and manage hazard investigation within the appropriate area of responsibility as mandated through the Regional Policy Statement in alignment with the hazardscape detailed in the Otago CDEM Group Plan			
	Support effective planning for response through collaboration on hazard risk management for hazards with cross regional and national impacts.			
<b>Lifeline Utilities</b> Lifeline's failures can disrupt and endanger the wellbeing of local and regional communities. Effective relationships, priority of response protocols and lead agency role definition can reduce the risk such failures may pose. Lifeline utility means an entity named or described in the CDEM Act 2002 in Part A of Schedule 1, or that carries on a business described in the CDEM Act, Part B of Schedule 1.	Lead hazard risk assessment and planning for hazard risk reduction and response activities on key Regional Council services and infrastructure.			
	Support lifelines projects and activities.			No support was requested as the lifelines project utilised existing information. The ORC Natural Hazards team retains the capability and capacity to assist as required.
<b>Planning</b> Fundamental to any successful undertaking is attention to planning and preparation. Whilst we pay attention to the plans that are produced, the process of planning is	<b>Otago CDEM Group Plan</b>			
	Support, the development, implementation, maintenance, monitoring and evaluation of the Otago CDEM Group Plan.			



**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**

Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
<p>important to ensure that the plans developed meet the needs of the people affected.</p> <p>CDEM Groups and agencies are expected to routinely incorporate CDEM arrangements into their business planning and risk management processes, and to regularly monitor and report on their progress as appropriate. This is an important role to play in making progress towards the vision of a 'Resilient New Zealand'.</p>	Ensure alignment between the Otago CDEM Group Plan and Regional Council Long Term Plans.			
	<b>Pre-event response action planning</b>			
	Support development, implementation, maintenance of CDEM response planning for Regional Council.			
	<b>Standard Operating Procedures</b>			
	Support the development, implementation, maintenance of CDEM Standard Operating Procedures as required			
	<b>Recovery planning</b>			
	Support the development, implementation, maintenance of Regional Council Recovery Plan for key council infrastructure and assets.			There is no Regional Council Recovery Plan. Event-specific recovery plans have been prepared for damage to flood protection infrastructure and assets as required. A Plan will be prepared based on learnings from the North Island weather events.
<b>Financial planning</b>				
Support the development, implementation, maintenance of CDEM Group policy on the management of response and management of response and recovery claims.				



**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**

Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
<b>Public Information Management</b> Public information management (PIM) enables people affected by an emergency to understand what is happening and take the appropriate actions to protect themselves. This is achieved by making sure that timely, accurate, and clear information is shared with the public in an emergency. Strategic communications is a core component of Public Information Management activities.	<b>Public Information Management staff</b>			
	Alternate Group Public Information Managers provided by Regional Council.	●	●	
	Provide staff to support a 24/7 duty Group PIM function.	●	●	
	Provide communications/ media staff to receive training and support the Group and local PIM functions, including strategic communications	●	●	
	<b>Public Information Management planning</b>			
	Support all CDEM Communications and Social Media activities at the Group and local level as required.	●	●	
	Support consistent CDEM messaging across all Regional Council social media platforms and websites.	●	●	
	Provide communications/ media staff to support the Group and Local PIM function during response and recovery if required.	●	●	
<b>Reporting, Monitoring and Evaluation</b> All members of the CDEM Group must provide reports that may be required by the Group. Monitoring and evaluation provide a method for learning from experience,	<b>Reporting</b> Ensure Elected Officials and Leadership Team are informed of Joint Committee and CEG resolutions, directions and decisions.	●	●	Information is made available to Elected Officials via ORC’s website and, as required, through Chairperson’s reports to Council. CDEM matters are included in ELT Management reports as appropriate.

















**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**







Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
analysing capability, planning and allocating resources, and demonstrating results as part of accountability to stakeholders.	Provide reporting to Joint Committee, CEG and CEG Sub-Committee on specific Regional Council Annual Plan tasks related to CDEM.	●	●	
	<b>Monitoring and Evaluation</b>			
	Support, contribute and implement a lessons learned/ knowledge management process for CDEM Group.	●	●	
	Support Monitoring and Evaluation process for CDEM Group.	●	●	
<b>Staff</b> All staff with CDEM responsibilities including CDEM career staff, CDEM appointed staff, Regional Council and Territorial Authority staff fulfilling CIMS functions as part of an Emergency Coordination Centre (ECC) or Emergency Operations Centre (EOC) and any CDEM volunteers providing support to any CDEM function.  The CDEM Group and each member of the Group are to take all steps necessary on an ongoing basis to maintain and provide, or to arrange the provision of, or to otherwise make available suitably trained and	<b>CEG Operations Sub-committee</b>			
	Appoint a Senior Manager as CDEM designate to represent Regional Council.	●	●	
	<b>CDEM career staff</b>			
	The Otago Regional Council is the employer of CDEM career staff (EMO) to deliver CDEM outlined in the CDEM Group Plan and this Agreement.	●	●	
	<b>24/7 Duty staff</b>			
	Provide staff to support a 24/7 duty Group Controller capability.	●	●	
	<b>Staff for CIMS functions</b>			
	Group Emergency Coordination Centre Incident Management Team and alternates provided by Regional Council.	●	●	

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Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
competent personnel, including volunteers; and an appropriate organisational structure for those personnel, for effective civil defence emergency management.	Provide staff to Coordinated Incident Management System (CIMS) functions within the GECC.			Staff are provided to these functions but target levels have not been met for Function Leads and Function Teams.
	Consult with EMO on appointments of staff to Coordinated Incident Management System (CIMS) functions for the GECC.			
	Ensure all CDEM GECC staff have respective CDEM role included in Job Description, KPI in annual performance plan, required training and exercising in annual professional development plan and be allocated the time for active participation.			Further work is required to include KPIs in performance plans.
	<b>Activation in response/ recovery</b>			
	Ensure availability and prioritisation of staff to conduct GECC operations and deliver 24/7 response.			
	Support the provision and deployments of surge regional council CDEM staffing to support Group and Local level response and recovery within the Otago or across New Zealand.			No deployment of ORC staff (in addition to EMO staff) was required.
<b>Warning Systems</b> When there is an imminent threat to life, health or property from	Ensure an effective flood event monitoring and information system.			



**Attachment 1 - Otago Civil Defence and Emergency Management Agreement June 2022**

Function	ORC Responsibility	Achievement 2023/24	Achievement 2022/23	Explanation
hazard events the issue of official warnings is the responsibility of CDEM agencies.	Promote the flood warning system to partners, emergency services and communities.			
	Support the dissemination of warnings from the CDEM Group to communities.			
<p><b>Welfare Management</b>                      Management of welfare across all welfare services and clusters:                      Registration, Needs Assessment, Inquiry, care and protection services for children and young people, Psychosocial support, Household goods and services, Shelter and accommodation, Financial Assistance and Animal welfare.</p> <p>The objective of the welfare services function is to carry out activities across the 4Rs to provide for the needs of people affected by an emergency and to minimise the consequences of the emergency for individuals, families and whanau, and communities.</p>	Support Group (GECC) and local (EOC) welfare activities in response.			No support was required during Group or local responses.

