

Tasman Resource Management Plan

Issues and Options Report

Natural Hazards

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TERMS & ACRONYMS

Council	Tasman District Council
EPA	Environmental Protection Authority
FENZ	Fire & Emergency New Zealand
IPCC	Intergovernmental Panel on Climate Change
LTP	Tasman District Council's Long-Term Plan
MfE	Ministry for the Environment
NES	National Environmental Standard
NRMP PC29	Nelson Resource Management Plan's Plan Change 29
NPS	National Policy Statement
RMA	Resource Management Act, 1991
RPS	Tasman Regional Policy Statement
s32	Section 32 of the RMA
s35 report	Efficiency and effectiveness evaluation, as set out in Section 35 of the RMA
SPG	Separation Point Granite
TRMP	Tasman Resource Management Plan

1. Executive Summary

The Tasman District Council (Council) is progressing a natural hazards plan change as part of a suite of plan changes to update the Tasman Resource Management Plan (TRMP). These plan changes are in place of an overall review of the TRMP, which is currently awaiting direction from Central Government on Resource Management Act (RMA) reform. As part of the plan change preparation an issues and option report on natural hazards has been commissioned.

The natural hazards to be covered in this Issues and Options report include:

- Liquefaction
- Fault rupture
- Slope instability and debris run-out
- Coastal hazards
- Flooding and overland flow paths
- Wildfire.

Not included in this report is tsunami, drought and wind hazards. Other areas outside the scope of this report are community coastal adaptation planning; and climate change where it does not specifically relate to natural hazards. It is further noted that community engagement does not form part of the scope of works for this report.

A National Policy Instrument for natural hazards is being prepared by Central Government and information on its likely contents is scheduled to become available early 2025. While this requires a wait and see approach at present, it is likely that the national instrument for natural hazards will be available in time to inform the natural hazards plan change.

The following table summarises the issues and options considered in this report for each of the natural hazards.

A workshop was held with Tasman District councillors on 08 October 2024. The feedback and direction received from the councillors was supportive of the recommended preferred options for each of the natural hazards discussed in this report. The preferred options are shaded green in the table below.

Summary Table

 Denotes preferred option

Hazard	Issue	Outcome	Status Quo (Option 1)	Option 2	Option 3	Option 4
Liquefaction	Liquefaction has the potential to adversely affect the environment during and following an earthquake. This can include damage to buildings, structures and infrastructure and disruption to the community. In rare cases liquefaction can also present a risk to life.	The risk to people and property from liquefaction are avoided or mitigated.	- Geological assessment of building locations as part of subdivision process and/or building consent process. - Use 'liquefaction damage is possible maps' to identify areas for assessment (building consent process).	- Liquefaction overlay. - Policies and methods that provide specific guidance and controls for subdivision, activities, land use and development in the liquefaction overlay.	- Undertake Level B assessment for parts of the area identified as 'liquefaction damage is possible' where there is existing or proposed development. - Liquefaction overlay. - Policies and methods that provide specific guidance and controls for subdivision, activities, land use and development in the liquefaction overlay.	
Fault rupture	There are a number of known fault lines in the District. Fault rupture during an earthquake has the potential to adversely affect the environment,	The risk to people and property from fault rupture are avoided or mitigated.	- Fault rupture risk area overlay. - Policy and rule framework requires setbacks and geotechnical assessments.	- Amend status quo approach to FRRA to include additional faults. - No other changes to policy or rule framework.	- Update the FRRA overlay to include additional faults. - Review and update the existing provisions including specific policy direction for managing risk from fault rupture, and to address the potential vires issue. - Consider whether an awareness zone/overlay and	

Hazard	Issue	Outcome	Status Quo (Option 1)	Option 2	Option 3	Option 4
	including damage to buildings and infrastructure, and loss of life.				associated provisions should be included in the TRMP for faults that are known to exist and are 'capable' of rupturing but that do not have any surface presence (a hybrid approach) – Pikikiruna and Ruby Bay – Moutere Faults.	
Slope instability and debris run-out	Slope instability and debris run-out hazard occurs in some of the District's steep topography. If new activities are not managed appropriately, structures (including buildings, infrastructure) on and below susceptible slopes are put at further risk increasing the potential for damage to property and risk to life.	Slope instability and associated debris run-out hazard is identified in susceptibility areas of the district and the risks to people and property associated with these hazards, are avoided or mitigated.	- Slope instability risk area overlay for: - Richmond foothills - Clifton/Pohara/Ligar Bay - Collingwood - Ruby Bay sea cliffs. - General natural hazard policies. - Rule framework requires geotechnical assessment in overlay area.	- Slope instability risk area overlay to include a revised SIRA area. - Include specific policy framework for SISA and debris run-out areas. - Could revise and strengthen rule framework to remove ultra vires permitted activity rules.	- Slope instability risk area overlay to include a revised SIRA area. - Include specific policy framework for Slope Instability Susceptibility Area. - Possible inclusion of all of the Separation Point Granite geology in the SISA	- Slope instability risk area overlay to include a revised SIRA area. - Possible further mapping of Separation Point Granite geology. - Extension of SIRA to have elevated susceptibility areas. - Policy and rule framework to support differing levels of susceptibility.

Hazard	Issue	Outcome	Status Quo (Option 1)	Option 2	Option 3	Option 4
Coastal hazards	The District comprises large low-lying settled coastal areas that are susceptible to coastal erosion and inundation hazards. These hazards will only increase overtime as a result of climate change and sea-level rise, putting more people and property and the environment at risk. A sub issue has also been identified for this topic: Sub issue: Coastal protection works to mitigate coastal inundation and erosion are costly to maintain, often create residual risk (and	The risks to people, property and the environment associated with coastal inundation and coastal erosion hazards, including the effects of climate change and sea level rise, are avoided or mitigated in low-lying coastal areas of the District.	- Policy framework that: - seeks to avoid the disturbance/aggravation of natural coastal processes - seeks limitation of subdivision, use or development in areas at risk of coastal hazards including avoiding construction of new habitable buildings in specific areas (Māpua/Ruby Bay- PC22 Coastal Risk Area) - requires consideration of the need for coastal protection works, and to generally avoid protection structures where practicable. - Rules in respect to habitable buildings and coastal protection structures in the Coastal Risk Area. - Setback rules in the Coastal Environment Area.	- Extending PC22 framework to other low-lying at-risk coastal areas. - General review of provisions to give effect to NZCPS and address overlaps. - Review of provisions to address coastal protection work gaps.	- Review, consolidate, update and revise coastal hazard provisions. - Update of the TRMP mapping based on the most recent technical information, with maps included as overlays in the plan. - Develop a new framework to address coastal hazards and sea level rise. - Tailored provisions appropriate to specific areas but may also consider district-wide provisions applying to all low-lying areas.	

Hazard	Issue	Outcome	Status Quo (Option 1)	Option 2	Option 3	Option 4
	a false expectation of protection), can transfer risks to previously unaffected people and property, and create ecosystem and natural character feedbacks and effects that are often unanticipated and undesirable.					
Flooding and overland flow paths	Flooding from rivers and overland flow paths is a frequent and potentially significant hazard in Tasman District and has the potential to cause disruption to the community, economy, damage to buildings and infrastructure,	Flooding and overland flow path hazards are identified and the risks to people, property and the environment associated with these hazards, are avoided or mitigated.	- Flood maps outside plan except for RIDA flood flow paths - General natural hazard objectives and policies with specific flood and settlement policies - Rule framework that addresses activities on stopbanks and berms and overland flow paths - Rule framework where matters of control or discretion can be used for flood hazards	- Flood overlay maps would stay outside plan - Retain some of the general natural hazard policies and settlement specific policies, and undertake a comprehensive review of the flood policies. Consolidate them to produce one natural hazards chapter with a flood section	- Flood overlay maps included in the planning maps through comprehensive updated modelling - Retain some of the general natural hazard policies and settlement specific flood policies, through a comprehensive review. Consideration would also be given to consolidating the provisions in one natural hazards chapter - Policy/rule framework could be extended to include high flood hazard areas and a similar policy framework	Wait for national direction before making any changes

Hazard	Issue	Outcome	Status Quo (Option 1)	Option 2	Option 3	Option 4
	and loss of life or injury to people. When the additional effects of climate change and sea level rise are taken into account the risk to the District's communities from flooding increases significantly. A sub issue has also been identified for this topic: Sub issue: Locating buildings and structures within overland flow paths has the potential to cause risk to life, damage to property, and transfer risk to neighbouring sites if overland flow paths are not appropriately			- Reassessing zoning where the zoning signals that development may occur on land that is flood prone - investigating appropriate ways to provide a framework to protect overland flow paths and floodways in the District's urban areas	adopted to support the flood overlays.	

Hazard	Issue	Outcome	Status Quo (Option 1)	Option 2	Option 3	Option 4
	identified and managed.					
Wildfire	The climate of Tasman District is susceptible to prolonged dry periods. With climate change wildfire hazard is likely to increase in frequency and severity and affect more locations in the District putting people, property and the environment at greater risk. Sub issue: Landscaping amenity planting around dwellings may conflict with vegetation management used to mitigate the risk of wildfire. Conversely, vegetation removal to create a	The risk to people, property and the environment from wildfire is managed.	• High fire-risk area overlay • General natural hazards policies • Rules specifying setbacks in certain zones and locations • Rule framework where matters of control or discretion can be used for wildfire	• Statues quo in addition to • Clarify rule framework in in rural and rural residential zones where there is no water reticulation • Assess whether rule associated with overlay requiring a fire preparedness plan is appropriate	• Comprehensive revision of provisions including • Identifying water for firefighting for buildings as a servicing issue for new development/subdivision • Policy approach to minimise wildfire risk in terms of location of buildings to existing vegetation and placement of vegetation near existing buildings • Rule framework with setbacks in rural areas	

Hazard	Issue	Outcome	Status Quo (Option 1)	Option 2	Option 3	Option 4
	defensible space around dwellings may conflict with protecting indigenous vegetation.					

2. Background Context

The Tasman District Council (Council) is progressing a natural hazards plan change as part of a suite of plan changes to update the Tasman Resource Management Plan (TRMP). These plan changes are in place of an overall review of the TRMP, which is currently awaiting direction from Central Government on RMA reform. As part of the plan change preparation an issues and option report on natural hazards has been commissioned. This plan change is required to update the TRMP natural hazard provisions with more recent technical information, respond to national direction under the New Zealand Coastal Policy Statement 2010, and refocus the plan to better consider s6h of the RMA to manage significant risks from natural hazards and s7(i) to have particular regard to effects of climate change. Recent natural hazard events have also highlighted the important role of land use planning in reducing risk and enabling greater resilience.

The purpose of this report is to identify and inform the required future work programme, but with an overall philosophy to retain the existing planning framework unless there is a clear need for change. Areas that may direct a need for change include updated statutory requirements or national guidance, the need to incorporate new or updated hazards information, improve ineffective or inefficient provisions or simply to address gaps.

For this issues and options report natural hazards related issues have been developed on a natural hazard by natural hazard basis. The natural hazards to be covered in this report include:

- Liquefaction
- Fault rupture
- Slope instability and debris run-out
- Coastal hazards
- Flooding and overland flow paths
- Wildfire

There are six broad issues – one for each of the natural hazards listed above. A number of the issues have sub-issues. Some areas are outside the scope of this report and include community coastal adaptation planning; and climate change where it does not specifically relate to natural hazards. Tsunami, drought and wind hazards have also been specifically excluded. It is further noted that community engagement does not form part of the scope of works for this report.

In respect to tsunami both Nelson and Tasman Councils take an educational approach to management of this hazard via civil defence functions. It is recommended by staff that this approach does not change.

For drought it is expected that the planning response will be covered under the Land and Freshwater Plan Change (PC84). Close liaison with the relevant staff will be required through-out the process of developing both plan changes to ensure these aspects are integrated.

Wind is largely covered through the Building Act, which identifies climate zones. Building Code requirements include weather tightness of buildings and structural strength. A planning response is not currently envisaged to be necessary, but will need to be included in more general natural hazard considerations in the plan change.

In addition to the natural hazard specific issues covered in this report there are a number of broader matters to consider for the natural hazards plan change; these are noted in general in Section 9 of this report.

2.1 Overview of the TRMP Approach to Management of Natural Hazards

The overall approach of the natural hazards framework in the TRMP is to manage areas subject to natural hazards and to ensure that development is avoided or mitigated. While there is some focus of applying provisions depending on the degree of risk, it is not a universally applied lens at present.

Tasman Regional Policy Statement 2001 (RPS)

The Tasman Regional Policy Statement 2001 (RPS), aims to promote the sustainable management of natural and physical resources in the Tasman District. The RPS seeks to manage contamination and waste, coastal environments, urban development, land use, freshwater resources, river and lake resources, environmental hazards including flooding, coastal erosion, sea level rise, inundation and instability, and earthquake hazards, energy, transport, and Māori interests through policies and methods to achieve integrated resource management.

Specific policies in relation to natural hazards have a clear directive to reduce risks to people and property, land and ecosystems and include the following:

- Reduce risks to communities in relation to land use and development on floodplains subject to flooding (Policy 11.1).
- Reduce risks to the use and development of land subject to erosion, inundation or instability (Policy 11.2).
- Allowing activities at risk of flooding or land instability to occur where the activity does not cause risk to the land itself, or to other people, land or natural values; and the person is aware of the risks and takes responsibility for any risk management required (Policy 11.3).
- Reduce risks to people, structures and land from the effects of earthquake shaking and ground movement (Policy 11.4)
- Reduce risks to people, property, land and ecosystems from fire (Policy 11.6)

Other relevant chapters include Chapter 5 Urban development and Chapter 9 Coastal Environment.

The TRMP is required to give effect to the RPS. The RPS will need to be revised in respect to natural hazards and climate change to provide the necessary direction for the new TRMP natural hazard provisions and ensure alignment of the two documents.

Tasman Resource Management Plan

Tasman District Council is a unitary authority and has responsibilities for natural hazards under both s30 and s31 of the RMA. Consequently, there are currently two sections of the TRMP addressing natural hazards – Chapter 13 and Chapter 23. These chapters are found in TRMP Part II - land, and TRMP Part III – coastal marine area, respectively.

A Section 35 Efficiency and Effectiveness Evaluation was completed on TRMP Chapter 13: Natural Hazards in 2020 (s35 Report) and for Chapter 23 Natural Hazards and Hazardous Substances. The s35 Reporting provided several conclusions regarding the current TRMP natural hazards framework, as detailed below.

The TRMP's natural hazards policies fall into four categories, namely:

- general natural hazards policies
- policies addressing specific natural hazard topics e.g. flooding, coastal hazards, fault rupture, slope instability, wild fire
- settlement-based policies addressing specific natural hazard issues
- policies that address a number of planning issues with natural hazards being one of the criteria.

There is a broad and reasonably comprehensive approach to hazard management across the TRMP, but some policies are repetitive and are not always clearly articulated.

Some key weaknesses with the operative natural hazard provisions are¹²:

1. Inefficient and ineffective rules where they rely on outdated or incomplete spatial representation of known hazards, which are either mapped as overlays in the plan and/or inform zone or specific rule provisions (e.g. slope instability risk, fault rupture risk, inundation and erosion (river), coastal hazards).
2. Lack of public access to district-wide hazard information
3. Inconsistent requirements for the management of similar hazard risks at the coastal margin, (for example, there is a coastal risk area for Māpua /Ruby Bay but not elsewhere in the district, and a different approach for management of sea walls within the coastal risk area versus the rest of the district).
4. Some duplication of policies in the TRMP between Part II- Land and Part III – Coastal marine.

The Building Act 2004 also influences natural hazards management as it provides a pathway for management of natural hazards in relation to new buildings. Land Information Memoranda and Project Information Memoranda assists in property purchases and resource/building consent processes.

The TRMP's rolling review of plan changes has addressed deficiencies in plan provisions where new hazards information has become available, for example freshwater inundation risk at Brightwater and Wakefield, coastal hazards at Māpua /Ruby Bay, and fault rupture risk areas associated with the Waimea Flaxmore Fault System. These plan changes have improved the framework for management of these natural hazard issues.

2.2 Issues we are Seeking to Address

The issues the Council is seeking to address in relation to natural hazards are:

¹ Tasman Resource Management Plan Efficiency and Effectiveness Evaluation Chapter 13: Natural Hazards.

² Tasman Resource Management Plan Efficiency and Effectiveness Evaluation Chapter 23: Natural Hazards and Hazardous Substances (Regional Coastal Plan).

Liquefaction

Issue 1: Liquefaction has the potential to adversely affect the environment during and following an earthquake. This can include damage to buildings, structures and infrastructure and disruption to the community. In rare cases liquefaction can also present a risk to life.

The TRMP does not contain any specific liquefaction policies or rules.

In 2017 central government released guidance for councils on managing use and development of land in areas subject to potential liquefaction: *Planning and engineering guidance for potentially liquefaction-prone land. Resource Management Act and Building Act aspects.*

As explained in the Chapter 13 s35 report for natural hazards:

In 2017, MfE and Ministry for Business, Innovation and Employment, and the Earthquake Commission published liquefaction guidance to enable national consistency for councils preparing resource management plans, and the processing of resource and building consent applications. The guidance was developed to assist all parties associated with the use and development of land in potentially liquefaction-prone areas. It was developed as a result of earthquakes (Christchurch and Kaikoura) in recent years which caused significant liquefaction events and the need to reduce the consequences of future liquefaction events through appropriate land use planning, resilient building and infrastructure design. ... The plan review will need to consider and implement this guidance in conjunction with recent changes to the Building Code regarding the need to map liquefaction prone land.

Beca completed a Regional Liquefaction Assessment Report (2021) that identifies areas of land where 'liquefaction damage is possible' and areas where 'liquefaction damage is unlikely' / there is 'very low liquefaction vulnerability'. The Beca 2021 report recommends that areas where liquefaction damage is possible are subject to further liquefaction assessment as part of the planning and consenting process for any intensification of land use or buildings in this area. The Beca mapping is a Level A map (a basic assessment that is suitable for planning purposes). As explained on the Council's website, areas mapped as 'liquefaction is possible' do not necessarily mean liquefaction will occur across all these areas. The gravelly nature of Tasman's alluvial plains are such that incidences of liquefaction are likely to be much more limited in extent, but there could be "pockets" of liquefiable fine-grained sands and silts within these areas (such as an old, infilled and buried river channels). The uncertainty of where such areas are located results in them being mapped as 'liquefaction is possible'. Estuary and coastal margins are often vulnerable to liquefaction.

The 2021 Beca report notes that a Level B calibrated desktop assessment could be completed for areas of existing or proposed development that are identified as 'liquefaction damage is possible' in the Level A assessment. The 2021 Beca report notes that a Level B assessment would reduce uncertainty in the assigned liquefaction vulnerability categories and potentially reduce the extent of land classified as 'liquefaction damage is possible'.

The Council's building consents officers have indicated support for liquefaction being considered more comprehensively at resource consent stage. The Council's current approach is to require geotechnical assessment of building locations as part of the subdivision process. Subdivisions in areas potentially affected by liquefaction include a condition requiring certification of building sites

confirming their suitability from an engineer. Liquefaction potential is considered as part of the assessment of ground conditions and suitability to bear foundations.

There is a gap for land use consents where there is no subdivision – for example building on an older vacant allotment, or a redevelopment proposal. In these circumstances liquefaction is not considered until the Building Consent stage.

A number of other councils' recent plans / plan changes have included mapping and associated provisions for managing risk from liquefaction (e.g. Christchurch, Selwyn, Waikato, Nelson, Lower Hutt).

Fault rupture

Issue 2: There are several known fault lines in the District. Fault rupture during an earthquake has the potential to adversely affect the environment, including damage to buildings and infrastructure, and loss of life.

Setbacks of buildings and infrastructure from known fault traces can manage the risk of severe damage and loss of life. Ground shaking that can occur during an earthquake can also cause damage to a much wider area. Earthquake shaking impacting buildings and structures is not directly addressed through the TRMP. However, the Building Code requires buildings and structures to have sufficient structural strength to perform safely when earthquake shaking occurs.

The TRMP currently addresses risk from fault rupture via the Fault Rupture Risk Area overlay and associated rules. There is one policy in Chapter 6. General Chapter 13 objectives and policies are also relevant.

The TRMP identifies that surface fault rupture may be a significant hazard in the St Arnaud area (Wairau-Alpine Fault), the Richmond foothills (Waimea Flaxmore Fault system), and the Murchison area (White Creek and Lyell Faults).

Beca have reviewed the existing fault rupture mapping in the TRMP in their report: *Review of Active Earthquake Faults in the Tasman District – Methodology Report* (Beca, 2021). This includes reviewing active faults that are already included as Fault Rupture Risk Areas, and recommending additional faults (Whangamoia, Wakamarama and Kikiwa) for inclusion in the Fault Rupture Risk Area.

Beca have identified that there are some faults that do not exhibit evidence for existing ground surface deformation such as the Ruby Bay – Moutere Fault. Beca note that the Council may consider identifying these other mapped faults for information only and/ or implement a different set of planning rules near these faults, such as restricting building importance category 4 structures (e.g. buildings that are essential to post-disaster recovery or associated with hazardous facilities). The report also explains that buried faults and/ or areas where the fault location is poorly defined do not warrant inclusion in the resource management plan due to uncertainty in the fault location. The Council may consider applying a buffer zone around these faults and/or including these faults as a 'fault awareness zone'. This could include alternative TRMP provisions compared to areas where faults are well-defined.

The existing faults and the three additional faults identified by Beca are spread throughout the district, with the majority mainly in rural areas, however the faults also intersect with populated areas of Richmond and St Arnaud.

Following the Planning for Development of Land on or Close to Active Faults guidance (MfE, 2003), the Beca report notes that planning responses need to take into account the fault reoccurrence interval and fault complexity, the building importance category of the structure proposing to establish. The Beca report does not comment on whether the current setbacks³ in the TRMP are appropriate from a technical perspective.

The plan change will need to consider whether the updated mapping is included, review the policy settings and methods for the current Fault Rupture Risk Area and consider whether a fault awareness zone/overlay is appropriate for inclusion in the TRMP to indicate where there are faults present but there is no evidence of deformation.

TRMP Chapter 6 includes one policy for fault rupture, specific to the Alpine Fault at St Arnaud. There is an opportunity to consolidate this with any more targeted provisions as part of the plan change. The TRMP also includes a number of general natural hazards policies, some of which specifically refer to earthquakes, fault rupture or geotechnical hazards.

Slope instability and debris run-out

Issue 3: Slope instability and debris run-out hazard occurs in some of the District's steeper topography. If new activities are not managed appropriately, structures (including buildings and infrastructure) on and below susceptible slopes are put at further risk increasing the potential for damage to property and risk to life.

The TRMP currently addresses slope instability through an identified Slope Instability Risk Area (SIRA) overlay, plus provisions in Chapter 18.5 Land Disturbance Area rules. The SIRA is identified currently in key areas where development pressure is occurring (Richmond foothills, Tākaka – Ligar Bay, and Collingwood), and the Ruby Bay Sea Cliffs which require specific development controls. These areas have higher likelihood of slope failure in these localities.

Beca, on behalf of TDC, has reviewed three of the four SIRAs and commented on the extent of the existing boundaries, adjacent areas that may also be affected, known areas currently experiencing growth pressure, and run-out areas. As with the existing SIRA this work did not include the entire District, rather, it focused on specific areas of development pressure.⁴ Further work will be required before the Beca slope instability and debris run-out mapping is finalised and can be used to inform future planning provisions. Council will keep affected landowners and the community informed on the outputs of the mapping and future opportunities to provide feedback as part of this plan change process.

There are issues with the legality of current land use rules in the SIRA that rely on a geotechnical assessment to determine compliance/certification through a third party as part of the permitted

³ E.g. Rule 18.13.3.1(b)(i) 20m from the Alpine Fault at east of St Arnaud, (ii) 10m from the Waimea-Flaxmore Fault system from St Arnaud to east of Richmond, (iii) 5m from the Waimea-Flaxmore Fault system north of the Wairoa River.

⁴ Review of TDC Slope Instability Risk Areas, Richmond Foothills, Collingwood, Clifton/Pohara/Ligar Bay, Prepared for Tasman District Council, Beca July 2021.

activity rule, although a number of council staff consider this to be working without issue. The process for recertifying older geotechnical assessments is also questionable.

Outside of the current SIRA, there are similar locations susceptible to slope instability hazards. There is opportunity to strengthen district wide provisions in the TRMP to identify and better manage areas outside of the SIRA.

Separation Point Granite (SPG) requires separate specific consideration in the TRMP due to the sensitivity of the geology to erosion and the potential for debris flows in steeper catchments.

Coastal Hazards

Issue 4: The District comprises large low-lying settled coastal areas that are susceptible to coastal erosion and inundation hazards. These hazards will only increase overtime as a result of climate change and sea-level rise, putting more people and property and the environment at risk.

Sub issue: Coastal protection works to mitigate coastal inundation and erosion are costly to maintain, often create residual risk (and a false expectation of protection), can transfer risks to previously unaffected people and property, and create ecosystem and natural character feedbacks and effects that are often unanticipated and undesirable.

Erosion and inundation occur in coastal areas of the District and have a history of causing adverse effects on people, property and the environment. It will be important to find options in the plan change that assist in keeping people safe.

The New Zealand Coastal Policy Statement 2010 (NZCPS) includes policies in respect to the coastal environment, including coastal hazards. It requires the Council to identify areas potentially affected by coastal hazards over a 100-year timeframe and to assess how climate change will affect the coastal hazard risks. This includes taking into account national guidance and the best available information on the likely effects of climate change on the region or district (Policy 24). Any viable option will need to give effect to this higher order planning instrument.

The Ministry for the Environment's Coastal Hazards and Climate Change Guidance (MfE, 2024)⁵ has recently been updated and provides sea-level rise scenarios based on IPCC AR6 projections. Although the IPCC AR6⁶ has indicated the high-end projections are unlikely to be realised (see Chapters 2, 3 and 4 of the IPCC AR6 Working Group III report – Mitigation of Climate Change), the MfE 2024 Guidance provides useful information on climate change scenarios, including sea-level rise

⁵ <https://environment.govt.nz/assets/publications/Coastal-hazards-and-climate-change-guidance-2024-ME-1805.pdf>

⁶

Intergovernmental Panel on Climate Change – Climate Change 2022, Mitigation of Climate Change, Working Group III Contribution to the 6th Assessment Report of the Intergovernmental Panel on Climate Change.

<https://www.ipcc.ch/report/ar6/wg3/>

projections for coastal hazard land use planning that will be required to be considered in any options assessment. It will be important to keep up date with the work of the IPCC.

In circumstances where councils have not yet completed adaptive planning strategies/community adaptation planning processes (as is the case for Tasman), the Guidance (Table 8) recommends the use of interim precautionary relative sea-level rise allowances for plan revisions and land-use decisions for coastal areas (based on the SSP5-8.5 M or H+, depending on the planning category). Council's planning processes has applied these sea-level rise allowances (using the 2017 Guidance and now updated 2024 Guidance). However, there is no requirement to adopt this recommendation and is a matter that the Council will need to give careful consideration to through this plan change.

In any case, considerable work has already been undertaken by the Council to address the issue of coastal erosion and inundation in Māpua and Ruby Bay. Through Plan Change 22 (operative 2015), the TRMP has some very robust provisions to address coastal erosion and inundation at Māpua and Ruby Bay. Applying the Coastal Risk Area provisions in Plan Change 22 could be one potential option for other low-lying coastal areas.

Community conversations that include high level discussions on 'retreat' or 'protect' or 'avoid' or 'accommodate' options for existing development are outside the scope of this issues and options report, and are being addressed in the Council's wider community adaptation work programme. This is yet to be scoped, but will build on work completed to date under the 'Coastal Management Project – Responding to Climate Change'⁷. There will likely be future resource management plan changes for specific communities as the adaptation work programme progresses and will compliment work undertaken as part of this natural hazards plan change.

Practical options for existing low-lying settled areas are limited and policies which close areas to future development using an 'avoid' policy approach will need to be carefully assessed for their appropriateness. This is also balanced against Council's Plan Change 81 Urban Growth (PC81) which is currently being drafted. PC81 will implement the Nelson Tasman Future Development Strategy (FDS), and a key objective of the FDS and subsequent TRMP plan change is to ensure that new development is climate-resilient and land identified for new residential development is not located in low-lying and susceptible coastal and flood-plain areas.

The Nelson Tasman Inundation Practice Note provides a consistent approach to providing minimum ground and floor levels and is applicable for building in the low-lying coastal areas. At the time of writing, staff are currently preparing a technical update and which will be released in the future alongside community engagement for the Natural Hazards Plan Change.

The question of appropriate coastal development and the need for coastal protection works are being raised by the community. The TRMP is permissive of coastal protection structures landward of the coastal marine area (as a result of a drafting error from Plan Change 22) and this will need to be revisited. Additionally, concern has been raised by members of the community that as the sea-level rises, indigenous biodiversity will experience 'coastal squeeze' in locations protected by hard

⁷ [Coastal Management – responding to climate change | Tasman District Council](#)

protection structures, limiting opportunities for inland coastal migration⁸. The NZCPS Policies 25, 26 and 27 emphasise use of natural coastal defences over engineered hard protection structures and this will need to be considered through this plan change.

River flooding and overland flow paths

Issue 5: Flooding from rivers and overland flow paths is a frequent and potentially significant hazard in the District and has the potential to cause disruption to the community, damage to buildings and infrastructure, and loss of life or injury. When the additional effects of climate change and sea-level rise are taken into account the risk to the District's communities from flooding increase significantly.

One sub issue has also been identified for this topic:

Sub issue: Locating buildings and structures within overland flow paths has the potential to cause risk to life, property damage, and transfer risk to neighbouring sites if overland flow paths are not appropriately identified and managed.

The management of flooding hazards is an important issue for the district. The TRMP currently manages flooding through flood maps developed through historical records and/or detailed flood modelling, which currently sit outside the plan. A discussion on whether the current flood maps are fit for planning purposes and whether they should be put in the plan or remain outside will need to be part of the options assessment.

The flood mapping/modelling does not consistently include assumptions for climate change and sea level rise or vertical land movement (VLM) and requires updating to be consistent with national guidelines⁹.

Flooding and overland flow path hazards can directly conflict with the District's growth obligations, making intensification more difficult and limiting some areas that can be developed for housing. Ensuring development occurs in the right places requires a close assessment of all natural hazards and in particular flooding given the District's wide river flood plains.

Overland flow paths in urban areas are not currently comprehensively addressed in the TRMP. However, there is a bespoke framework for the Richmond Intensive Development Area – flood flow

⁸ Tasman District Council Coastal Management Project – Responding to Climate Change Community Engagement on Coastal Management Options for Tasman Bay/Te Tai o Aorere and Golden Bay/Mohua 6 September – 15 October 2021: Summary of Feedback. (March 2022).

⁹ <https://environment.govt.nz/publications/interim-guidance-on-the-use-of-new-sea-level-rise-projections/>
<https://www.searise.nz/maps>
<https://environment.govt.nz/assets/publications/Coastal-hazards-and-climate-change-guidance-2024-ME-1805.pdf>

paths (RIDA) with mapping and corresponding rules. The approach used to map these RIDA flood flow paths represented them as line features which has the potential to misrepresent the full width of the overland flood paths. These mapped flood flow paths are out of date and incorrect in comparison to more recent modelling.

In light of Government direction on urban growth and housing affordability it will be important to identify overland flow paths in order to select areas suitable for that growth (medium density). The location of overland flow paths and supporting rule framework is currently being considered in Plan Change 81 Urban Growth, which will enable more housing and business land in urban areas (implementing the Nelson Tasman Future Development Strategy 2022). One of the challenges of mapping and managing overland flow paths in urban areas is that the current mapping methodology does not include fences/buildings; and that small changes on the ground (e.g. in landscaping, fencing and roading) can cause unintended consequences by diverting water elsewhere and may cause significant damage. Conversely, improvements to stormwater infrastructure can result in improvement or reduction of overland flow of stormwater.

Nationally, mitigation measures such as stopbanks are increasingly competing in community forums with concepts such as 'making room for rivers'. The TRMP includes policy on hard defences for hazard mitigation to ensure that it does not impact natural character. However, it is considered that the policy could go further in addressing the impacts and effects of hard defences, and also support nature-based solutions in circumstances where this may be appropriate/feasible.

Flood protection options will be an important consideration for affected communities as part of Council's rivers assets activity management planning and wider community adaptation work programme. The TRMP includes provisions to protect existing stopbanks from inappropriate activities and this will need to be reviewed as part of the plan change.

The Nelson Tasman Inundation Practice Note provides a consistent approach to providing minimum ground and floor levels. At the time of writing, staff are currently preparing a technical update and discussions on amendments between Nelson City Council (NCC) and the Council are occurring. It is anticipated that a technical update will be released in the future alongside community engagement for the Natural Hazards Plan Change.

The 2023 North Island flood events have had catastrophic consequences and has generated national discussion regarding the need to avoid versus mitigate, including consideration of the location of existing communities. Locally, Tākaka and Motueka are communities of concern for the Council given their particular circumstances located on flood plains. The natural hazards plan change will not address issues such as the provision of new stopbanks, existing stopbank levels of service, or options such as longer-term managed retreat. However, future TRMP plan changes may need to give effect to future decisions on such matters.

Wildfire

Issue 6: The climate of Tasman District is susceptible to prolonged dry periods. With climate change, wildfire hazard is likely to increase in frequency and severity in the District, putting people, property and the environment at greater risk.

Sub issue: Landscaping amenity planting around dwellings may conflict with vegetation management used to mitigate the risk of wildfire. Conversely, vegetation removal to create a defensible space around dwellings may conflict with protecting indigenous vegetation.

Wildfire could happen anywhere in the District, but there are some communities that are particularly vulnerable, such as those located in areas of dense fire-prone vegetation e.g. pine forest or expansive flammable species, hilly (where fire spreads quicker), or have limited/single access.

The TRMP does not currently comprehensively manage wildfire risk and provisions are peppered through various sections.

The Pigeon Valley fire (February 2019) near Wakefield highlighted the importance of updating the planning provisions, and providing a sense check of the rule framework. Fire and Emergency New Zealand (FENZ) advised the Council that while some landowners used their on-site water tanks to dampen down houses/gardens, generally fire fighters did not use these tanks. Firefighters favoured other methods such as monsoon buckets and a range of improvised dip dams (such as swimming pools, trucks and trailers (e.g. grape harvest bins), ponds, rivers and the sea).

Although a large area of the District is identified in a High Fire Risk Area on the TRMP planning maps, the associated provision only relates to temporary events and there is a general opportunity to strengthen the wildfire provisions in the plan, particularly in light of increased risk associated with climate change. Plantation forestry provisions relate to setbacks from residential and rural residential zones.

Provisions currently also address water supply for firefighting for dwellings (not necessarily wildfire but for internal house fires) in rural and rural residential areas, and there are also setbacks and flammable vegetation provisions. In the TRMP new dwellings not connected to a reticulated water supply in rural/rural residential zones are required to provide a water supply for firefighting purposes (water tank, dam/pond or river supply), or home fire sprinkler system. It is not clear if this rule is intended to address wildfire or internal structure fire or both. Given the Building Act is generally responsible for building fire safety, further research is required in respect to the most appropriate tools for managing wildfire. It could be that other legislation, or methods such as education, may be more suited to manage wildfire risk.

The TRMP St Arnaud Landscape Priority area provides for a 'defensible space', allowing for removal of indigenous vegetation for new building sites and access. However, this is primarily a landscape provision, to minimise loss of indigenous vegetation for new development and is being reviewed through Plan Change 82 currently. The St Arnaud and Tasman Villages are unserviced for water, but as they are zoned residential they are not captured by the water for firefighting provisions in rural and rural residential areas.

Other considerations

The s35 report of the natural hazards provisions states that TRMP's suite of 'scattered'¹⁰ natural hazard policies may benefit from consolidation. This is discussed further in this report. It is generally agreed that an overarching approach to natural hazard management will reduce duplication and enable issues to be comprehensively addressed. This is likely to also assist with efficient implementation of the rules by enabling a clearer relationship between the policies and rules.

While some focus is on applying provisions depending on the degree of risk, it is not a universally applied lens. This will also be explored in this issues and options report.

Some parts of the District are subject to multiple and cascading natural hazards, making them more vulnerable to adverse effects from natural hazards.

2.2.1 Summary of Feedback from Partners, Stakeholders and the Community

Generally, previous community feedback has supported the Council's functions which enable resilience to natural hazards and adapting to climate change.

Recent engagement

Tasman Climate Response and Resilience Strategy and Action Plan 2024-2035

- Consultation on the draft Strategy and Action Plan, undertaken from March to April 2024, gathered 156 submissions reflecting a diverse range of perspectives. There was strong support for climate action, with some submitters calling for bolder actions, expanding green infrastructure initiatives, to address climate change.
- Other submitter requests included clear targets aligned with the IPCC 6th Assessment Report, robust monitoring, community engagement, education, behaviour change campaigns, sustainable infrastructure, brownfield intensification, and reduction of methane emissions from agriculture. Financial concerns were raised, urging careful investment consideration of funding sources for climate initiatives.
- Adaptation for community resilience was a key priority for many submitters, reflecting a nuanced understanding of the climate challenge and need for decisive, inclusive action.

Long Term Plan 2024 – 2034:

- As part of the LTP process, feedback was sought from the community on the Council's proposed level of investment in its response to climate change (including natural hazards adaptation measures). A total of 764 submissions were received, with 46% supporting the proposed level and 31% advocating for higher investment. The Council's 10-year budget for climate response action is detailed in the Tasman Climate Response and Resilience Strategy and Action Plan 2024-2035.

¹⁰ Efficiency and Effectiveness Evaluation – Chapter 13 Natural Hazards, page 26, September 2020.

Māpua Master Plan 2023/2024:

- Feedback received from the community (September 2023) highlighted that it was important to include climate and coastal risk needs and dynamic adaptive pathways planning into the principles which guide the Master Plan.
- Two Master Plan principles of relevance to this report, and supported by the community, are Principle 7: provide for a variety of housing and business options which respect the character of Māpua and are resilient to natural hazards and climate change; and Principle 9: create and maintain climate change resilient infrastructure to support new and existing development including where appropriate water sensitive design.

Nelson Tasman Future Development Strategy 2022-2052:

- Addressing natural hazards and climate change impacts informed many of the core components of the FDS, including the overall strategy and where to locate new housing and business land in Tasman, the assessment of different growth areas, and FDS objectives.
- One of the objectives of the FDS is that “Nelson Tasman is resilient to and can adapt to the likely future effects of climate change”. This objective was developed in conjunction with a number of stakeholders, including the community, to address key themes which emerged from consultation. This included planning for the effects of climate change and reducing greenhouse gas emissions.

Coastal Management Project – Responding to Climate Change (work programme 2019-2022):

- Feedback from the community as part of this work programme demonstrated that there is a general level of understanding that we need to respond and adapt to natural hazards and climate change effects, including sea level rise. Educational engagement on high level coastal management options in 2021 highlighted that there are a range of community views regarding the scientific advice on climate change and rising sea levels, with some sceptical of sea level rise and preferring a ‘wait and see’ approach, while others suggested sea level rise and climate change are occurring/is inevitable and there is a need to act now and avoid development in vulnerable areas.
- A common theme from this work programme engagement has been that some landowners have concerns regarding the Council’s natural hazards work programme particularly where new technical information or potential regulation may impact their ability to get insurance and bank mortgages. Further concerns were expressed relating to potential implications for property values; and social wellbeing.

2.2.2 Regional Significance of Issue(s)

In general, natural hazards are a matter of regional significance. All the issues identified relate to risk to people and property and environmental effects associated with natural hazards. As noted in Table 1 below most areas of the District are vulnerable to one or more natural hazards and these are recognized in the RPS as regionally significant issues. This has been highlighted through recent events, such as the August 2022 weather event in Nelson/Tasman, and the 2023 North Island events including Cyclone Gabrielle, underscoring the fact that natural hazards and the impacts of climate change continue to be a major concern both locally and nationally to people, property, and the environment. These issues are the responsibilities of both a regional council and a district council and need to be addressed through the resource management plan, alongside wider council functions and policy documents.

2.2.3 Why Change is Needed

Since the TRMP was first proposed, there has been a number of changes in respect of the relevant legislation, national guidance, and council work programmes focusing on climate change and natural hazards. Changes include:

- Amendments to the RMA Part 2 provisions;
- RMA caselaw on ‘avoid’ and the application of Part 2;
- New Zealand Coastal Policy Statement, the NPS Freshwater, NES Freshwater Management, the NES Commercial forestry, etc (see Appendix 3);
- MfE’s Coastal Hazards and Climate Change Guidance (2008, 2017, 2022 interim guidance, and 2024), other guidance documents including the Liquefaction Guidance and the Landslide guidance (see Appendix 3), amongst others; and
- To implement a number of Council work programmes and direction, such as
 - The Nelson Tasman Future Development Strategy 2022-2052
 - The TRMP Efficiency and Effectiveness Evaluation of Chapter 13 Natural Hazards and Chapter 23 Natural Hazards and Hazardous Substances;
 - More recent technical work including work under the “Coastal Management Project – Responding to Climate Change” and geological natural hazards technical review
 - The Tasman Climate Response and Resilience Strategy 2024-2035

These changes will need to be considered and implemented throughout the plan change where possible.

2.2.4 Issue(s): Waahi-Specific or Whole of District?

Council must implement integrated management of natural resources. This will be supported by the ki uta ki tai guiding principle, where everything is connected – from the mountains to the sea. To achieve this, TRMP plan change processes need to consider natural resource use, protection and enhancement spatially across Tasman in seven waahi (places). The waahi are based on groupings of catchments where there are communities with shared values and interests (see Appendix 1) that are likely to affect natural resources in those catchments. Consideration of issues and options across all the resource management functions within each waahi will allow for identification of conflicts or overlaps between different issues, as well as synergistic options that provide for multiple outcomes sought within the waahi.

Waahi planning is at its core a means to:

- Coordinate management of interconnected elements/resources (natural, cultural, social, economic and physical).
- Take into account the impacts of management of one element/resource on the values of another, or the environment.
- Ensure resource management approaches across administrative boundaries are consistent and complementary.
- Ensure strategic outcomes are identified for each waahi, promoting healthy ecosystems and ecosystem services, and associated objectives, policies and methods that negate the risk of exceeding environmental bottom limits.
- Ensure principles of Te Tiriti O Waitangi are taken into account.

Table 1 below identifies if the issue occurs in a specific waahi or across the entire district. There are only two instances where a natural hazard issue does not apply to the entire district.

Table 1: Planning Issues and where they occur

Planning Issue	Waimea	Moutere	Motueka - Riuwaka	Abel Tasman - Kaiteriteri	Tākaka	Aorere – West Coast	Upper Buller
Issue 1 – Liquefaction	Y	Y	Y	Y	Y	Y	Y
Issue 2 - Fault rupture	Y	Y	Y	N	Y	Y	Y
Issue 3 – Slope instability	Y	Y	Y	Y	Y	Y	Y
Issue 4 Flooding, including overland flow paths	Y	Y	Y	Y	Y	Y	Y
Issue 5 – Coastal hazards	Y	Y	Y	Y	Y	Y	N
Issue 6 – Wildfire	Y	Y	Y	Y	Y	Y	Y

2.3 How Issues Relate to Iwi Interests and Values

The TRMP plays an important role to support the expression of kaitiakitanga and rāngatiratanga. Iwi resource management priorities and leadership may be realised through provisions of the TRMP. It is important to acknowledge the potential issue of marginal iwi and Māori owned land and how impacted it is by natural hazards – typically this can be coastal land and land adjacent to rivers which creates a disparity issue with respect to how much land is impacted or the potential for the land to be developed in a manner that meets landowner aspirations. For example, the Motueka area is vulnerable to flooding and rising sea levels, and land ownership is dominated by two Māori organisations (Wakatu Incorporation and Whakarewa (NRAIT)).

Hazard events and rising sea levels also have the potential to impact on sacred places and sites of importance. Climate change and sea level rise will present new challenges (as well as potentially new opportunities) for iwi, hapū, and Māori enterprise.

TRMP plan changes will support aspirations for managing ancestral whenua and taonga in the Tasman District and across Te Tau Ihu. This report has considered the following strategic outcomes:

- Respectful partnerships and governance structures supporting council and iwi collaboration, in the Tasman District and across Te Tau Ihu are established and strengthened.
- Te Tiriti O Waitangi principles and customary rights inform a resource management framework to support iwi resource management values and priorities within the TEP.
- Iwi connections and access to cultural landscapes, sites of significance and heritage are protected and restored.
- Economic and cultural development is enabled through access to and the use of cultural redress resources, Te Tiriti O Waitangi settlement land and taonga, including the coastal environment, in accordance with Settlement Acts and Statutory Acknowledgments.
- Environmental limits and targets are set to achieve meaningful cultural, environmental and economic outcomes, enhancing the mauri of Te Taiao.
- Integrated management is supported by a ki uta ki tai philosophy enabling the application of tikanga and Mātauranga Māori to TRMP plan change provisions.

National Context

The National Climate Change Risk Assessment 2020¹¹ identifies climate change risks will disproportionately affect certain whānau, hapū and iwi, including Māori interests, values, practices and wellbeing.

The National Adaptation Plan 2022 provides actions to be led by the government to support hapū, iwi and Māori in addressing the issues/risks associated with natural hazards and climate change. These are as follows:

- Action 3.26: Produce guidance for disaster risk management for cultural heritage
- Action 3.27: Develop a framework for assessing exposure and vulnerability of taonga/cultural assets to climate change working with partners (including iwi) and the Ministry for Culture and Heritage (MCH).
- Action 5.8: Support kaitiaki communities to adapt and conserve taonga/cultural assets Work across government to ensure hapū, iwi and Māori and communities have access to information to be able to plan for a changing climate and adapt their cultural assets.
- Action 7.1: Research how cultural heritage contributes to community wellbeing and climate change adaptation.
- Action 7.2: Partner with Māori landowners to increase the resilience of Māori owned land, homes and cultural sites to produce resources and tools to improve understanding of climate-related risks and increase the resilience of housing on Māori land.
- Action 7.3: Partner with Māori to support Māori-led approaches to adaptation planning by supporting Māori-led adaptation solutions and the use of mātauranga Māori and Māori urban design principles in response to climate hazards and promote Māori-led planning, and support the adaptation of places managed by whānau, hapū and iwi.

Local Context

¹¹ [National Climate Change Risk Assessment - Main Report \(environment.govt.nz\)](https://environment.govt.nz/national-climate-change-risk-assessment-main-report/)

There are five Iwi Management Plans in relation to the Tasman District. These address/set parameters to assist those seeking to consult or engage with the local iwi on environmental management and natural hazard matters. These are set out as follows:

Ngāti Koata No Rangitoto Ki Te Tonga Trust (Ngāti Koata, 2002):

This document does not contain specific information about climate change or natural hazards.

Ngāti Rārua Environmental Plan (Poipoiā te ao tūroa, 2021):

- Ngāti Rārua Support initiatives that contribute to the understanding and management of human-induced climate change.
- Require the relationship that Ngāti Rārua have with the coast and marine area to be acknowledged, recognised and provided for in management of the coast and marine area. This includes actively seeking to protect, enhance and restore the mauri of the coastal and marine area, assess activities and resource use on Ngā wāhi taonga tuku iho, and assess erosion protection structures.

Pakohe Management Plan (Ngāti Kuia, 2015):

This document does not contain specific information about climate change or natural hazards.

Ngāti Tama Environmental Management Plan (Ngāti Tama, 2018):

- Ngāti Tama set actions to address high emission levels and long-term effects on climate change and Ngāti Tama cultural values, unsustainable harvest and use of fossil fuels, destruction and loss of indigenous vegetation, ecosystems, landscapes and cultural heritage sites or areas, and damming or diverting of waterways to generate energy and impact on Ngāti Tama ancestral land, waters, wāhi tapu and mahinga kai areas. Ngāti Tama support industry led initiatives which work to address climate change.

Te Atiawa Iwi Environmental Management Plan (Te Atiawa, 2014):

This document does not contain specific information about climate change or natural hazards.

The Te Taihū: Intergenerational Strategy (Te Taihū, 2020):

This strategy is a wellbeing framework for everyone in the community and includes a vision that places Oranga Te Taihū - the wellbeing of our people and our places over generations - at its heart. In relation to topics relevant to this issues and options report, the strategy aims to improve climate change and regenerative outcomes through transitioning to a zero-carbon economy, improving water stewardship outcomes, transitioning to a zero-waste approach and providing a regenerative strategy on land and in waterspace. The strategy recognises that smart and innovative design of places and spaces also supports the community's ability to be resilient to natural events and climate change. Te Taihū aims to design and deliver transport, water and waste systems that serve needs without damaging the environment, and that actively protect the region from natural hazards.

At the time of writing this report, council staff are developing the Natural Hazards Plan Change work programme and communications plan which will include partnership working and engagement with Pou Taiao/Pou Kaimahi through the 'partnership working group' with our ngā iwi partners.

2.4 Statutory, Policy Context and Scope

The management of natural hazards requires consideration of a range of legislation, statutory documents and non-statutory documents. The relationship between these key documents is set out in the flow chart over page.

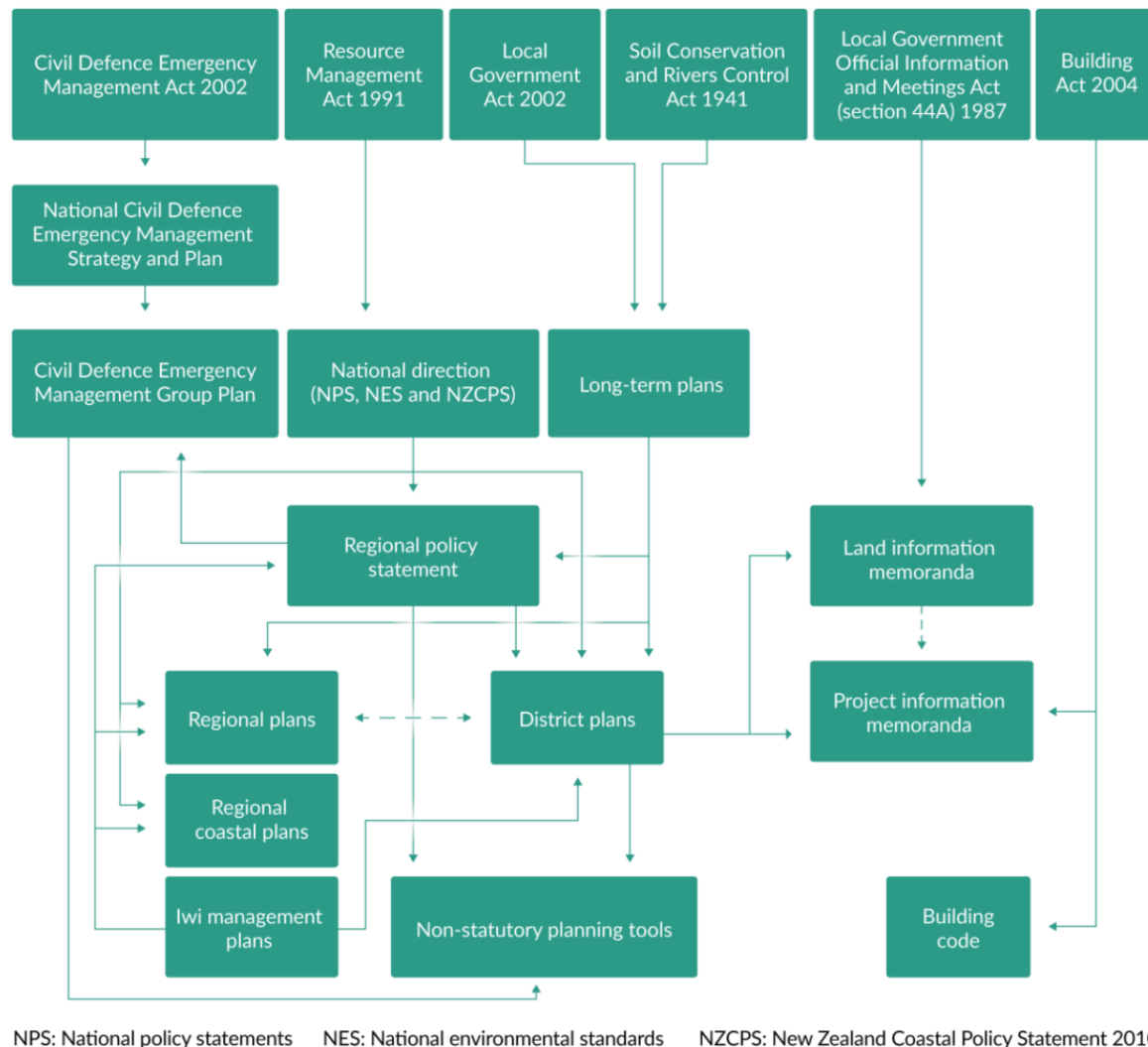


Figure 1: Relationship between key instruments for managing natural hazards in the Aotearoa coastal environment. Source: MfE Coastal hazards and climate change guidance, 2024, p. 15. (MfE, 2024)

A comprehensive summary of the documents and their relevance to managing natural hazards is set out in Appendix 3. There are four key Acts which provide legislative requirements for the management of natural hazards within councils' functions. These are:

- Resource Management Act 1991;
- Local Government Act 2002;
- Building Act 2004; and
- Civil Defence and Emergency Management Act 2002.

Effective management of natural hazard risk and climate change effects relies on the interplay between multiple statutes and the coordination of the various agencies that exercise power and

functions under them. However, it is important to note that the policy guidance within these statutes remains very high level and much is left to the discretion and judgement of those responsible for implementation.

The Resource Management Act 1991 is the key legislation directing the TRMP natural hazards plan change process. Notably:

- The RMA sets out that both regional and territorial authorities have functions related to the control of the use of land to avoid or mitigate natural hazards (s30 and s31);
- Part II matters: Section 5 sets out the purpose of the RMA, which includes promoting the sustainable management of natural and physical resources, while enabling people and communities to provide for their wellbeing and for the health and safety and avoiding, remedying or mitigating any adverse effects of these activities on the environment. In achieving the purpose of the Act, Section 6(h) of the RMA requires the management of significant risks from natural hazards as a matter of national importance to be recognised and provided for, and section 7(i) requires particular regard to be given to the effects of climate change.
- Section 106 of the RMA gives district councils the ability to refuse subdivision consent or apply special conditions where land is subject to significant risk from natural hazards regardless of a district plan's subdivision provisions.
- Section 35(5)(j) of the RMA outlines the duty of local councils to keep records of natural hazards.

The New Zealand Coastal Policy Statement 2010 is the key higher order national direction at the present time addressing natural hazards and more specifically coastal hazards. Of importance to this report are:

- Objective 5 and Policies 24-27 which manage coastal hazard risks, including sea-level rise and climate change. The objective and policy framework requires areas in the coastal environment that are potentially affected by coastal hazards to be identified (assessed over at least a 100-year period) and provides a requirement to consider long-term sustainable risk reduction approaches and to avoid increasing the risk of social, environmental and economic harm from coastal hazards. Strategies are required to be provided to encourage redevelopment, or change in use, where that would reduce the risk of adverse effects from coastal hazards, including managed retreat. The policy framework also requires the protection, restoration or enhancement of natural defences that protect coastal land uses from coastal hazards.

Further detail of the RMA framework and other statutory and non-statutory documents relevant to the management of natural hazards is provided in Appendix 3.

It is noted that a national policy instrument for natural hazards is being prepared by Central Government and information on its likely contents is likely to become available before the end of 2024. While this requires a wait and see approach at present, it is likely that the national instrument for natural hazards will be available in time to inform the natural hazards plan change.

2.5 Methods Considered

Consideration of options to address identified issues and achieve desired outcomes fall into six main categories that are within the functions of Council:

- Regulation (through the TRMP)
- Investigation and monitoring

- Education, advice and advocacy
- Works and services provided by Council
- Financial assistance
- Community partnerships

Other methods may also be undertaken by iwi, industry or community groups, which play an important role in achieving the outcomes sought in the Tasman District. However, these aspects fall outside the scope of the options considered in this report, except indirectly where they may be supported by a council function or service (for example financial subsidy or technical assistance for a community group project).

In addition to amending the TRMP to achieve the outcomes sought for each of the identified natural hazards, it is likely that other non-regulatory methods will be used alongside the plan change, including education, guidance or incentives.

In developing potential options to address each the outcomes sought for each issue or sub-issue, the report has evaluated the status quo. Options that are considered to be improvements to the status quo with respect to meeting the outcomes have also been considered. The report does not consider reduced regulation options that do not meet the outcomes sought. It is anticipated that the reduced / minimal / zero regulatory approach option will be evaluated as part of s32 reports required as part of preparing the plan change.

2.5.1 Implementation Plans

Any regulation options identified will be implemented through the development of this TRMP plan change. Any other non-regulatory methods identified will be actioned through a separate Implementation Plan that is released for community feedback alongside the Draft Plan Change as required.

The intent of an Implementation Plan will be to outline and cost the non-regulatory methods for inclusion in other council processes including funding through the Long-Term Plan process and implementation through Activity Management Plans.

2.6 Emerging Issues

Emerging issues are dealt with under each natural hazard topic in the issues section. However, there are some emerging issues that may influence all of the natural hazards discussed generally in this report. In particular, the Government is in the process of concluding its inquiry into developing a national adaptation framework. This framework will be directly related to climate change and address appropriate responses to natural hazards that could be exacerbated by climate change. In addition, as stated earlier in this report the Government has recently signalled that it will be releasing national direction in respect to natural hazards. The content of this national instrument on natural hazards is unknown at present but likely to be known by early 2025. This national instrument is therefore likely to be available to inform and influence the natural hazard plan change being prepared by the Council.

2.7 Other Resource Management Plan Approaches

A number of resource management plans have been reviewed as part of preparing this issues and options report. Appendix 4 includes excerpts from reviewed plans, organised by natural hazard.

3. Issue 1 – Liquefaction

Liquefaction has the potential to adversely affect the environment during and following an earthquake. This can include damage to buildings, structures and infrastructure and disruption to the community. In rare cases liquefaction can also present a risk to life.

3.1 Outcome(s) Sought

The risks to people and property from liquefaction are avoided or mitigated.

3.2 Scale and Significance

Table 2: Scale and Significance

Criteria	Comments	Assessment
Degree of change from the Status Quo	The TRMP does not specifically manage risk from liquefaction. Council's current approach is to require geotechnical assessment of building locations as part of the subdivision process.	Moderate-high
Effects on matters of national importance (s6 RMA)	This issue is directly relevant to section 6(h) 'the management of significant risks from natural hazards'. Section 7(i) the effects of climate change is also relevant, insofar that rising sea levels will raise groundwater levels in low-lying coastal locations, which may in turn increase the potential for liquefaction hazard.	High
Scale of effects – geographically (local, district wide, regional, national)	Based on the Tasman Regional Liquefaction Assessment report (Beca, 2021), liquefaction hazard is present in parts of the region, including Richmond (in part) and Motueka. The Beca report categorises some areas of the district as 'liquefaction damage is possible'. However, incidences of liquefaction are expected to be limited in extent. Estuary and coastal margins are often vulnerable.	Low
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?)	Based on the extent of areas identified as 'liquefaction damage is possible', multiple landowners are likely to be affected, including in part of populated areas of Richmond and Motueka. However, it is understood that due to the gravelly nature of Tasman's alluvial plains are such that incidences of liquefaction	Low-moderate

	within this area are likely to be much more limited in extent.	
Scale of effects on those with particular interests, e.g. Tangata Whenua	Landowners, including iwi/Māori landowners will be affected by new mapping and identification of land that may be subject to damage from liquefaction. As there are management options for risk from liquefaction the scale of effects is not considered to disproportionality affect one group over another. It is noted that iwi/Māori will be affected in relation to places/sites of significance to iwi/Māori at the coast and/or along river margins, and these may be affected by liquefaction in a significant earthquake.	Low - moderate
Degree of policy risk – does it involve effects that have been considered implicitly or explicitly by higher order documents? Does it involve effects addressed by other standards/commonly accepted best practice?	While the RPS identifies liquefaction as an issue, there is no specific RPS direction for managing risk from liquefaction. However, there are general RPS natural hazards objectives and policies that guide outcomes in relation to land subject to natural hazards as identified in section 2.1 above. Collectively the RPS objectives and policies seek to avoid, remedy or mitigate adverse effects from urban development in hazard-prone areas; avoid urban development in areas subject to hazards except for extensions in areas where adequate mitigation is undertaken; and reduce risk (including from earthquake hazards); and reduce risks from the effects of earthquake shaking and ground movement. Policy 11.1 in the RPS seeks to reduce risks from a range of natural hazards. The Tasman Regional Liquefaction Assessment has been prepared in accordance with the joint MBIE/ MfE ‘Planning and engineering guidance for potentially liquefaction-prone land’ (MBIE, MfE, 2017).	Low
Likelihood of increased costs or restrictions on individuals, businesses or communities.	If the recommended option to include mapping and provisions for liquefaction risk in the TRMP is progressed, there will be costs to consent applicants for geotechnical advice at resource consent stage. There are also potential costs associated with mitigation requirements such as land remediation and foundations. A cost benefit analysis is required to accurately determine if this will be a higher cost than the status quo. However, it is noted that under the status quo geotechnical reports are required for many proposals – the additional cost will primarily relate to land use consents. The current Council practice is to require site certification for subdivision consent or at building consent stage. Where a subdivision has been	Low – moderate

	undertaken and the proposal only requires land use and building consent there would typically not be further geotech requirements, and therefore no additional cost as this is already been captured at the subdivision stage. Potential additional costs may arise where resource consent is triggered under any new rule for a proposal that would otherwise not require a land use resource consent.	
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3.3 Option(s) to Address the Issue

The main option(s) to mitigate the risk from liquefaction are summarised in Table 3.

Table 3: Options Identified

Option Number	Option Name	Description of Option
Option 1	Status quo	Retain the current TRMP approach – no specific mapping or provisions for liquefaction – continue to manage by requiring geotechnical assessment of building locations as part of the subdivision process or through the building consent process.
Option 2	Include liquefaction mapping (Level A) and provisions in the TRMP	Amend current TRMP approach to including Level A mapping and targeted provisions for managing risk from liquefaction for subdivision, activities, land use and development.
Option 3	Complete Level B assessment and include liquefaction mapping and provisions in the TRMP.	Complete a Level B assessment for those parts of the District identified as 'liquefaction damage is possible' where there is existing or proposed development. Amend current TRMP approach to including mapping and targeted provisions for managing risk from liquefaction for subdivision, activities, land use and development.

These options are described in turn below, followed by an assessment of their strengths and weaknesses.

3.3.1 Option 1 – Status Quo

3.3.1.1 Current approach

The TRMP does not contain any liquefaction specific rules or methods. Management of risk from liquefaction via the resource consent process is typically occurring at subdivision stage, with subdivision consent applications being required to include an evaluation of ground conditions.

The current approach relies on general natural hazard policies where natural hazards are a consideration. For permitted activities or land use consents where an assessment for liquefaction is not triggered, the Building Act process and the Building Code are relied on to confirm good ground and adequate foundation design at building consent stage.

TRMP Chapter 13 addresses natural hazards generally, and the relevant objectives and general policies are set out below. There are two objectives that are relevant to liquefaction, as below. While Objective 13.1.2.1 refers to ‘earthquake hazard’, which broadly includes liquefaction that may occur as a result of an earthquake, the methods in the TRMP relating to earthquake hazards are focussed on fault rupture.

- Objective 13.1.2.1 Management of areas subject to natural hazard, particularly flooding, instability, coastal and river erosion, inundation and earthquake hazard, to ensure that development is avoided or mitigated, depending on the degree of risk.
- Objective 13.1.2.2 Land development, including supporting network infrastructure asset services, is resilient against natural hazards.

The following policies are considered to provide direction with respect to managing liquefaction risk generally:

- Policy 13.1.3.1 To avoid the effects of natural hazards on land use activities in areas or on sites that have a significant risk of instability, earthquake shaking, fault rupture, flooding, erosion or inundation, or in areas with high groundwater levels.
- Policy 13.1.3.4 To avoid or mitigate adverse effects of the interactions between natural hazards and the subdivision, use and development of land.
- Policy 13.1.3.17 To mitigate natural hazard risks through the design and construction of network asset infrastructure.
- Policy 13.1.3.18 To design and construct resilient network asset infrastructure.

These objectives and policies are typically engaged with for any discretionary or non-complying resource consent that is located in the liquefaction damage is possible area.

A number of zone controlled and restricted discretionary activity rules include reference to natural hazards as a matter of control/discretion.

3.3.1.2 S35 report

The Chapter 13 s35 report noted that the TRMP did not include a framework to explicitly address liquefaction hazard and through the TRMP plan review, staff would need to consider what role the plan plays in managing liquefaction versus the Building Code.

3.3.2 Option 2 – Include liquefaction mapping and provisions in TRMP

Option 2 is changing the TRMP to provide for specific/targeted management of risk from liquefaction. This would include:

- Introducing a liquefaction management overlay that includes land where the assessed liquefaction risk is deemed to require consideration. Based on current information the overlay would include the area identified in the 2021 regional liquefaction risk assessment (Level A) as ‘liquefaction damage is possible’.
- Policies and methods that provide specific guidance and controls for subdivision, activities, land use and development in the liquefaction overlay.

3.3.3 Option 3 – Complete Level B assessment for identified areas and include liquefaction mapping and provisions in TRMP

Option 3 is similar to Option 2, but includes completion of a Level B assessment for areas of existing development and areas where there is likely to be future development including urban expansion. The Beca 2021 report describes a Level B assessment as a high-level calibration of mapped geology and geomorphology with deep subsurface investigations with an assessment of given return period earthquake scenarios. A minimum of three investigations per geological sub-unit is completed. Completion of a Level B assessment will reduce uncertainty within the 'liquefaction damage is possible' area and potentially reduce the extent of land within this classification.

As per Option 2, Option 3 includes changing the TRMP to provide for specific/targeted management of risk from liquefaction. This would include:

- Introducing a liquefaction management overlay that includes land where the assessed liquefaction risk is deemed to require consideration. This may include all of, or a refined area of land identified in the 2021 regional liquefaction risk assessment (Level A) as 'liquefaction damage is possible', depending on the findings of the Level B assessment.
- Policies and methods that provide specific guidance and controls for subdivision, activities, land use and development in the liquefaction overlay.

In developing the Option 2 and 3 approaches, there are a number of councils with more up to date resource management plan provisions that can be considered – refer to Appendix 4 for excerpts of provisions from these plans. A summary of these approaches is set out below.

Nelson City Council's Nelson Resource Management Plan's Plan Change 29

A comparable example that could be adopted and adapted for the Tasman context is NRMP PC29 (see Appendix 4 for full detail). The approach includes:

- A statutory Liquefaction Hazard Overlay based primarily on a Level A assessment.
- Policies and methods that seek control proposals for subdivision, use and development within the overlay and provide an enabling pathway where a recent (2021 onwards) subdivision has been consented that includes a site-specific liquefaction assessment.

This Nelson approach to managing risk from liquefaction is a worthwhile consideration as it is based on the same technical information and is from a neighbouring unitary authority. This approach can be used as a starting point with respect to policies and methods for managing risk from liquefaction and could allow for some alignment in how the different plans approach this topic.

Other district plan approaches to managing risk from liquefaction are set out below. These may be considered as more detailed options if it is decided that the plan change should include mapping and provisions for liquefaction.

Christchurch District Plan

- Mapping of a 'Liquefaction Management Area' of land where damaging liquefaction is likely to occur.
- Policies and methods that provide for rezoning, subdivision, use and development where the risk from liquefaction has been assessed and can be adequately remedied or mitigated; and a permitted pathway for all activities unless specifically subject to controlled or restricted discretionary activity rules – this includes subdivision that creates an additional vacant

allotment (controlled activity) and activities in a number of residential zones where the site area is 1500m² or more.

It is noted that the Christchurch District Plan approach was developed prior to the MfE/MBIE guidance, however the Canterbury events and subsequent management approach informed this guidance.

Selwyn Proposed District Plan

- A 'Liquefaction Damage Unlikely' overlay.
- A policy that provides for subdivision on flat land where the liquefaction hazard has been assessed and can be adequately remedied or mitigated.

Marlborough Environment Plan

- Identifies an area where there is significant liquefaction risk at Dillons Point formation on the Wairau Plain.
- A policy to avoid residential, commercial or industrial developments in the rural areas on the Wairau Plain east of the state highway unless remediation methods are used to reduce the level of liquefaction risk to an acceptable level.

3.4 Assessment of Strengths and Weaknesses

Table 4: Strengths and Weaknesses – Liquefaction Options

Options to address Issue	Strengths	Weaknesses
Option 1 – status quo	Liquefaction is being addressed at subdivision stage and titles issued with requirements for future buildings that address the risk from liquefaction – e.g. foundation specifications. The building code 'good ground' tests requires the council to consider liquefaction at building consent stage. Achieves the outcome with respect to subdivision and land use that comes after subdivision if properly appropriately considered and documented on the title.	Does not provide specific pathway to assess and address risk from liquefaction for all land use consents. At building consent stage the proposal is often fully developed and may need to be revisited if foundations do not manage the liquefaction risk. The Council's building consents officers have recommended liquefaction be considered at resource consent stage. While technical information (i.e. the Beca Level A mapping) sits outside the plan, the current approach is not informed by an overlay or specific provisions which is less efficient for plan users than the alternative. Risk of ad hoc application. Does not comprehensively/holistically manage risk from liquefaction as relies on other non-specific methods.

Option 2 – change the TRMP	Provides plan users more certainty with respect to where the potential for liquefaction to occur is through the use of an overlay; and information required to support a resource consent application. Sets liquefaction specific policies and methods in the TRMP that assist in efficient and targeted (effective) consideration of risk from natural hazards. Level A mapping has been prepared in accordance with MfE/MBIE guidance and meets requirements under the Building Act and for RMA purposes.	Adds another layer of regulation with associated time and cost implications. May increase building costs for development due to resource consent costs and mitigation costs, however it is noted that the current Council practice is to require site certification for subdivision consents and building consents. Additional costs compared to the status quo are likely to be limited to those instances where a resource consent is required under the liquefaction rules that would not otherwise trigger the need for a land use resource consent.
Option 3 – complete Level B mapping and change the TRMP	As for Option 2, with potentially more certainty for plan users than Option 2 because the Level B assessment is a calibrated assessment (compared to a basic assessment). The Level B assessment may result in a more refined overlay area; therefore Option 3 may mean less properties are affected by the overlay than under Option 2. This potential strength will not be confirmed until the Level B assessment is completed.	As for Option 2 but with increased costs associated with undertaking the Level B assessment, which includes calibration potentially via site investigation or accessing cone penetration tests from the New Zealand Geotechnical database. May not necessarily change the extent of a TRMP overlay. This potential weakness will not be confirmed until the Level B assessment is completed. The Level B assessment (and associated costs) may not be required due to other natural hazard issues. For example, estuary and coastal margins are often vulnerable to liquefaction. However, these areas are also where development may not be appropriate due to coastal hazards and sea level rise.

3.5 Relevant Waahi per Option

Because the risk assessment is region-wide, the options are equally relevant over the district and where it applies to 'liquefaction damage is possible'.

3.6 Evaluation of all Options

Table 5 summarises the extent to which each option meets or achieves a number of key considerations.

Table 5: Evaluation of Options

Options to address Issue	RMA Purpose	National Direction & Guidance	National Adaptation Plan / Emissions Reduction Plan	Efficiency at addressing Issue(s)	Effectiveness at addressing Issue(s)	Strengths	Weaknesses
Option 1	Mod	Mod	N/A	Mod	Mod	Mod	Mod
Option 2	High	High	N/A	High	High	High	Low
Option 3	High	High	N/A	Mod-high	High	High	Low

3.7 Issue 1: Recommended Option

3.7.1 Recommended Option and Reasons

Option 2 is the recommended option for Issue 1 - Liquefaction because it most closely achieves the purpose of the RMA and national guidance with respect to managing effects on subdivision and land use on areas identified as *liquefaction damage is possible*.

Option 2 best achieves the outcome identified in section 3.3 above – to manage effects of liquefaction to mitigate the risk to people, property and the environment in a more comprehensive and holistic way.

Option 2 is the most efficient and effective because while current practice under the TRMP is working adequately to address risk from liquefaction with respect to subdivision proposals, there is an opportunity to strengthen the TRMP approach to be more directive with respect to subdivision, as well as address the gap for land use consents.

The strengths of Option 2 outweigh the weaknesses because it provides a specific/targeted approach to managing risk from liquefaction.

Option 3 is also a reasonable option that will achieve the outcome sought, with the differences between Options 2 and 3 being finely balanced. The Level A assessment has been completed and is suitable for plan making purposes. Completion of a Level B assessment will be an additional cost that may or may not result in a more refined overlay. If specific areas are identified warranting further investigation then a hybrid of Options 2 & 3 for plan making purposes may be appropriate.

4. Issue 2 - Fault Rupture

There are a number of known fault lines in the District. Fault rupture during an earthquake has the potential to adversely affect the environment, including damage to buildings and infrastructure, and loss of life.

4.1 Outcome(s) Sought

The risks to people and property from fault rupture are avoided or mitigated.

4.2 Scale and Significance

Table 6: Scale and Significance

Criteria	Comments	Assessment
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Degree of change from the Status Quo	The TRMP currently manages risk from fault rupture through the Fault Rupture Risk Area (FRRA) (planning map overlay) and associated provisions. New/updated mapping from Beca recommends retaining the existing faults in the overlay and adding the Whangamoa, Wakamarama and Kikiwa faults to the FRRA. This results in more properties (in rural locations) being affected by the overlay and associated provisions.	Moderate
Effects on matters of national importance (s6 RMA)	This issue is directly relevant to section 6(h) 'the management of significant risks from natural hazards'.	High
Scale of effects – geographically (local, district wide, regional, national)	This issue relates to specific parts of the region where there are known fault lines. The scale of effects is therefore localised to these areas, many of which are rural.	Low-moderate
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?)	Multiple landowners will be affected, including many in the rural areas. Residential properties at Richmond and St Arnaud will continue to be affected however this is an existing known risk that is well understood and accepted.	Low-moderate
Scale of effects on those with particular interests, e.g. Tangata Whenua	More people will be affected if the FRRA is amended to include the three additional faults identified in the Beca report. New methods may be more restrictive and create an added burden for some parties, however the overall scale of effects on particular groups/those with particular interest are not anticipated to be significant.	Low-moderate
Degree of policy risk – does it involve effects that have been considered implicitly or explicitly by higher order documents? Does it involve effects addressed by other standards/commonly accepted best practice?	Fault rupture is identified as an RPS issue. While there is no specific RPS direction for managing risk from fault rupture there are general natural hazards objectives and policies that guide outcomes in relation to land subject to natural hazards as identified in section 2.1 above. Collectively the RPS objectives and policies seek to avoid, remedy or mitigate adverse effects from urban development in hazard-prone areas; avoid urban development in areas subject to hazards except for extensions in areas where adequate mitigation is undertaken; and reduce risk (including from earthquake hazards); and reduce risks from the effects of earthquake shaking and ground movement. Policy 11.1 in the RPS seeks to reduce risks from a range of natural hazards The Beca review of active faults has been prepared in accordance with the MfE guidance:	Low

	'Planning for Development of Land on or Close to Active Faults' (2003).	
Likelihood of increased costs or restrictions on individuals, businesses or communities.	There may be added costs for applicants if the Fault Rupture Risk area is extended, including application costs and potential lost opportunity costs if the new mapping (and associated provisions) mean that a proposal cannot proceed as planned. However, it is noted that the three additional faults recommended to be include in the FRRA are in rural areas where there is minimal development pressure.	Low

4.3 Option(s) to Address the Issue

The main option(s) to manage risk from fault rupture are summarised in Table 7.

Table 7: Options Identified

Option Number	Option Name	Description of Option
Option 1	Status quo	Retain the current TRMP approach.
Option 2	Update TRMP mapping only	Amend the TRMP approach to update mapping to include additional faults in the Fault Rupture Risk Area (as recommended by Beca). No changes to the existing associated provisions.
Option 3	Update TRMP mapping and change provisions	Amend the TRMP approach to update mapping to include additional faults in the Fault Rupture Risk Area (as recommended by Beca) and review and update associated provisions. Consider whether an awareness zone/overlay and associated provisions should also be included faults that are known to exist and are 'capable' of rupturing but that do not have any surface presence.

A reduced intervention approach, for example, amending the TRMP to remove the Fault Rupture Risk Area and associated provisions and rely on other methods (Building Act and Building Code, s106, general TRMP policy approach to natural hazards, civil defence, non-regulatory guidelines, insurance post-event) has not been assessed further given this does not meet the outcome described in section 4.1 above.

Options 1 – 3 are described in turn below, followed by an assessment of their strengths and weaknesses.

4.3.1 Option 1 – Status Quo

4.3.1.1 Current approach

Fault Rupture Risk Areas

Planning maps

The Waimea-Flaxmore, Wairau/Alpine, White Creek and Lyell faults are included in the FRRA overlay in the TRMP.

Objectives and policies

Policy 6.13.3.10 states that re-subdivision of existing residential zoned allotments at St Arnaud that are crossed by the Alpine Fault will not be permitted.

The general objectives and policies in Chapter 13 apply.

Rules

Rule 18.13.2.1 – Subdivision is a restricted discretionary activity subject to conditions:

- Every allotment on which any habitable building is intended to be located has a building location area shown.
- A report is prepared by an appropriately competent person in geology or geotechnical engineering with specialisation in earthquake risk assessment and submitted to Council. This report must meet specific requirements including surveying and mapping the land, confirming that buildings will meet required setbacks and specify any conditions for subdivision related to the reduction of fault rupture risk to any existing or proposed building or network utility service.
- A pathway is provided where the fault trace cannot be identified.
- For the Alpine Fault at St Arnaud and Waimea-Flaxmore Fault System at Richmond there are additional requirements including limiting access and not increasing the number of building location areas.

Matters of discretion for subdivision are:

- (1) Following subdivision, the risk to land, building or network utility service, of fault rupture or other ground deformation during an earthquake.
- (2) The avoidance or reduction of the extension of allotments to contain habitable buildings, or utility network services, across the indicated position of the active fault.

Rule 18.13.2.2 – Where the restricted discretionary conditions are not met, subdivision is a non-complying activity.

Rule 18.13.3.1 – Buildings are permitted subject to meeting conditions including:

- A habitable building proposal is accompanied by a report prepared by an appropriately competent person in geology or geotechnical engineering with specialisation in earthquake risk assessment and submitted to Council. The report must record the survey and mapping of the site at a scale of 1:500 to identify or show, as accurately as practicable, the location of the surface position of the plane of any active fault.
- Where the report identifies the location of the surface position of the plane of any active fault, then the building or alteration must meet setbacks.
- A pathway is provided where the fault trace cannot be identified.

Rule 18.13.3.2 – Where the permitted conditions are not met resource consent is required for a restricted discretionary activity.

There is a question as to the legality of some of the provisions that rely on a geotechnical assessment to determine compliance (third party) as part of the permitted activity rule (potentially ultra vires), although a number of council staff consider this to be working without issue. This issue is also raised in the Chapter 13 s35 report where it is noted that the appropriateness of using a third party should be considered.

The Chapter 13 s35 report identifies a number of issues with the status quo and these are discussed in more detail in the strengths and weaknesses evaluation table below.

4.3.2 Option 2 – Update TRMP mapping

Option 2 is to amend the TRMP approach to update the FRRA to include additional faults recommended by Beca for inclusion – Whangamoa, Wakamarama and Kikiwa. Option 2 does not involve any update to the TRMP provisions. This option is included on the basis that a number of Council staff have indicated that the current provisions have been working well for the last 20 years.

4.3.3 Option 3 – Update TRMP mapping and change provisions

Option 3 amend the TRMP to:

- a) Update the FRRA overlay to include additional faults recommended by Beca for inclusion – Whangamoa, Wakamarama and Kikiwa; and
- b) Review and update the existing provisions including specific policy direction for managing risk from fault rupture, address the potential vires issue regarding third party approval to determine compliance with the permitted activity conditions, and align with other councils' more recently prepared approaches;
- c) Consider whether an awareness zone/overlay and associated provisions should be included in the TRMP for faults that are known to exist and are 'capable' of rupturing but that do not have any surface presence– Pikipiruna and Ruby Bay – Moutere Faults.

In developing this approach, there are a number of councils with more up to date resource management plan provisions that can be considered – refer to Appendix 4 for excerpts of provisions from these plans.

Nelson City Council's Nelson Resource Management Plan's Plan Change 29

There is an opportunity align with NRMP PC29. The approach to fault rupture is comparable to Tasman as a neighbouring unitary authority and in that the NRMP already has mapping (Fault Hazard Overlay) and provisions. Additionally, NRMP PC29 involves fault / fault rupture mapping based on more recent technical information, as well as reviewing and updating the existing provisions. This approach is currently being tested via the hearings process. If it is used to inform the TRMP approach, the most up to date version of the provisions that form the decisions version of the plan change should be used.

The proposed approach for NRMP PC29 as notified includes:

- Mapping a Fault Deformation Overlay (similar to the existing Fault Hazard Overlay and the TRMP Fault Rupture Risk Area) and a Fault Awareness Overlay.
- Three policies that seek to:
 - Control subdivision, use and development within the Fault Deformation Overlay;
 - Require proposals to have a geotechnical assessment;
 - Require new buildings and network utilities (and additions), and additions to be appropriately set back.
- Consent required for subdivision and all buildings, network utilities, and additions in the Fault Deformation Overlay and subdivision in Fault Awareness Overlay.

Excerpts from the NRMP PC29 provisions are included in Appendix 4.

NRMP PC29 takes a similar approach to the current TRMP approach for managing risk from fault rupture. This includes identifying the fault hazard area on a map and then managing subdivision, use and development within the mapped area, either in general via requiring resource consent or rules that specify setbacks that must be met to be permitted.

If Option 3 is pursued there is a decision to be made as to how much of the TRMP permitted pathway should be retained. The operative approach relies on specifying setbacks from the fault trace. This requires a geotechnical specialist to identify the fault trace and then buildings must be set back from it. This is considered to be problematic as it is up to the applicant to determine compliance.

The Beca report does not comment on whether the current setbacks in the TRMP are appropriate from a technical perspective, therefore consideration of the setbacks is required as part of this option. Use of setbacks as a permitted activity rule were explored in the development of NRMP PC29 and not pursued as a permitted activity provision because the required setback of 5 metres was to an extent arbitrary in the absence of geotechnical assessment of appropriate site-specific setback distances. A restricted discretionary rule was considered more appropriate as it would allow an appropriate setback to be determined through site specific geotechnical assessment. Option 3 can consider alignment with NRMP PC29 approach and instead of specifying setbacks, set a restricted discretionary activity rule.

4.4 Assessment of Strengths and Weaknesses

Table 8: Strengths and Weaknesses – Fault Rupture Options

Options to address Issue	Strengths	Weaknesses
Option 1 – status quo	The approach is working well from the Council's perspective. It has been in place for many years and is well understood and accepted. The FRRA is mapped and provides certainty with respect to whether the associated provisions apply or not. It is reasonably targeted in urban areas which supports a risk-based approach.	The provisions are reasonably detailed but do not have any specific policy support to influence outcomes where resource consent is applied for. While the rules are understood to be working well from the Council's perspective, the legality of the permitted activity requirement for proposals in the FRRA is questionable. These provisions rely on certification of geotechnical assessments through a third party to determine compliance with the permitted activity conditions. The rules are reasonably complex and wordy and could be less effective at achieving the outcome than is

		generally understood, particularly for those not familiar with the TRMP. There is a lack of certainty as to whether permitted activity rule has been complied with if the fault trace cannot be located. The Council has identified there is an issue regarding the uncertainty as to how much effort was put into trying to locate it. Does not address the issues identified in the s35 report (appropriateness of third party, utility of Policy 6.13.3.10 and associated rules, issue with Rule 18.13.3.1(d)). The FRRAs do not contain all of the active faults – the Beca 2021 report recommends inclusion of three additional faults.
Option 2 – change TRMP mapping only	As for Option 1, plus the FRRAs overlay will be updated to include all of the faults that Beca have recommended be included.	As for Option 1 with respect to issues with the provisions.
Option 3 – change TRMP mapping and provisions	The TRMP approach to regulate (albeit via permitted pathway) subdivision, use and development in areas at risk of fault rupture is already happening. Option 3 changes to the provisions to remove the uncertainty around compliance are considered to be more effective at achieving the desired outcome and ensures that the risk is appropriately managed. Reduces risk of potential for ultra vires rules being challenged. Specific policy direction will support implementation of the rules – likely to improve overall efficiency. Includes all areas recommended by Beca to be mapped as FRRAs – certainty of mapping will support efficient application of provisions.	Removes permitted activity pathway whereby a proposal is permitted if a geotechnical report is prepared and the proposal meets the recommendations. Degree of change from the status quo and potentially removing the permitted pathway likely to be subject to challenge – increasing time and costs in the plan change process, including defending it in hearings. Requiring a resource consent (rather than providing the certification pathway) increases regulation. Potential increased costs associated with resource consent requirement. Expanding the FRRAs will mean that more properties are affected, albeit many in the rural area where development pressure is low.

4.5 Relevant Waahi per Option

Earthquake faults are located throughout the District, therefore the options are equally relevant. The only waahi that does not include a known fault is the Abel Tasman – Kaiteriteri waahi.

4.6 Evaluation of all Options

Table 9 summarises the extent to which each option meets or achieves a number of key considerations.

Table 9: Evaluation of Options

Options to address Issue	RMA Purpose	National Direction & Guidance	National Adaptation Plan / Emissions Reduction Plan	Efficiency at addressing Issue(s)	Effectiveness at addressing Issue(s)	Strengths	Weaknesses
Option 1	Mod	Mod	N/A	Mod	Mod	Mod	Mod
Option 2	Mod	Mod	N/A	Mod	Mod	Mod	Mod
Option 3	High	High	N/A	High	High	High	Low

4.7 Issue 2: Recommended Option

4.7.1 Recommended Option and Reasons

The recommended option is Option 3.

Option 3 is the recommended option for Issue 2 – Fault Rupture because it most closely achieves the purpose of the RMA.

Option 3 best achieves the outcome identified in section 4.1 above – to avoid or mitigate the risk to people and property from fault rupture.

Option 3 includes updating mapping that is supported by the latest technical advice which is more effective and efficient than retaining the operative mapping when a recent review has been completed.

Option 3 is the most efficient and effective because while current practice under the TRMP provisions are working adequately to address risk from fault rupture from the Council's perspective, the vires of the permitted pathway is questionable and open to challenge. It is considered that these rules are poorly drafted and are ultra-vires and do not reflect current planning best practice.

There is an opportunity within Option 3 to retain some aspects of the operative (mainly that it uses an overlay and manages development within it) approach but remove the permitted activity pathway. Because the current approach is well understood and geotechnical reports are required now, Option 3 formalises this through a consenting process.

In developing this approach, there are a number of councils with more up to date resource management plan provisions that can be considered. For example, Nelson's NRMP PC29 is a starting point, given they have a similar technical base – see Appendix 4 for detail. It is noted that the TRMP has general natural hazards policies that reference earthquake hazard.

5. Issue 3 – Slope Instability and Debris Run-out

Slope instability and debris run-out hazard occurs in some of the District's steep topography. If new activities are not managed appropriately, structures (Including buildings and infrastructure) on and below susceptible slopes are put at further risk increasing the potential for damage to property and risk to life.

5.1 Outcome(s) Sought

Slope instability and associated debris run-out hazard is identified in susceptibility areas of the district and the risks to people and property associated with these hazards, are avoided or mitigated.

5.2 Scale and Significance

Table 10: Scale and Significance

Criteria	Comments	Assessment
Degree of change from the Status Quo	The TRMP has existing provisions to address slope instability, but they are confined to the SIRA and land disturbance provisions. Debris run-out areas are not specifically identified within the current SIRA mapping and the land use rules are relatively permissive. There is also currently no specific policy framework supporting the SIRA. In order to achieve the outcome above, a more robust framework which strengthens and clarifies the provisions in the TRMP, provides policies that support the mapping and rules, and includes additional areas susceptible to slope instability or debris run-out that are currently outside of the SIRA, as a minimum may be required. This may mean that provisions may not need to be overly more restrictive than the status quo, but may cover more areas/properties. Currently the SIRA overlay does not cover the entire district, rather it has been identified for key areas where development pressure has been identified. There are other areas, such as remote rural and back country areas where slope instability hazards have not been assessed, and the TRMP needs to continue to manage this.	Moderate
Effects on matters of national importance (s6 RMA)	This issue is directly relevant to section 6(h) 'the management of significant risks from natural hazards'. Section 7(i) the effects of climate change is also relevant, insofar that more severe and frequent	High

	rainfall events may cause cascading hazards such as slope instability.	
Scale of effects – geographically (local, district wide, regional, national)	This issue primarily relates to steeper areas of the District, and areas downslope from steep areas or the adjoining flat land (i.e. debris fans). The scale of impacts and hence risk is greater in areas with residential and rural residential development and growth pressure.	Moderate
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?)	Given the topography of the District and pressure for growth, the scale of effects has the potential to increase. However, existing SIRA already manage key existing urban areas and general plan provisions manage areas outside of the SIRA, for example subdivision. The review and extension of the SIRA boundaries in some locations will impact property owners in these areas.	Moderate
Scale of effects on those with particular interests, e.g. Tangata Whenua	New provisions may be more restrictive and create an added burden for some parties – but the overall scale of change is not anticipated to be significant. Through Treaty of Waitangi settlement, some Te Tau Ihu own landholdings (including plantation forestry) underlain with SPG geology, known for its highly erodible characteristics. Additionally, Wakatū Incorporation also have landholdings in SPG.	Low-Moderate
Degree of policy risk – does it involve effects that have been considered implicitly or explicitly by higher order documents? Does it involve effects addressed by other standards/commonly accepted best practice?	The RPS includes an issue regarding avoidance or mitigation of land instability and structural risks from slope or ground failures. While the RPS does not specifically contain slope instability and debris-run out provisions, it does contain general natural hazard provisions which seek to reduce risks to the use and development of land subject to instability. For example, Policy 11.1 in the RPS seeks to reduce risks from a range of natural hazards. The recent GNS Landslide Guidance ¹² (see Appendix 3) has recently been released (February 2024) and the best practice guidelines in that document need to be considered.	Low
Likelihood of increased costs or restrictions on individuals, businesses or communities.	There could be some added costs for individuals, organisations and property owners. If the Council follows the approach adopted in other regions with similar issues (such as Nelson and	Low-Moderate

¹² Landslide Planning Guidance – Reducing Landslide Risk through Land-Use Planning, January 2024, GNS Science Miscellaneous series 144.

	Canterbury), and/or increases regulation in terms of requirements for geotechnical assessment and mitigation in areas where this is not currently required, there will be a cost to resource consent applicants.	
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5.3 Option(s) to Address the Issue

The main options to manage Issue 3 Slope instability and debris run-out risk are summarised in Table 11. Overall, there is a general opportunity to strengthen the provisions in the TRMP addressing slope instability and debris run-out hazard.

Table 11: Options Identified

Option Number	Option Name	Description of Option
Option 1	Status quo	Retain the current TRMP approach
Option 2	Update TRMP mapping and provisions	Update TRMP SIRA mapping and provisions by applying updated slope instability susceptibility mapping with supporting policies and rules.
Option 3	Update TRMP mapping and SIRA provisions, and investigate requirements for SPG geology	Update TRMP SIRA mapping and provisions by applying updated slope instability susceptibility mapping with supporting policies and rules, and investigate if there are requirements for other areas, for example all of the SPG. Include rationalisation/integration of some land disturbance provisions.
Option 4	Update and further refine the TRMP SIRA mapping and provisions, and investigate other areas	Update and further refine the TRMP SIRA mapping and provisions, include the SPG's, and some land disturbance area integration as per Option 3 and investigate requirements to identify various degrees of susceptibility within the SIRA including areas of 'elevated' susceptibility.

These options are described in turn below, followed by an assessment of their strengths and weaknesses.

5.3.1 Option 1 – Status Quo – Retain current TRMP approach

The current approach in the TRMP in respect to slope instability hazard is summarised below.

Planning Maps

SIRA are identified on the planning maps and relevant planning provisions apply. The mapping does not include the entire District but focuses on specific areas of development pressure outlining land potentially susceptible to slope instability as follows:

- Richmond foothills
- Clifton/Pohara/Ligar Bay
- Collingwood
- Ruby Bay sea cliffs

Areas where slope instability hazards have not been assessed include rural and back country areas, including a large area of Separation Point Granite geology.

Policy direction

There are a number of general natural hazard objective and policies which include slope instability:

Objective 13.1.2.1

Management of areas subject to natural hazard, particularly flooding, instability, coastal and river erosion, inundation and earthquake hazard, to ensure that development is avoided or mitigated, depending on the degree of risk.

There is one specific policy relating to slope instability, but no specific policies relating to the SIRA. Policy 13.1.3.13 - *To regulate land disturbance so that slope instability and other erosion processes and inundation are not initiated or accelerated.*

Rules

Planning rules seek to control subdivision and the location of habitable buildings and earthwork activities in the SIRA (Chapter 18.12). The overlay and rules act as a flag to address slope stability hazards when developing a site or undertaking new building work. The rules require a geotechnical assessment of the ground conditions and site stability and recommend appropriate mitigation measures. The permitted activity rule relies on third party certification of the geotechnical conditions to determine compliance of the permitted activity land use rule.

There are also two land disturbance areas identified in the TRMP (Chapter 18.5) with corresponding rules which seek to ensure that slope instability/erosion are not initiated or accelerated. Land Disturbance Area 2 (LDA2) rules apply to SPG. Currently, if there is a SIRA overlapping with LDA2, then the SIRA rules apply and the LDA2 rules are silent. This requires correcting so that both sets of rules apply.

In addition, there are a number of rules in the TRMP that have matters of restricted discretion or control located in a number of sections of the TRMP which include geotechnical matters (which includes slope instability). For example, Section 17.8 Rural Residential Zone rules - Controlled Activities - Buildings Construction, Alteration, or Use:

(8) The extent to which the effects of natural hazards, within and beyond the boundaries of the site, including wildfire risk and coastal, flood, stormwater, geotechnical or earthquake hazards will be avoided or mitigated.

The Chapter 13 s35 report identifies a number of issues with the status quo and these are discussed in more detail in the strengths and weaknesses evaluation table below.

5.3.2 Option 2 – Update TRMP Mapping and Provisions

Option 2 would build on Option 1 by incorporating updated slope instability susceptibility mapping, including debris run-out areas, for three of the four existing SIRA locations. The revised SIRA areas to be considered are:

- Richmond foothills
- Clifton – Pohara – Ligar Bay, and includes a wider area of Tākaka
- Collingwood

The Ruby Bay Sea Cliffs SIRA would remain unchanged as it was not included in the review, as Council largely understands slope instability hazards in this area and there is minimal development

pressure. This option also proposes to rename the SIRA to 'Slope Instability Susceptibility Area (SISA)' recognising that the mapping identifies areas susceptible to slope instability rather than risk areas.

The methodology used to review the existing SIRA (including the extent of their boundaries) to determine the susceptibility areas is considered to be consistent with a Level A (simple) assessment approach identified in the Landslide Planning Guidance¹³ recently published by GNS and is considered suitable (if at the minimum end) for district plan reviews. Further work is required before the updated SIRA mapping can be finalised and used to inform future planning provisions.

As identified in the Chapter 13 s35 report, the TRMP does not currently include a specific policy framework for the SIRA and this could be introduced to strengthen the framework, including policy support for the Beca identified debris run-out areas. Opportunity could also be taken to revise and strengthen the rules framework such as removing the issues with the existing *ultra vires* permitted activity rule which requires third party certification.

5.3.3 Option 3 - Update TRMP SIRA mapping and provisions, and investigate requirements for other areas

This option includes updating the TRMP mapping and provisions as per Option 2 (including debris run-out areas, and renaming to SISA) with the addition of investigating whether the SIRA framework and mapping should be extended to other areas in the District. This could include SPG geology areas not currently covered in the TRMP.

As part of this option, staff would need to investigate the cost versus benefit of completing targeted mapping (to a Level A (simple) assessment identified in the Landslide Planning Guidance as was completed for other SIRA areas), or whether the Land Disturbance Area 2 overlay and our existing understanding of SPG characteristics is sufficient technical evidence for natural hazards provisions.

This option could also bring together some components of the land disturbance provisions in the TRMP, so slope instability and debris run-out hazard is addressed in one place in the TRMP, within the natural hazards chapter.

5.3.4 Option 4 –Update and further refine the TRMP SIRA mapping and provisions, and investigate requirements for other areas

This option includes updating the TRMP mapping and provisions and investigation as per Option 3.

Additionally, this option would consider the extension of the SIRA beyond the revision and Level A assessment to identify areas which have an 'elevated' susceptibility, i.e. further refinement to identify varying degrees of susceptibility (tiers) within the SIRA. A supporting policy and rule framework would take a risk-based approach depending on the degree of susceptibility.

In developing this approach, Nelson City Council's NRMP PC29 provisions could be considered where it may have applicability within a Tasman context – refer to Appendix 4 for excerpts of provisions

¹³Landslide Planning Guidance – Reducing Landslide Risk through Land-Use Planning, January 2024, GNS Science Miscellaneous series 144.

from this plan. It is noted that the scope of PC29 is Nelson City’s urbanised areas only (Residential, Industrial, Inner City and Suburban Commercial zones) so it doesn’t cover the whole district.

5.4 Assessment of Strengths and Weaknesses

Table 12: Strengths and Weaknesses – Slope Instability Options

Options to address Issue	Strengths	Weaknesses
Option 1 – Status quo	The status quo approach is already well understood and accepted. SIRA methodology in TRMP has adopted a Level A susceptibility assessment that is generally consistent with the new GNS Landslide Guidance. Subdivision resource consents have been able to address slope instability issues and provide conditions of consent and consent notice requirements under this approach. The approach has therefore been effective for the areas within the SIRA. Regarding land use, the certification process enables permitted activity status where a geotechnical assessment is provided for sites within the SIRA, so is potentially an efficient rule. It is unclear at time of writing whether this permissive approach is an effective means of addressing the outcome sought to manage slope instability hazards. The SIRA is identified on the planning maps and outlines the areas the provisions apply within, so is clear and unambiguous. The mapping focuses on specific areas of development pressure and is therefore nominally risk-based. Section 18.12 comprises a separate section for the SIRA rules which is easy to locate in the TRMP. Is able to achieve the outcome in respect to the existing SIRA. But outside of the SIRA there is a reliance on the general land disturbance rules (within two land disturbance zone areas)	The SIRA is inaccurately called a “risk area” but in fact identifies areas susceptible to slope instability. There are issues with the legality of permitted activity land use rules in the SIRA. These provisions currently rely on certification of geotechnical assessments through a third party to determine compliance with the permitted activity conditions. The rules are reasonably complex and wordy and could be less effective at achieving the outcome than is generally understood. The process for recertifying older geotechnical assessments is also questionable. If the rules provide for third party approval and doubtful recertification of old reports, the rules will need to be reviewed as they will be difficult to retain in a more modern RMA planning process. The mapping does not include the entire District which means new areas (greenfields) may not be identified within the SIRA, however these would be caught under the subdivision general requirements for site certification of building location areas. There are areas in the District which are currently not included in the SIRA, such as most of the SPG, and are not provided with similar regulation. These areas rely on the land disturbance provisions, consideration during subdivision, or through the Building Act. The outcome outlined earlier in

	to ensure that slope instability/erosion and inundation are not initiated or accelerated.	respect to slope instability hazard for these areas is therefore less likely to be achieved. Staff at the Council have also identified an issue that where Land Disturbance Area 2 overlies with the SIRA in Eastern Golden Bay, only the SIRA rules apply which results in a weaker outcome for land disturbance management. This will need to be addressed through this plan change or PC84 Land and Freshwater (depending on scope). The SIRA rules are very prescriptive, but have no specific objectives and policies to provide an overarching framework (policies are land disturbance focused). Consequently, there is no clear line of sight from an objective to a policy and from a policy to a rule¹⁴. This option does not provide for a comprehensive slope instability framework, and by retaining the operative plan format rules will continue to be spread over general natural hazards, SIRA and land disturbance chapters. New technical information on slope instability susceptibility areas is available (Beca) and once finalised could inform updated susceptibility maps.¹⁵ New guidance (GNS/EQC Landslide Planning Guidance – Reducing Landslide Risk through Land-use Planning (January 2024)) is also now available.
Option 2 – Update TRMP mapping and provisions	This option uses revised SIRA mapping , including areas of debris run-out, with added supporting policies and rules and will therefore be more effective than Option 1.	This option does not provide for a comprehensive slope instability framework, and by retaining the operative plan format rules will continue to be spread over general natural hazards, SIRA and land disturbance chapters and is very repetitive.

¹⁴ TRMP Efficiency and Effectiveness Evaluation, Chapter 13 Natural Hazards, September 2020

¹⁵ Review of TDC Slope Instability Risk Areas, Richmond Foothills, Collingwood, Clifton/Pohara/Ligar Bay, Prepared for Tasman District Council, Beca July 2021.

	Approach has adopted a Level A assessment for SIRA locations that is generally consistent with the new GNS Landslide Guidance. Replacing potentially ultra vires permitted activity rules in the TRMP with a new set of rules which also require geotechnical assessments are likely to be more effective than Option 1. Is expected to better achieve the outcome sought for slope instability than Option 1. Will be more efficient and effective than the current TRMP provisions. But will require less work than Option 3 and 4 and potentially more cost effective.	The mapping does not include the entire District which means new areas (greenfields) may not be identified within the SIRA, however these would be caught under the subdivision general requirements for site certification of building location areas. There are areas in the district currently not included in the SIRA, such as most of the SPG, which are not provided with similar regulation. These areas rely on the land disturbance provisions, consideration during subdivision, or through the Building Act. The outcome outlined earlier in respect to slope instability hazard for these areas is therefore less likely to be achieved.
Option 3 - Update TRMP SIRA mapping and provisions, and include more of Separation Point Granite (SPG) sensitive geology.	With completion of additional work, this option uses up to date information on which to base the mapping, policies and rules and will therefore be more effective. Replacing potentially ultra vires permitted activity rules in the TRMP with a new set of rules based on revised technical information is likely to be more effective and efficient than Option 1. A stronger policy framework to support the SIRA approach, including revised areas (including debris run-out areas), is likely to be more effective than Option 1 and could be further developed to be more nuanced for Tasman than Option 2. For example, consideration of additional areas underlain by the SPG could be achieved under this option, and be more effective and efficient in achieving the outcome sought.	The extent of mapping required to include the SPG would be greater than the specific areas currently identified as the SIRA, and may be more costly than Option 2. Although greater than Option 2, the mapping does not include the entire District which means new areas (greenfields) may not be identified within the SIRA, however these would be caught under the subdivision general requirements for site certification of building location areas.
Option 4 – Update and further refine the TRMP mapping and provisions, include SPG geology and identify areas within the SIRA.	With completion of additional work, this option uses up to date and more comprehensive information on which to base the mapping, policies and rules and will therefore be more effective. A stronger policy framework to support the SIRA approach, including revised areas, is likely to be more effective than Option 1, The addition of areas underlain by SPG with the added refinement to the SIRA by identifying	The extent of mapping would be greater than the specific areas currently identified as the SIRA, and may require more budget than Options 1, 2 and 3. Given the size of the Tasman District this may not be a feasible option (although noting it still does not include the entire district). More work and time would be required to categorise the SIRA into a number of tiers, similar to how Nelson has undertaken their mapping for their NRMP PC29.

	areas within it of 'elevated susceptibility' would be more effective than Option 3. Overall, this option is expected to better achieve the outcome sought for slope instability than Options 1 – 3; it will be more comprehensive and have greater consistency with National Guidelines. Will be more efficient and effective than the current TRMP provisions. Potentially achieves greater cross boundary consistency with Nelson.	May be more costly and complex to develop the provisions and support them through the planning process. Potentially includes a larger number of properties which could increase costs to property owners on susceptible land, and potentially increase the number of consents that the Council has to process.
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5.5 Relevant Waahi per Option

The options are equally relevant over the district, given the hilly nature of Tasman and the potential for slope instability and debris run-out hazards.

5.6 Evaluation of all Options

Table 13 summarises the extent to which each option meets or achieves a number of key considerations.

Table 13: Evaluation of Options

Options to address Issue	RMA Purpose	National Direction & Guidance	National Adaptation Plan / Emissions Reduction Plan	Efficiency at addressing Issue(s)	Effectiveness at addressing Issue(s)	Strengths	Weaknesses
Option 1	Mod	Mod-low	N/A	Mod	Mod-low	Mod	Mod
Option 2	High	Mod	N/A	Mod	Mod	Mod	Mod
Option 3	High	Mod-high	N/A	Mod	High	Mod-High	Low
Option 4	High	Mod-high	N/A	Mod	High	Mod-High	Low-mod

5.7 Issue 3: Recommended Option

5.7.1 Recommended Option & Reasons

Option 3 is the recommended option for Issue 3 Slope instability as it is more cost effective than Option 4 while still achieving the slope instability outcome identified earlier in this report.

The option provides the opportunity to update and strengthen the slope instability and debris run-out provisions in the TRMP using revised SIRA mapping. This option also provides for further

mapping for areas underlain by the SPG geology to be included in the framework. This option also includes developing policies and a rule framework to support the SIRA.

As part of this option, staff would need to investigate the cost versus benefit of completing targeted mapping for SPG (to a level completed by Beca for other SIRA areas), or whether the Land Disturbance Area 2 overlay and our existing understanding of SPG characteristics is sufficient technical evidence for natural hazards provisions.

The strengths of Option 3 outweigh the weaknesses as it enables the best of the TRMP to be retained while focussing on incorporating updated technical information and address SPG geology. The outcome could be achieved under Option 3 without the need to undertake the potentially significant additional work and incur cost associated with Option 4.

6. Issue 4 - Coastal Hazards

The District comprises large low-lying settled coastal areas that are susceptible to coastal erosion and inundation hazards. These hazards will only increase overtime as a result of climate change and sea-level rise, putting more people and property and the environment at risk.

A sub issue has also been identified for this topic:

Sub issue: Coastal protection works to mitigate coastal inundation and erosion are costly to maintain, often create residual risk (and a false expectation of protection), can transfer risks to previously unaffected people and property, and create ecosystem and natural character feedbacks and effects that are often unanticipated and undesirable.

6.1 Outcome Sought

The risks to people, property and the environment associated with coastal inundation and coastal erosion hazards, including the effects of climate change and sea level rise, are avoided or mitigated in low-lying coastal areas of the District.

6.2 Scale and Significance

Table 14: Scale and Significance

Criteria	Comments	Assessment
Degree of change from the Status Quo	Coastal hazards are already addressed in the TRMP, particularly at the policy level, so change from the status quo may not be large. However, if more areas are mapped and more properties are affected by new overlays and associated provisions, the degree of change from the status quo could be high. In addition, if climate change and sea-level rise assumptions change as a result of updated national guidance,	Moderate-high

	existing coastal hazard mapping extents and provisions could cause a significant change in the status quo.	
Effects on matters of national importance (s6 RMA)	This issue is directly relevant to section 6(h) 'the management of significant risks from natural hazards'. Section 6a and 6c matters regarding coastal squeeze and enabling ecological retreat are relevant. Section 7(i) the effects of climate change is also relevant.	High
Scale of effects – geographically (local, district wide, regional, national)	This issue primarily relates to low-lying coastal areas of the District. The scale of effects, and hence risk, is greater in these low-lying coastal areas with existing residential and rural residential development and growth pressure. Impacts will increase through climate change and sea level rise.	High
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?)	Given the extensive settled low-lying coastal areas of the District, and pressure for urban growth, the number of people affected (landowners and entire communities) has the potential to be high. Impacts of climate change on future generations could be significant.	High
Scale of effects on those with particular interests, e.g. Tangata Whenua	New methods may be more restrictive and create an added burden for some parties. The overall scale of change could be significant in some localities. Given historical occupation by iwi/Māori at the coast, sites and places of significance to iwi and Māori will be affected by coastal erosion and inundation, and will be exacerbated by rising sea levels.	High
Degree of policy risk – does it involve effects that have been considered implicitly or explicitly by higher order documents? Does	The NZCPS is the key higher order document in respect to coastal hazards. The RPS and TRMP provisions largely predate the	Moderate

it involve effects addressed by other standards/commonly accepted best practice?	NZCPS (except plan change 22 for Māpua /Ruby Bay, operative 2015) Avoidance or mitigation of coastal erosion and the effects of sea-level rise are identified issues in respect to coastal hazards in the RPS. Policy 11.1 seeks reduced risks from a range of natural hazards including flooding and erosion. While these matters are addressed in the TRMP, policy risk remains until the RPS and the TRMP are updated to include the NZCPS coastal hazards direction, primarily found in objective 5 and Policies 24, 25, 26 and 27. The National Adaptation Plan (2022) must be had regard to, and is not reflected in the older RPS or TRMP provisions. The MfE Coastal Hazards Guidance (MfE, 2024) (see Appendix 3) needs to be considered, particularly in relation to climate change scenarios.	
Likelihood of increased costs or restrictions on individuals, businesses or communities.	The TRMP currently identifies one Coastal Risk Area overly in Māpua. Any increase in the extent of this overlay or introduction of new coastal hazard overlays may increase the number of people and communities identified in these new overlays and could result in increased restrictions in terms of plan provisions and increased costs of mitigation.	Moderate-high

6.3 Options to Address the Issue

The main options to address coastal hazard risk within the District are summarised in Table 15.

Table 15: Options Identified

Option Number	Option Name	Description of Option
Option 1	Status quo	Retain the current TRMP approach

Option 2	Extend PC 22 framework to other areas, with updates	Extend the PC22 Māpua /Ruby Bay Coastal Risk Area framework to other low-lying areas and update technical information and provisions as required
Option 3	Update TRMP mapping and provisions	Amend the TRMP approach to update and revise coastal inundation areas and include new coastal erosion areas. Review and update associated provisions based on technical information/mapping.

6.3.1 Status Quo – Retain Current TRMP Approach

Option 1 involves no change to the current framework in the TRMP as described below.

There are a number of objectives and policies ‘scattered’ across various chapters in the TRMP that address coastal hazards; the two main chapters being – Chapter 13 and Chapter 23 and some specific provisions for Māpua /Ruby Bay Coastal Risk Area (Plan Change 22).

Under Chapter 23 (Coastal Marine Area) the relevant objective is Objective 23.1.2 which states “Subdivision, use or development of coastal land that avoids the need for protection works against hazards from natural coastal processes”.

Under Chapter 13 (Land), general natural hazard objective 13.1.2.1 seeks management of areas subject to natural hazards (which specifically includes coastal erosion and inundation) to ensure that development is avoided or mitigated, depending on the degree of risk.

Policies seek avoidance/limitation of subdivision, use or development in areas at risk of coastal hazards and include avoiding construction of new habitable buildings in specific areas (Māpua/Ruby Bay).

Further policies seek to avoid/prevent the disturbance/aggravation of natural coastal processes resulting from subdivision, use or development.

Plan Change 22 Māpua and Ruby Bay Development (PC22, operative 2015) contains provisions that align to an extent with the NZCPS and previous MfE Guidance (2008). The plan change focus was primarily on providing land use policies and rules in respect to buildings (particularly habitable buildings) and coastal protection structures in the Coastal Risk Area and includes a Residential Closed zone. The plan change also provided for the future expansion of Māpua and Ruby Bay onto more elevated land away from the low-lying at-risk coastal hazard areas. The Coastal Risk Area is identified on the planning maps as an overlay.

Coastal protection structures are regulated within the Coastal Risk Area and within the Coastal Marine Area, but the current framework provides a permissive approach above mean high water springs. The plan provides for consideration of the need for coastal protection works when determining the appropriateness of subdivision, use and development, and to avoid protection structures where practicable.

The Coastal Environment Area (CEA) is delineated on the planning maps for the purpose of guiding the management of the district’s coastline and considers the planning matters of natural character and landscape, natural hazards, and disposal of refuse considerations. The CEA rules specify minimum setback distances from mean high water springs for new buildings and the effects of natural hazards is a resource consent assessment matter (Chapter 18.11).

The Chapter 13 s35 report identifies a number of issues with the status quo and these are discussed in more detail in the strengths and weaknesses evaluation table below.

6.3.2 Option 2 Extend Māpua/Ruby Bay Coastal Risk Area Framework to other low-lying at-risk coastal areas - with updates

Option 2 involves extending the Māpua/Ruby Bay Coastal Risk Area framework to other low-lying at-risk coastal areas in the District.

Due to updated guidance on climate change, sea-level rise and VLM, amendments would also be anticipated to the current Māpua and Ruby Bay inundation extents if required.

An assessment will be required on the applicability of adopting the PC22 framework for other areas, particularly the policies which close areas to future development using an ‘avoid’ policy approach.

This option would also include a general review and update to chapters 13 & 23 of the TRMP, including strengthening provisions to give effect to the NZCPS and address overlap between chapters 13 & 23.

6.3.3 Option 3 - Update TRMP Mapping and provisions

Option 3 involves amending the TRMP status quo approach to review, consolidate, update and revise coastal hazard provisions in the TRMP. It would include a review of Chapters 13 and 23 as per Option 2, and include deciding which provisions should be retained, remove existing duplication and strengthen the framework with new provisions where required.

This option would address the higher order documents including Objective 5 and Policies 24-27 of the NZCPS in respect to coastal hazards and consider recent guidance documents (e.g. coastal hazards and climate change guidance 2024). It would also recognise and provide for s6(h) and s7(i) of the RMA.

Option 3 would also involve an update of the TRMP mapping based on the most recent technical information, modelling and mapping available and investigate options to develop a new framework to address coastal hazards and sea level rise. This option is most likely to develop tailored provisions appropriate to specific areas but may also consider district-wide provisions applying to all low-lying areas (which could build on some of the principles of the Māpua/Ruby Bay Coastal Risk Area).

In developing this approach, there are a number of councils with more up to date resource management plan provisions that can be considered – refer to Appendix 4 for excerpts of provisions from these plans.

6.4 Assessment of Strengths and Weaknesses

Table 16: Strengths and Weaknesses – Coastal Hazard Options

Options to address Issue	Strengths	Weaknesses

Option 1 – Status quo	The status quo approach is already reasonably well understood and accepted by the community. Requires minimal resources and is low cost. Addresses the outcome sought in section 6.1 above (in respect to the Coastal Risk Area) and provides certainty for that area. For example, within the Coastal Risk Area new habitable buildings are to be relocatable and require resource consent.	The coastal policies are scattered throughout the TRMP making it difficult for decision-makers to piece together a comprehensive framework. High level of duplication between Chapter 13 and Chapter 23, but also conversely lack of recognition of coastal hazards in the coastal marine area in the TRMP in coastal hazard decision-making in the District. Does not generally give effect to the NZCPS with the exception of Māpua / Ruby Bay Coastal Risk Area (PC22). Consequently, no opportunity with this option to fully give effect to the NZCPS. Climate change and sea-level rise assumptions may not meet requirements of updated guidelines (even for Ruby Bay), and vertical land movement (VLM) is not considered. VLM is subsiding in Tasman District, which will exacerbate effects of climate change. A number of areas of the District potentially at risk of coastal hazards are currently not included in a Coastal Risk Area on the planning maps nor reflected in zoning in the TRMP (i.e., inconsistent treatment of areas with similar hazards) reducing certainty in respect to the stated outcome (and is therefore not currently risk-based). Consequently, there is a reliance on the Coastal Environment Area framework as a key pathway to enable natural hazards considerations to be assessed as part of the consenting process for new buildings in the coastal area. The issue is not dealt with comprehensively and the CEA rules are being used as a proxy as a result of poor drafting. Does not capture coastal protection structures above MHWS. That is: poor line of sight between policy and rule framework/activity status. In addition, policy provisions for coastal protection works (outside the Coastal Risk area) pre-date the NZCPS and therefore currently do not give effect to the NZCPS. Current provisions are ineffective in some low-lying coastal locations subject to
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		coastal hazards as the rules do not trigger the need for a resource consent or other method, therefore risk not addressed (other than potentially through s73 Notices under the Building Act). Inadequately utilises the ability of the unitary authority status of the Council to develop integrated regional and district provisions in terms of natural hazard provisions (s20, existing use rights, s30 and s31 – council functions).
Option 2- Extend PC22 framework for Māpua /Ruby Bay to other 'at risk' coastal areas plus update	Enables the opportunity to include additional areas of the District known to be affected by coastal hazards using the well-established PC22 framework (and potentially review zonings). Resource consent applications required through the Coastal Risk Area provisions for new habitable buildings have resulted in positive results including appropriate finished ground/floor levels and relocatable buildings. Enables development and updating of natural hazard technical information and mapping currently held by the Council (or commissioned), where required, to identify and include new areas affected by coastal hazards (e.g. zoning or overlays) and better hazard identification and management. This option will therefore be more effective in achieving the desired outcome and ensures risk is appropriately managed. Provides opportunity to give better effect to the NZCPS, Objective 5 and Policies 24-27 Provides opportunity for coastal hazard provisions to be updated and consolidated to recognise legislative changes, national guidance and new and existing council work programmes. PC 22 has general endorsement from the Environment Court - (Gallagher v Tasman District Council [2014] NZEnvC 245) so has potentially less risk associated with it, if the approach is expanded over other parts of the District.	This approach will need to be carefully assessed for its applicability to other areas, particularly policies which close areas to future development using an 'avoid' policy approach. This option does not specifically include addressing coastal erosion, on the assumption that coastal inundation and sea level rise will be the overriding natural hazard that will need to be addressed. May limit opportunity for better integration of the Councils district and regional functions for natural hazard management (s30 and s31), to include regional rules to reduce hazard risk for existing development (for example: s20 existing use rights) compared to Option 3. In addition, will not provide the same opportunity as Option 3 to draft specific policy and rule provisions enabling risks associated with coastal hazards to be considered across the CMA-land boundary. Depending on the scope to update, may prevent the opportunity to provide more nuanced approaches for specific locations. May result in increase in costs through increased regulation and loss of development opportunities in some localities. May be more costly to develop the provisions and support them through the planning process (appeals for example). Anticipated this approach will include a larger number of properties affected by new regulations which will increase costs to property owners on land subject to coastal hazards through resource consent and mitigation requirements, as well as

	Coastal Risk Area type zoning sends clear message directing development away from areas of coastal hazards. Enables greater consideration of Council's regional functions for the management of natural hazards such as RMA 1991 s20 existing use rights. Opportunity to revise and improve provisions and definitions introduced through PC22 which have been identified as ambiguous (e.g. 13.1.3.5). Enables a review of zonings and use of Coastal Risk Area framework where new information determines locations now at risk from coastal hazards. Provides plan users more certainty with respect to where the risk from coastal hazards is through the use of the Coastal Risk Area approach. Provides specific policies and methods in the TRMP that assist in efficient and targeted (effective) consideration of risk from coastal hazards.	loss of development opportunities in some locations.
Option 3 – Update TRMP mapping and provisions	As for Option 1 in respect to the Coastal Risk Area, but will enable review and any updating required to the Coastal Risk Area. Enables development and updating of natural hazard technical information and mapping currently held by the Council (or commissioned), where required, to identify and include new areas affected by coastal hazards (e.g. zoning or overlays) and enable more accurate and comprehensive hazard identification and management. This option will therefore be more effective in achieving the desired outcome and ensures risk is appropriately managed. Provides opportunity to better give effect to the NZCPS Objective 5 and Policies 24-27, including specific policy and rule provision enabling risks associated with coastal hazards to be considered across the CMA-land boundary. Provides an opportunity for coastal hazard provisions to be updated and consolidated to recognise legislative changes, national guidance and build on work completed for Council's Coastal Management Project work programme (2019 – 2022).	Anticipated this option would result in more regulation with associated time and administration implications (costs) for the Council. May take more time and be more costly to develop the provisions in the first instance and support them through the planning process (appeals for example). Potentially will include a larger number of properties affected by new regulations which will increase costs to property owners on land subject to coastal hazards through resource consent and mitigation requirements. Probably result in increase in loss of development opportunities in some localities.

	e.g. The historic observation inundation mapping used for the TRMP to develop the Coastal Risk Area pre-dates the MfE Coastal Hazards and Climate Change Guidance (January 2024). The current Coastal Risk Area mapping does not reflect best practice. Provides an opportunity for a holistic/strategic community-wide response to coastal hazards and SLR, rather than current ad hoc approach which relies on site specific considerations, application of s106, and existing outdated rules [outside of the Māpua /Ruby Bay framework]. Provides opportunity to better integrate the Councils district and regional functions for natural hazard management (s30 and s31), including greater opportunity to use regional rules to reduce hazard risk for existing development (s20 existing use rights). Gives more flexibility to consider a variety of new provisions rather than relying on an established approach in Option 2 for the Coastal Risk Area, hence enabling consideration of new methods and approaches in recent national and international guidance. Opportunity to review and revise policy direction and the associated rules is likely to enable the overall policy framework to be strengthened providing increased effectiveness. Will enable revised drafting to capture private coastal protection structures above MHWS. For example, the opportunity to revise and improve provisions and definitions that are currently unclear in the TRMP (13.1.3.5.)	
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6.5 Relevant Waahi per Option

The options are relevant over all low-lying coastal areas of the district. The only waahi that does not include a low-lying coastal area is Upper Buller.

6.6 Evaluation of all Options

Table 17: Evaluation of all Options

Options to address Issue	RMA Purpose	National Direction & Guidance	National Adaptation Plan / Emissions Reduction Plan	Efficiency at addressing Issue(s)	Effectiveness at addressing Issue(s)	Strengths	Weaknesses
Option 1	Mod	Mod-low	low	Mod	Mod	Mod-low	Mod-high
Option 2	Mod-high	Mod-high	Mod-high	Mod-high	Mod	Mod	Mod
Option 3	High	High	Mod-high	High	Mod-high	High	Low

6.7 Issue 4: Recommended Option

6.7.1 Recommended Option & Reasons

The recommended option is Option 3.

Option 3 is the recommended option for Issue 4 – Coastal Hazards because it most closely achieves the purpose of the RMA.

Option 3 best achieves the outcome identified in section 6.1 above – to manage the risk to people and property and the environment associated with coastal inundation and coastal erosion hazards in low-lying coastal areas of the district.

Option 3 includes updating mapping and provisions that is supported by the latest technical advice, higher order documents and national guidance, which is more effective and efficient than retaining the operative provisions and mapping.

There is an opportunity within Option 3 to retain the best aspects of the TRMP approach but improve the provisions to other areas at risk from coastal hazards without the assumption that the PC22 approach (Option 2) is the appropriate approach for these other localities when it may not be.

The key weakness of Option 3 is that it will be more costly to resource and potentially take more time to develop.

Overall, this option is considered to better achieve the outcome sought for coastal hazards, is more comprehensive, and uses up to date information on which to base provisions and will therefore be more effective.

7. Issue 5 - Flooding and Overland Flow Paths

Flooding from rivers and overland flow paths is a frequent and potentially significant hazard in Tasman District and has the potential to cause disruption to the community, economy, damage to buildings and infrastructure, and loss of life or injury to people. When the additional effects of climate change and sea-level rise are taken into account the risk to the District's communities from flooding increases significantly.

A sub issue has also been identified for this topic:

Sub issue: Locating buildings and structures within overland flow paths has the potential to cause risk to life, damage to property, and transfer risk to neighbouring sites if overland flow paths are not appropriately identified and managed.

7.1 Outcome Sought

Flooding and overland flow path hazards are identified and the risks to people, property and the environment associated with these hazards, are avoided or mitigated.

7.2 Scale and Significance

Table 18: Scale and Significance

Criteria	Comments	Assessment
Degree of change from the Status Quo	Flooding is already addressed in the TRMP, particularly at the policy level, so change from the status quo may not be large. However, if more modelling is undertaken more properties may be affected by the associated provisions. If climate change and sea level rise assumptions are added to all of Council's flood modelling, then this could cause a significant change in the status quo in terms of flood extents and application of provisions.	Moderate-high
Effects on matters of national importance (s6 RMA)	This issue is directly relevant to section 6(h) 'the management of significant risks from natural hazards'. Section 7(i) the effects of climate change is also relevant.	High
Scale of effects – geographically (local, district wide, regional, national)	This issue is district wide and relates to rural and urban areas throughout the district. Following the 2023 Auckland Anniversary and Cyclone Gabrielle flooding events, there is national discussion regarding flood management underway.	High
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?)	Given the wide geographic scope of this issue, and its potential to increase significantly with climate change the number of people affected is potentially high.	Moderate-High

Scale of effects on those with particular interests, e.g. Tangata Whenua	If there are extensive landholdings affected by new modelling of flooding and overland flow paths (including allowances for climate change and sea level rise) then this could potentially impact landowners, including Tangata Whenua. New modelling and methods may be more extensive and restrictive and create an added burden for some parties– but the overall scale of change is not anticipated to be significant.	Moderate - low
Degree of policy risk – does it involve effects that have been considered implicitly or explicitly by higher order documents? Does it involve effects addressed by other standards/commonly accepted best practice?	Policy 11.1 in the RPS seeks to reduce risks from a range of natural hazards including flooding and erosion. This policy provides clear direction to the TRMP to include policies and rules where necessary to avoid or mitigate the effects of flood hazards. Policy 11.3 also provides for activities where they do not cause risk to the land, or adjoining land, from flooding and responsibility for risk management is undertaken by the land owner. A number of guidance documents indicate climate change scenarios and sea level rise predictions need to be adopted in setting minimum floor and ground levels and used in flood modelling. There is some potential for policy risk but the Council has considered the relevant higher order instruments and guidance documents. The National Adaptation Plan (2022) must be had regard to, and is not reflected in the older RPS or TRMP provisions.	Moderate
Likelihood of increased costs or restrictions on individuals, businesses or communities.	Any change to the flood modelling assumptions may increase the extent of people identified in flood or overland flow path areas which could result in increased costs of mitigation.	Moderate

7.3 Option(s) to Address the Issue

The main option(s) to manage flooding and overland flow paths are summarised in Table 19.

Table 19: Options Identified

Option Number	Option Name	Description of Option
Option 1	Status quo	Retain the current TRMP approach
Option 2	Update TRMP provisions	Update current TRMP provisions including providing additional overland flow mapping and provisions. Mapping remains outside of the TRMP.
Option 3	Update the TRMP provisions, include new mapping and use a risk-based approach	Adopt best of elements of the TRMP extend/update provisions to include new flood modelling and mapping, and include a risk-based approach where possible. Mapping included in the TRMP as overlays.

Option 4	Await National Direction on Natural Hazards	Wait for central government's National Direction on Natural Hazards (expected mid 2025), then evaluate and develop options for addressing flood hazard.
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These options are described in turn below, followed by an assessment of their strengths and weaknesses.

7.3.1 Option 1 – Status Quo

7.3.1.1 Current approach

This option includes managing risk from flood hazards and overland flow paths through existing provisions in the TRMP, including locating flood maps outside the TRMP. Implementation will continue to rely on the Nelson Tasman Inundation Practice Note for setting minimum ground and floor levels, when resource consents are triggered (or at the building consent stage).

The current approach in the TRMP to flooding and overland flow paths is summarised below.

Planning Maps

There are no flood maps in the TRMP planning maps, but flood mapping is held on the Councils GIS platform. It is understood that generally climate change, sea-level rise and vertical land movement have not been consistently included in the flood modelling/mapping (due to the age of some models versus more up to date national guidance and technical information). Overland flow paths have been mapped for the Richmond Intensive Development Area – flood flow paths (RIDA) and included in the TRMP planning maps. Elsewhere, overland flow path mapping (where available) is provided on the Council internal GIS.

Policy Direction

There are a large number of general natural hazard objectives and policies in the TRMP that address flooding. These objectives and policies include flood policy for settlements, policy relating to protection/defence structures and overland flow paths.

TRMP Objective 13.1.2.1 seeks the management of areas subject to natural hazard, particularly flooding, instability, coastal and river erosion, inundation and earthquake hazard, to ensure that development is avoided or mitigated, depending on the degree of risk.

Relevant natural hazards policies include:

- 13.1.3.8 To avoid, unless there is effective mitigation, the expansion of flood-prone settlements onto those parts of the surrounding flood plains where they might be subject to flood hazard.
- 13.1.3.9 To prevent damage or interference with the functioning of the major overland flood flow paths of rivers in the District, except as provided for in Policy 13.1.3.10.
- 13.1.3.10 To maintain or consider the need for protection works to mitigate natural hazard (specific criteria are listed).
- 13.1.3.14 To avoid damage by land use activities to flood control structures or works for flood or erosion control.

Rules and matters of discretion

This policy framework, including specific policies for the settlements, is largely implemented through the TRMP's zonings and general rules (Chapters 16, 17 and 18). Mitigation measures are implemented through minimum ground and floor levels provided for in the Inundation Practice Note (currently being reviewed to incorporate up to date technical information).

Settlement specific rules address inundation issues as necessary. Chapter 16.10 contains Flood Hazard Rules and address the effects of activities on stopbanks and berm lands. Rules in the RIDA provide for overland flow paths to retain their pre and post entry/exit points (16.3.3.2.A).

General matters of restricted discretion or control are located in a number of sections of the TRMP in relation to natural hazards and specifically include flood and stormwater, such as:

(2) Any matter relating to natural hazard, including wildfire risk and coastal, flood, stormwater, geotechnical or earthquake hazards (16.3.8.1).

The Chapter 13 s35 report identifies a number of issues with the status quo and these are discussed in more detail in the strengths and weaknesses evaluation table below.

7.3.2 Option 2 – Update TRMP provisions

This option includes undertaking a comprehensive review of the flood provisions currently scattered in Chapter 13 general natural hazard policies and Chapter 6 settlement specific policies, and to consolidate them into a flood section within a natural hazard chapter. The flood maps would remain outside the plan as per the status quo and would be revised/updated, if necessary, as part of Council's ongoing flood modelling work programme. The Council is currently working on a project to make all natural hazards information publicly available on a webmap via its website.

This option would include reviewing the existing zoning against more up to date flood modelling to ensure the zone remains appropriate (including consideration of low-lying areas of flood plains that may be affected by climate change including sea level rise).

Option 2 would also include investigating appropriate ways to provide a framework to protect overland flow paths and floodways in the District's urban areas. This will ensure that their function in controlling stormwater peak flows during high intensity rainfall events is improved and retained. This could include the implementation of consistent planning rules for stormwater flow paths, which the Chapter 13 s35 report identified as a current policy gap. Comments from staff indicate that a recent Council project has mapped all urban areas with 'rolling ball' flow path mapping but this is not ideal for protecting flow paths from development as it does not show width. However, existing urban stormwater models may achieve the desired technical requirements for planning purposes. In developing this approach, there are a number of councils with more up to date resource management plan provisions that can be considered – refer to Appendix 4 for excerpts of provisions from these plans.

7.3.3 Option 3 – Update the TRMP provisions, include new mapping and adopt a risk-based approach

This option includes undertaking a comprehensive review of the flood provisions currently scattered in Chapter 13 general natural hazard policies and Chapter 6 settlement specific policies, and to consolidate them into a flood section within a natural hazard chapter as per Option 2. However, flood overlay maps would be included in the planning maps through comprehensive and updated modelling. This could be extended to include high flood hazard areas (in addition to floodplain and

flood paths) and a policy framework adopted to support the flood overlays. Consideration would also be given to consolidating the provisions in one natural hazards chapter – flood section.

The rule framework in the TRMP would be revised and new rules attached to specific flood overlays within the planning maps and drafted to address buildings (minimum floors), activities (such as hazardous substance storage), flood mitigation and earthworks.

The updated modelling would include several assumptions about climate change, sea-level rise and Vertical Land Movement (VLM).

The flood hazard policy direction would look to provide a risk-based framework starting with an ‘avoid’ policy for areas most at risk of flooding.

In developing this approach, there are a number of councils with more up to date resource management plan provisions that can be considered and take a risk-based approach – refer to Appendix 4 for excerpts of provisions from these plans.

7.3.4 Option 4 – Await National Direction on Natural Hazards

Option 4 takes into consideration that there is emerging National Direction that could significantly influence the approach to flood hazard land use planning that is the most appropriate for Tasman District.

An exposure draft of National Direction for Natural Hazards early in 2025, and enactment mid-2025 is anticipated. This has been discussed in Section 2.6. In addition, the 2023 North Island events has resulted in significant discussion nationally regarding flood plain management including the significant costs incurred by communities through loss of life, economic costs, social disruption and environmental impacts.

Implementation of either Option 2 or 3 above has significant implications for the Council regarding resourcing and the proposed solutions have a moderate to high degree of complexity. Given this, a ‘wait and see’ approach may be the most appropriate option for the Council and will be more efficient over the medium to long term.

7.4 Assessment of Strengths and Weaknesses

Table 20: Strengths and Weaknesses – Flood and Overland Flow Path Options

Options to address Issue	Strengths	Weaknesses
Option 1 – Status quo	The existing inundation policies are generally effective. A number of very directive policies in the existing TRMP have proved effective in ensuring river flooding is	The flood policies are scattered throughout the TRMP making it difficult to piece together a comprehensive land use planning approach for flood hazards.

	considered in relation to new development, including at Brightwater, Wakefield, Motueka, and Tākaka. Some of the settlement policies have been effective in establishing minimum floor levels (e.g. policy 6.2.3.9, Policy 13.1.3.8) and preventing new zoning in areas of Tākaka that are flood prone. Flood provisions in the TRMP are well understood by the community and cover most areas and settlements with flood issues. The flood maps sit outside the TRMP and can be more readily updated than if they were in the plan.	Some policy provisions need updating to reflect higher order document direction, including the NZCPS (where flood plains form part of the coastal environment area). Some existing, but outdated, zoning in the TRMP is known to provide for development on areas that are flood prone. Relying on policy direction instead of robust flood rules means that only activities requiring resource consent applications get captured. Reliance then has to be placed on the building consent process to consider and mitigate flood hazards (and attach s73 notices). The scope of the land use rules in section 16.10 Flood Hazards currently narrowly focused on berm lands and stopbanks. No rules specifically address minimum ground or floor levels or activities and building within flood plains. This means that in minimum ground and floor levels are set by condition of resource consent (for the 1% AEP); or where no resource consent is required, they are set by the Building Act and generally set at the lower level of a 2% AEP. The flood maps sit outside the TRMP planning maps. Inserting maps in a GIS platform and making updates to it outside an RMA process: • Creates uncertainty for property owners who may be located outside the flood extent and a permitted activity; but find out at building consent stage that the maps have been updated (without formality) to now include their property.
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		• reduces property owner's rights to be involved in RMA processes on issues affecting their properties; • Can lead to less robust outcomes for flood modelling and mapping as no evidential challenge from experts engaged by landowners testing accuracy of modelling/historic mapping results. Current flood mapping in the GIS may need to be updated to reflect most up to date guidance available including assumptions for VLM, increase in rainfall through climate change and potentially increase in sea level rise. With the exception of the RIDA's introduced by Plan Change 66 Richmond Housing Choice, the TRMP generally does not provide a consistent district-wide framework to protect overland flow paths or floodways in urban areas. More work is required to identify overland flow paths in areas where development is occurring. Some staff commented that the RIDA approach to secondary flow paths has not been altogether successful. This is considered to be largely because the mapped flow paths are not always where the water goes, nor show the true width of the flowpath and Council has more up to date modelling which differs from what is showing in the TRMP planning maps.
Option 2 Update TRMP	The existing inundation policies would benefit from the review and revision provided by this option. Opportunity to review the zoning in areas that are potentially flood prone. Provides the opportunity to develop a consistent district-wide framework to enhance and protect secondary	May be resource intensive in terms of expert advice and staffing to provide drafting required. There may be difficulty and costs in obtaining mapped information on the location of overland flow paths, so may be more costly than Option 1. Retains mapping outside the plan (see Option 1).

	overland flow paths in urban areas of the District using updated guidance. Takes the best of what the TRMP currently has, targets specific areas requiring updating and improvement. Is therefore likely to be more cost effective than Option 3 and is likely to require less updating of flood modelling/provisions. This option may be quicker and less costly to develop than Option 3 and may be more acceptable to the community.	Changing zoning/provisions identified as flood prone will affect property owners who may challenge this option.
Option 3 – Update the TRMP, new mapping, risk-based approach	Uses comprehensive up to date technical information on which to base the mapping, policies and rules and will therefore be more effective than Option 1. As for Option 2 provides opportunity to review the zoning pattern in areas that maybe potentially flood prone. The approach to assumptions included in the flood modelling is generally consistent with the MfE Guidance on Coastal Hazards and Climate Change (2024), including VLM. This option is more consistent with National Guidance than Option 1 and is more up to date. May be more consistent with national guidance than Option 2 if mapping in Option 2 is not extensively updated. This option would comprehensively cover the urban areas of the District showing the extent of flooding in greater detail than the areas currently identified in the TRMP. Would include a separate comprehensive chapter of natural hazard policies for flooding with direct line of sight and direction to the rules that follow. Rules developed to manage a wide range of activities in the flood plain and would provide a direct link to	Will be significantly more costly to develop the flood overlays and policy and rule provisions and support them through the planning process than either Option 1 or Option 2. It will also require a significant investment of time by technical staff to work with consultants to undertake the modelling to achieve good outcomes e.g. calibrated and validated models. The comprehensive updated modelling and technical assessment and may be outside practical budget limits for the natural hazards plan change. Given the size of the Tasman District the extent of the updated modelling required may not be a feasible option, even if the modelling was focussed on key urban areas. More staff resources and time would be required to draft and support this approach and may not fit the plan change time frames. New mapping and modelling potentially includes a larger number of properties which will increase costs to property owners on flood prone land where additional resource consents are required to undertake activities. It will take longer to develop the plan change in this option. As the outputs will be significantly different to the current plan, this option may attract community

	applying minimum floor/ground levels and other mitigation measures for activities locating in the flood hazard overlays. Includes recognition of high hazard areas consistent with NZCPS in respect to flooding with a coastal component. Risk-based approach also aligns with national guidance. Overall, this option will be more effective than the current TRMP provisions or Option 2, but potentially less efficient due to costs.	resistance and be more difficult and costly to successfully take through the planning process.
Option 4: Await National Direction on Natural Hazards	Reduces the costs to the Council from adopting an approach to flood hazard and overland flow paths outlined in the above options and then having to restart (risk that the national direction is a game changer). May be seen as a sensible option by the development community, who would be key stakeholder in any provisions being developed.	Could be seen as unnecessarily delaying the need for improved flood hazard and overland flow provisions. Has a risk attached to it if an event such as Cyclone Gabrielle (2023) occurs while waiting. Community may see the Council as stalling – reputational damage as messaging around the natural hazard plan change with a flood component has already begun.

7.5 Relevant Waahi per Option

The options are equally relevant over the district, as there are river flood plains in all waahi.

7.6 Evaluation of all Options

Table 5 summarises the extent to which each option meets or achieves a number of key considerations.

Table 21: Evaluation of Options

Options to address Issue	RMA Purpose	National Direction	National Adaptation Plan / Emissions Reduction Plan	Efficiency at addressing Issue(s)	Effectiveness at addressing Issue(s)	Strengths	Weaknesses
Option 1	Mod	Mod-low	Low	Mod	Mod-low	Mod	Mod

Option 2	High	Mod-high	Mod-high	Mod-high	Mod-high	Mod-high	Mod
Option 3	High	Mod-high	Mod-high	Mod-high	High	High	Mod
Option 4	Mod	Mod	Mod-high	Mod-high	Mod-low (as for Option 1)	Mod-high	Mod

7.7 Issue 5: Recommended Option

7.7.1 Recommended Option and Reasons

Option 3 is the recommended option for issue 5 Flooding and Overland flow paths as it most closely achieves the outcomes identified earlier in this report. In particular the option provides for the development of a one-stop shop for natural hazards with a specific and comprehensive flood hazard section, and will have risk-based components. Updated mapping included in the planning maps will make the flooding provisions more certain for plan users. This option will also better account for climate change and sea level rise by incorporating current scientific information and assumptions that are more in line with national guidance.

Overall, the strengths of Option 3 outweigh the weaknesses as it enables the best of the TRMP to be retained while focussing on incorporating updated technical information.

This option could make use of other councils' flood policies and rules, for example those developed for NRMP PC29 which have already been through the notification and submission process. However, it will be important for the Council to follow up on the outcome of the NRMP PC29 hearing process, and keep up to date with any new national direction should it be provided within the timeframe of developing the plan change.

The biggest weakness of Option 3 is that it will be more costly and take more time to develop.

8. Issue 6 - Wildfire

The climate of Tasman District is susceptible to prolonged dry periods. With climate change, wildfire hazard is likely to increase in frequency and severity and affect more locations in the District putting people, property and the environment at greater risk.

Sub issue: Landscaping amenity planting around dwellings may conflict with vegetation management used to mitigate the risk of wildfire. Conversely, vegetation removal to create a defensible space around dwellings may conflict with protecting indigenous vegetation.

8.1 Outcome Sought

The risk to people, property and the environment from wildfire is managed.

8.2 Scale and Significance

Table 22: Scale and Significance

Criteria	Comments	Assessment
Degree of change from the Status Quo	Some provisions in the TRMP refer to wildfire, but there is an opportunity to strengthen the provisions, particularly for villages like St Arnaud and Tasman. In particular, the planning maps identify a High Fire-Risk Area which covers a large area of the district's rural area, but the permitted provision relates only to temporary activities. This issue will become more significant as climate change causes larger areas of the district to become more vulnerable to wildfire. The outcome sought is unlikely to be fully achieved under the status quo and some change is required. Further consideration is required on the role resource management plans play in the management of wildfire hazard, as well as whether other legislation is better suited to addressing particular aspects of this topic, regarding personal safety and building fire safety such as the Building Act 2004 or Fire and Emergency New Zealand (FENZ) Act 2017.	Moderate
Effects on matters of national importance (s6 RMA)	This issue is directly relevant to section 6(h) 'the management of significant risks from natural hazards'. Wildfire also impacts ecosystems and relates to section 6(c) 'the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna' Section 7(i) the effects of climate change is also relevant	High
Scale of effects – geographically (local, district wide, regional, national)	Based on information currently available, this issue is district wide and primarily relates to large rural areas of the district, rural villages and peri-urban areas.	Moderate
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?)	Given the wide geographic scope of this issue, and its potential to increase significantly with climate change the number of people affected is potentially high.	Moderate
Scale of effects on those with particular interests, e.g. Tangata Whenua	As there are district wide management options to address risk from wildfire the scale of effects is not considered to disproportionality affect one group over another. However, it should be acknowledged that any new methods may be more restrictive and create an added burden for some parties– but the overall scale of change is not anticipated to be significant.	Low

	It is noted that iwi/Māori may be affected in relation to places/sites of significance to iwi/Māori, as these may be affected by wildfire outbreaks.	
Degree of policy risk – does it involve effects that have been considered implicitly or explicitly by higher order documents? Does it involve effects addressed by other standards/commonly accepted best practice?	The NES for Commercial Forestry contains relevant provisions for wildfire including setback distances of commercial forestry from urban zones and the definition of ‘forestry infrastructure’ includes firebreaks. Policy 11.6 of the RPS seeks to reduce risks to people, property, land and ecosystems from fire. Additionally, one of the methods states that the Council will investigate district plan provisions to separate assets at risk of fire, from potential sources of fire, particularly in rural areas where fire control times are greater than in urban areas. There is minimal policy risk in this case as the Council has included wildfire related policies in the TRMP and will seek to improve them with the natural hazards plan change.	Low
Likelihood of increased costs or restrictions on individuals, businesses or communities.	There could be some added costs for individuals, organisations and property owners who seek to locate in areas with greater risk of wildfire, particularly if new provisions are introduced.	Moderate

8.3 Option(s) to Address the Issue

The main option(s) to manage Issue 6 Wildfire Risk are summarised in Table 23. Overall, there is a general opportunity to strengthen the wildfire provisions in the plan, and throughout the District, particularly in light of the increasing risk associated with climate change and lessons learned through the 2019 Pigeon Valley wildfire.

Table 23: Options Identified

Option Number	Option Name	Description of Option
Option 1	Status quo	Retain the current TRMP approach
Option 2	Update current TRMP framework	Amend the current TRMP approach by updating the TRMP provisions to address known issues
Option 3	Comprehensive review of TRMP utilising other plan approaches	Comprehensively review the TRMP and assess approaches used by other councils.

These options are described in turn below, followed by an assessment of their strengths and weaknesses.

8.3.1 Option 1 – Status Quo

8.3.1.1 Current approach

The current approach in the TRMP to wildfire is summarised below:

Planning Maps

The planning maps identify a High Fire-Risk Area which covers a large area of the district's rural area. The permitted provision relates only to temporary activities and requires a fire preparedness plan.

Policy Direction

Objective 5.5.2 seeks reduction of risks to public health and safety, property and the environment, arising from fire and hazardous substances. Policy 5.5.3.1 requires the likely adverse effects on land uses from fire, arising from the location of buildings or flammable vegetation to be avoided, remedied or mitigated.

In terms of effects on natural character Policy 8.2.3.15 seeks to limit the potential for the spread of fire in or to areas of natural character in the coastal environment and on the margins of lakes, rivers and wetlands. Finally, there are a small number of general natural hazard policies which include wild fire.

Rules

The NES-CF regulates setbacks of commercial forestry from urbanised zones, and the TRMP will need to continue to fill the gap for other types of forestry/woodlots and potentially shelterbelts. Rules specify setbacks between dwellings and plantation forestry in rural and rural residential zones. A general internal boundary setback of 30m also applies in the rural zones (but can be planted).

Within the St Arnaud Landscape Priority Area, a permitted activity rule allows the removal of indigenous forest if required for a building site and access, creating a fire management zone (creating a defensible space).

New dwellings not connected to a reticulated water supply in rural/rural residential zones are required to provide a water supply for firefighting purposes (water tank, dam/pond or river supply), or home fire sprinkler system.

There are a number of sections in the TRMP which contain matters of restricted discretion or control in relation to natural hazards that include wildfire.

The Chapter 13 s35 report identifies a number of issues with the status quo, and these are discussed in more detail in the strengths and weaknesses evaluation table below.

8.3.2 Option 2 – Undertake a Basic Update of the TRMP to Address Identified Issues

Option 2 would update the TRMP to specifically address the issues identified in the Chapter 13 s35 report.

The s35 report generally found, overall, that the TRMP wildfire provisions were effective. However, one area that was identified, and would be considered in Option 2, is to clarify the rule framework in the rural and rural residential zones which require the provision of water for firefighting where there is no water reticulation. This would involve making it clear whether the provisions are intended to address internal house fires or to protect homes from wildfire. If it is the former, then investigation to determine whether it may be more appropriate to address this issue through other legislative processes (such as the Building Act) rather than in the TRMP will be required.

This option would also address inconsistencies in the framework in respect to pockets of residential zoned areas in the District that are not on reticulated water supply, but where the above-mentioned rule does not require water to be provided for firefighting (e.g. Tasman village and St Arnaud).

A further issue to be included in this option is determining whether the mapped High Fire Risk Areas, which cover most of the District, are fit for purpose. The rule associated with this overlay requires a fire preparedness plan to be submitted to FENZ for temporary activities (public events). However, the Council is aware that FENZ does not always receive these plans. This option would assess whether this rule is appropriate in the TRMP or should be provided for in other legislation such as FENZ Act 2017.

8.3.3 Option 3 Comprehensive Review of the TRMP Including Assessing Other Approaches

This option includes taking the existing policy approach in the TRMP and associated defensible space /vegetation clearance rules in Option 1 and addressing known issues and comprehensively revising the provisions, utilising other councils' planning approaches. This would involve investigating a policy and rule approach to minimise wildfire risk in terms of location of buildings to existing vegetation and placement of vegetation near existing buildings. Provisions could include retaining and strengthening building setback rules from woodlots, shelter belts and commercial forestry and providing for vegetation clearance for the creation of defensible spaces for new buildings and additions etc. The NES-CF regulates setbacks of commercial forestry from urbanised zones, and the TRMP will need to continue to fill the gap for other types of forestry/woodlots and potentially shelterbelts.

It could possibly include the requirement to identify water sources for firefighting for buildings as a servicing issue for new development/subdivision and not specifically a wildfire natural hazard issue.

In developing this approach, there are a number of councils with more up to date resource management plan provisions that can be considered – refer to Appendix 4 for excerpts of provisions from these plans. The partially operative Selwyn Plan is considered the most helpful.

8.4 Assessment of Strengths and Weaknesses

Table 24: Strengths and Weaknesses – Wildfire Options

Options to address Issue	Strengths	Weaknesses

Option 1- Status quo	Rules specifying setbacks between dwellings and plantation forestry have been successfully implemented in resource consent decisions. Requirements for new dwellings not connected to reticulated water in rural and rural residential zones have been successfully required to provide a water supply for firefighting purposes (water tank, dam/pond or river supply), or home fire sprinkler system, through resource consents. Where natural hazards are specified as a general matter, wildfire is included. This could be strengthened in the proposed plan change.	The TRMP does not currently clearly articulate or comprehensively manage wildfire risk and provisions are peppered through various sections. There exists a general confusion in the TRMP rule framework between provisions primarily seeking to address fire risk to buildings from internal source (electric fittings, stoves etc, and the option to use sprinklers) and provisions addressing threats from wildfire (external source). The St Arnaud and Tasman Villages are unserviced for water, but as they are zoned residential they are not captured by the water for fire-fighting provisions in rural and rural residential areas so have no requirement to provide water for fire-fighting purposes. The High- Risk Fire Area overlay covers a large area of the district (excluding flat river valleys in pasture) and only applies to temporary activities. The provision has had limited success in terms of submission of fire preparedness plans to FENZ and also has issues being a third-party approval process (ultra vires). The Pigeon Valley Fire (February 2019) near Wakefield provided a sense check of the rule framework – FENZ advised that while some landowners used their water tanks to dampen down houses/gardens, generally fire fighters did not use these tanks in favour of other methods (e.g. monsoon buckets and improvised dip dams (swimming pools, grape harvest bins trucks and trailers, ponds, etc)). If the focus is to protect houses from internal fires, perhaps this is better regulated through other legislation such as the Building Act 2004. Council does not have in-house expertise on wildfire hazards and relies on FENZ for advice.
Option 2 – Update current TRMP framework	This approach is a basic review of the existing TRMP provisions and will result in an improved outcome, compared to Option 1.	Is less likely to improve the overall clarity of the wildfire provisions within the TRMP by only addressing specific problems. Council does not have in-house expertise on wildfire hazards and relies on FENZ for advice.

	Is a cost-effective solution to address some of the current issues in the TRMP in respect to wildfire.	
Option 3 – Comprehensive review of TRMP utilising other plan approaches	Provides a comprehensive framework which overhauls the wildfire provisions and will result in a robust outcome. The approach acknowledges the NES CF and builds its provisions around matters not covered by the NPS CF. Reviewed and integrated with the existing TRMP approach for setbacks of buildings from plantation forestry in rural and rural residential areas, and settlements, and potentially extended beyond application to plantation forests, will provide an appropriate response to the issue of wildfire and will meet the outcome sought. Separating out the requirements for servicing developments with water for firefighting will make the plan clearer. Is a cost-effective solution to addressing some of the current issues in the TRMP in respect to wildfire.	Developing a comprehensive framework for wildfire increases regulation, and more properties will be affected by this new approach. This may result in increased costs associated with resource consent requirements. Reducing the risk of wildfire through resource management plans is an emerging issue and a comprehensive framework may be subject to challenge through the plan change process – increased costs for council. Council does not have in-house expertise on wildfire hazards and relies on FENZ for advice.

8.5 Relevant Waahi per Option

The options are equally relevant over the district as wildfire has the potential to occur anywhere.

8.6 Evaluation of all Options

The table below summarises the extent to which each option meets or achieves a number of key considerations.

Table 25: Evaluation of Options

Options to address Issue	RMA Purpose	National Direction	National Adaptation Plan / Emissions	Efficiency at addressing Issue(s)	Effectiveness at addressing Issue(s)	Strengths	Weaknesses
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			Reduction Plan				
Option 1	Mod	Mod	Low	Mod	Mod	Mod	Mod
Option 2	Mod	Mod	Mod	Mod-high	Mod-high	Mod	Mod
Option 3	High	Mod	Mod	Mod-high	High	High	Low

8.7 Issue 6: Recommended Option

8.7.1 Recommended Option & Reasons

Option 3 is the recommended option for Issue 6 Wildfire as it most closely achieves the outcome required to address the issue identified earlier in this report.

There is a general opportunity to strengthen and consolidate the wildfire provisions in the TRMP, particularly in light of increased risk associated with climate change. However, this needs to be done in a way that provides clarity in terms of the respective roles of the Council in terms of the RMA and the Building Act, and the responsibilities of FENZ.

This would involve reviewing the objective and policy framework for natural hazards in general and include specific policies for wildfire, utilising other councils' planning approaches (for example, the Partially Operative Selwyn Plan). It would also involve retaining and strengthening building setback rules from woodlots, shelter belts and commercial forestry and providing for vegetation clearance for the creation of defensible spaces for new buildings and additions etc. The NES-CF regulates setbacks of commercial forestry from urbanised zones, and the TRMP will need to continue to fill the gap for other types of forestry/woodlots and potentially shelterbelts.

The strengths of Option 3 outweigh the weaknesses as it enables the best of both Option 1 and more recent resource management approaches.

9. Other Considerations

In the preparation of this report a number of other matters (that are not strictly issues or options) have been identified for the plan change to consider further. These are summarised in the following table, with initial thinking on how to address the matter and the level of importance for the plan change.

Table 26: Other considerations

	Matter	Comment	Level of importance (high/medium/low)
1	Consideration of likely effects of climate change, sea level rise, vertical land movement. Many of the provisions in the TRMP, and older technical work completed do not always include assumptions for climate change, sea level rise, vertical land movement, or if they are the assumptions are incorporated inconsistently.	Requires staff to work through these considerations to advise and seek decision at governance level.	High
2	Options for mapping hazards e.g. in the plan, outside the plan, hybrid depending on what the hazard is.	Note that Kāinga Ora has in many recent plan reviews/plan changes submitted that flood hazard mapping should lie outside the plan but they have not been successful in advancing this through hearings/decisions stage. See Option 1 in Flood Hazard section for a discussion on weaknesses of flood overlays not being included in the planning maps. Staff anticipate that central government's National Direction on Natural Hazards (anticipated mid-2025) will provide guidance on this issue.	Medium
3	Opportunity to consolidate all provisions in one part of the TRMP. The s35 Report states: <i>'In assessing the internal consistency of the plan's natural hazards provisions, it is evident that the overarching natural hazards framework is 'scattered' across the plan. There is an element of integration of the policies, but in</i>	This is consistent with the National Planning Standards (other than that coastal hazards are required by the planning standards to sit in the Coastal Environment chapter).	Medium-high

	Matter	Comment	Level of importance (high/medium/low)
	<i>other cases the policies are repetitive and unclear.'</i> This is a core issue to be remedied in any plan change for natural hazards.		
4	Framework to ensure that lifelines can be restored or replaced/improved as appropriate.	This is considered to be a matter of detail for the plan change. At a high level an option is to consider an enabling approach for reinstatement and/or upgrade of lifeline infrastructure within the natural hazard overlays. This could extend to enabling lifeline infrastructure reinstatement and/or upgrade outside of natural hazard areas but this would require large scale amendments across the plan and integration with any infrastructure plan change. Note: Emergency provisions of the RMA can be applied.	Medium
5	Options to integrate natural hazard management through regional and district plan provisions using unitary authority advantage – e.g. existing use rights, streamlined natural hazard policy direction (district plan to not be inconsistent with regional plan).	Requires further research.	Medium-high
5	Risk based approach to the TRMP and plan change.	The current plan has elements of a risk-based approach, but is not consistently so. As an example, the Partially Operative Selwyn District Plan defines a risk-based approach as: • managing risk when there is uncertain or insufficient natural hazard risk information • managing risk based on the scale of a particular natural hazard event, together with the likelihood of that event	Medium-high

	Matter	Comment	Level of importance (high/medium/low)
		occurring and the effects on people and property. Council has defined a risk-based approach in this way due to the large geographical spread of the District, with its sparse population and low level of development in some areas, compared with discrete areas of larger populations in its townships. In the larger populated and developed areas the consequences from natural hazards and therefore the risk could be considerably greater. A risk-based approach will enable the focus of the TRMP Part II - Land natural hazard provisions to gravitate towards the areas where there is greatest risk. Staff anticipate that central government's National Direction on Natural Hazards (anticipated mid-2025) will provide guidance on this issue.	

10. Summary

Table 27: Summary of Issues and Options

Issue	Recommended Option	Outcome Sought	Further work
Issue 1 Liquefaction	Option 2 Include liquefaction mapping and provisions in the TRMP	The risks to people and property from liquefaction are avoided or mitigated.	Create overlay based on Beca's 'liquefaction damage possible' area and associated provisions.
Issue 2 Fault rupture	Option 3 Change TRMP mapping and provisions	The risks to people and property from fault rupture are avoided or mitigated.	- Update the FRRA overlay to include the three faults identified by Beca. - Review and update FRRA provisions,

			including development of a FRAA specific policy/s. • Address vires issue in current approach.
Issue 3 Slope instability	Option 3 - Update TRMP mapping and provisions and extend framework	Slope instability and debris run-out hazard occurs in some of the District's steep topography. If new activities are not managed appropriately, structures (including buildings and infrastructure) on and below susceptible slopes are put at further risk increasing the potential for damage to property and risk to life.	• Develop objective and policy framework specifically for the SIRA (including debris run-out areas). • Update mapping to include more of SPG sensitive geology area within the SIRA • Rename the SIRA to SISA • Address vires issue in rules.
Issue 4 Coastal Hazards	Option 3 – Update TRMP mapping and provisions	The risks to people, property and the environment associated with coastal inundation and coastal erosion hazards, including the effects of climate change and sea level rise, are managed in low-lying coastal areas of the District.	• Update coastal mapping (erosion and inundation). • Update and revise policy framework. • Investigate and develop tailored provisions appropriate to specific areas (may include components of Ruby Bay/ Māpua framework).
Issue 5 Flooding & Overland flow paths	Option 3 – Update the TRMP, new mapping, risk-based approach	Flooding from rivers and overland flow paths are managed so that risk to life and damage to property and the environment is avoided or mitigated	• Potentially considerable work to include updated maps <u>within</u> the TRMP. • Comprehensive review of policy and rule framework.
Issue 6: Wildfire	Option 3: Comprehensive review of TRMP utilising other plan approaches	Wildfire is managed in vulnerable areas of the District and result in reduced risk to people, property and the environment.	• Develop new policy/rule framework including 'defensible space' provisions • Investigate 'hot spots' to determine whether any bespoke provisions are required • Seek input from FENZ on low flammability species in hot spot locations.

Other considerations			• Work to provide a consolidated suite natural hazard objectives and policies. • Consider whether it is appropriate to create a hierarchy of objectives that focus on - avoidance in areas of 'significant risk' and - management in other areas where mitigation is possible.¹⁶

¹⁶ Efficiency and Effectiveness Evaluation – Chapter 13 Natural Hazards, 2020

Appendix 1: Waahi Maps

See: [Resources](#) | [Plan Themes](#) | [Resource Management Reform](#) | [Shape Tasman](#)

Appendix 2: References

Reference	Detail
Wakatū 2020	Wakatū et al. 24 November 2020. <i>Te Tauihu Intergenerational Strategy 2020</i> . Source: https://www.tetauihu.nz/
Tasman District Council 2001	Tasman District Council. 1 July 2001. <i>Tasman Regional Policy Statement 2001 (RPS)</i> . Source: https://www.tasman.govt.nz/my-council/key-documents/tasman-regional-policy-statement/#:~:text=The%20Tasman%20Regional%20Policy%20Statement%20(TRPS)%20is%20the
Beca 2021	Beca Limited. 23 November 2021. <i>Nelson Regional Liquefaction Assessment Report</i> . Source: https://www.nelsonpubliclibraries.govt.nz
Beca 2021	Beca Limited. 15 November 2021. <i>Review of Active Earthquake Faults in the Tasman District – Methodology Report</i> . Source: https://www.bing.com/search?q=Beca+Review+of+Active+Earthquake+Faults+in+the+Tasman+District+%E2%80%93+Methodology+Report+%282021%29.&qs=n&form=QBRE&sp=-1&fq=1&pq=beca+review+of+active+earthquake+faults+in+the+tasman+district+%E2%80%93+methodology+report+%282021%29.&sc=0-91&sk=&cvid=17B8EFE75B554BF49F5F9F9C283D6F67&ghsh=0&ghacc=0&ghpl=
Tasman District Council 2022	Tasman District Council. 19 September 2022. <i>Nelson Tasman Future Development Strategy 2022-2052 (FDS)</i> . Source: https://www.tasman.govt.nz/my-council/key-documents/more/future-development-strategy/#:~:text=Following%20months%20of%20community%20engagement,%20detailed%20feedback,%20and
MfE 2020	Ministry for the Environment (MfE). 3 August 2020. <i>The National Climate Change Risk Assessment 2020</i> . Source: https://environment.govt.nz/publications/national-climate-change-risk-assessment-for-new-zealand-main-report/#:~:text=The%20risk%20assessment%20gives%20a%20national%20picture%20of
Ngati Koata 2002	Ngati Koata et al. 10 June 2002. <i>Ngāti Koata No Rangitoto Ki Te Tonga Trust (2002)</i> . Source: https://www.bing.com/search?pglt=41&q=Ng%C4%81ti+Koata+No+Rangitoto+Ki+Te+Tonga+Trust+(2002)&cvid=93171433b

	3c245d1b8d4c109afbd6c23&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIICAEQ6QcY_FXSAQg0Nzg0ajBqMagCALACAA&FORM=ANNAB1&PC=W099
Poipoia te ao tūroa 2021	Poipoia te ao tūroa et al. 20 November 2021. Ngāti Rārua Environmental Plan 2021. Source: https://www.tasman.govt.nz/my-region/iwi/iwi-management-plans/#:~:text=lwi%20Management%20Plans%20can%20be%20wide%20reaching%20in
Ngāti Kuia 2015	Ngāti Kuia. 2015. <i>Pakohe Management Plan 2015 Ngāti Kuia</i>. Source: https://www.tasman.govt.nz/my-region/iwi/iwi-management-plans/#:~:text=lwi%20Management%20Plans%20can%20be%20wide%20reaching%20in
Ngāti Tama 2018	Ngāti Tama. 2018. Ngāti Tama ki Te Waipounamu Trust Environmental Management Plan 2018. Source: https://www.tasman.govt.nz/my-region/iwi/iwi-management-plans/#:~:text=lwi%20Management%20Plans%20can%20be%20wide%20reaching%20in
Te Ātiawa 2014	Te Ātiawa o Te Waka-a-Māui. August 2014. <i>Te Ātiawa Iwi Environmental Management Plan 2014</i>. Source: https://www.tasman.govt.nz/my-region/iwi/iwi-management-plans/#:~:text=lwi%20Management%20Plans%20can%20be%20wide%20reaching%20in
Kelly and Vilder 2024	Kelly & Vilder. January 2024. <i>GNS/EQC Landslide Planning Guidance – Reducing Landslide Risk through Land-use Planning</i>. Source: https://www.gns.cri.nz/news/new-guidance-encourages-planners-not-to-let-landslide-risk-reduction-opportunities-slip-by/#:~:text=Today%20GNS%20Science%20has%20released%20new%20land-use%20planning

Appendix 3 Summary of statutory instruments, regulations and guidance

Source document	Relevant matter & Comment
Resource Management Act 1991	
Section 5 – Purpose	Section 5 of the Act sets out its purpose, which includes “managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety”. This is relevant as the management of natural hazards has the potential to impact the health and safety of people and communities.
Section 6 – Matters of national importance	Section 6 of the Act recognises and provides for matters of national importance. Notably, section 6(h) relates to the management of significant risks from natural hazards. In order to manage the risk associated with natural hazards it is important to identify and understand the hazards that exist and consider a range of management options and the risks associated with each. Several other matters under section 6 are also relevant to the management of natural hazards: • Section 6(b) refers to the protection of outstanding natural features from inappropriate subdivision, use and development. In relation to natural hazard management this is relevant as these features may be subject to natural hazards and protection measures must be considered. • Section 6(c) relates to the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna. Identification and protection of these areas may have co-benefits for the management of natural hazards e.g. by enabling natural systems to function and convey flood waters or assist with and maintain the stability of steep land. The function of and provision for habitats should also be considered in relation to the management of natural hazard risk, and challenges presented by climate change. Particularly where mitigation works can impact on natural values or habitats and natural systems may need room to adjust or adapt to a changing climate and exposure to natural events. • Section 6(d) sets out the maintenance and enhancement of public access to and along the coastal marine area. This is relevant to the management of coastal hazards and other hazards which may occur within this environment. • Section 6(e) refers to the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga and Section 6(g) sets out the protection of protected customary rights. This is important as these ancestral lands, water, sites, waahi tapu and other taonga may be subject to natural hazards, which may impact the access and use of them.
Section 7 – Other Matters	Section 7 provides for other matters and is relevant as follows:

Source document	Relevant matter & Comment
	• Section 7(a) refers to kaitiakitanga which provides alternative approaches to the management of natural hazards to those historically utilised in resource management plans. • Section 7(b) refers to the efficient use and development of natural and physical resources. The efficient use and development of land is relevant to the management of natural hazards, especially within areas that have significant economic, social and cultural investment. In particular, noting that natural hazards may have a significant spatial extent. • Section 7(c) refers to the maintenance and enhancement of amenity values. The management of natural hazards has the potential to adversely affect amenity values. For example, flood protection works, ground improvements and coastal protection works all have the potential to adversely affect amenity values. • Section 7(d) refers to the intrinsic values of ecosystems. Ecosystems and their intrinsic values are relevant to the management of natural hazards when considering the challenges that these systems face, particularly in terms of climate change and its impact on terrestrial flood plains and the coastal environment. • Section 7(f) refers to maintenance and enhancement of the quality of the environment. Under the RMA the definition of 'environment' includes ecosystems and their constituent parts, including people and communities. Natural hazards have the potential to degrade areas and impact their quality, accessibility, use and enjoyment. • Section 7(g) refers to any finite characteristics of natural and physical resources. Finite characteristics are particularly relevant to the coastal environment and the values of natural systems such as waterways. Natural hazards may impact on these finite characteristics and the management of natural hazards may in many cases need to consider cumulative impacts on these characteristics. • Section 7(i) refer to the effects of climate change. This is relevant to the management of natural hazards because climate change has the potential to increase the occurrence and magnitude of natural hazard events. In particular, the land-sea interface can be affected by increased flood events and sea level rise which may also impact ground water levels and subsequently influence the risk of liquefaction.
Section 17 – duty relating to adverse effects	Every person has a general duty under the RMA to avoid, remedy or mitigate any adverse environmental effects from activities irrespective of whether the activities are otherwise authorised by the RMA, a NES, a rule, resource consent or designation.
Section 30	Both regional and territorial authorities have jurisdiction over control of land use for the purpose of the avoidance or mitigation of natural hazards. Section 30(1)(c)(iv)) relates to regional councils.
Section 31	Both regional and territorial authorities have jurisdiction over control of land use for the purpose of the avoidance or mitigation of natural hazards. Section 31(1)(b)(i)) relates to territorial authorities.
The National Adaptation Plan: Urutau, ka taurikura: Kia tū pakari an Aotearoa i ngā huringa āhuarangi Adapt and	The National Adaptation Plan (NAP) sets out actions for a variety of different sectors across New Zealand to ensure that Aotearoa is enabled to be resilient to the risks of climate change. The plan signals that developments will need to take into account climate resilience and that development should be directed away from areas susceptible to extreme

Source document	Relevant matter & Comment
thrive: Building a climate-resilient New Zealand. 2022	hazards, however this should be assessed on a case-by-case basis as the benefits short term may still outweigh long-term effects. The document accepts that while we can seek to reduce vulnerability and redirect development there will be some situations where adaptation may not be possible and managed retreat will be required. The plan acknowledges that there is currently not a clear direction around how to guide development in response to climate change outside of coastal areas and that councils face significant pressure to enable further development to meet housing requirements. Councils are required under the RMA to 'have regard to' the National Adaptation Plan when making or changing RMA plans. This requirement was introduced under the Resource Management Amendment Act 2020 to create a stronger link between the Climate Change Response Act and decision making under the RMA. The NAP requires the following climate scenarios in assessing and managing climate risk: • For detailed hazard and risk assessments in coastal and non-coastal areas, use both the middle-of-the-road scenario (SSP2) and the fossil fuel intensive development scenario (SSP5-8.5) where available, • RCP4.5 and RCP8.5, to 2130, for areas at high risk of being affected, adding the relevant rate of vertical land movement locally. • Where SSP2-4.5 and SSP5-8.5 are not available, use RCP4.5 and RCP8.5 to 2130, adding the relevant rate of vertical land movement locally. For all other climate hazards and risks, use the most recent downscaled climate projections for Aotearoa. These recommended climate change scenarios reflect the latest global climate projections released in the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report (AR6 WG1) (2021) and NZSeaRise. In addition, the NAP sets out that councils should stress test plans, policies and strategies using a range of scenarios as recommended in the interim guidance and the National Climate Change Risk Assessment Framework, as relevant to the circumstance. The SSP 8.5(M) and SSP 8.5(H+) sea-level rise projections are the upper-range scenario for undertaking climate risk-screening assessments to determine coastal areas "potentially affected" by coastal hazards and the effects of climate and stress-testing land use plans and adaptation options recommended in the 2022 MfE Interim Guidance as well as the previous 2017 MfE Coastal Hazards and Climate Change guidance.
National Policy Statements	
New Zealand Coastal Policy Statement 2010	The New Zealand Coastal Policy Statement (NZCPS) sets out the policy framework for the protection and management of the coastal environment in New Zealand. This is relevant to the management of natural hazards within the coastal environment, with particular respect to the following objectives and policies: • Objective 5: To ensure that coastal hazard risks taking account of climate change, are managed by: locating new development away

Source document	Relevant matter & Comment
	from areas prone to such risks; considering responses, including managed retreat, for existing development in this situation; and protecting or restoring natural defences to coastal hazards; • Policy 3: Precautionary approach; • Policy 24: Identification of coastal hazards; • Policy 25: Subdivision, use and development in areas of coastal hazard risk; • Policy 26: Natural defences against coastal hazards; and • Policy 27: Strategies for protecting significant existing development from coastal hazard risk. These objectives and policies provide direction on the management of coastal hazards. Notably, Policy 3 requires the adoption of a precautionary approach to use and manage coastal resources, and Policy 27 sets out the range of options for reducing coastal hazard risk and how these options are to be evaluated. In addition, the NZCPS also encourages natural defences against coastal hazards (Policy 26) while providing exceptions for hard structural defences to protect existing infrastructure of national or regional importance where there is no practical alternative. While the NZCPS is mainly focussed on coastal hazards, there is some overlap with other hazards such as river flooding which also occurs at the coast and can be influenced by coastal processes. Notably, the following policies are relevant: • The extent of the coastal environment - Policy 1. • The safeguarding of the function and resilience of the coastal environment - Objective 1 and Policies 11, 16 and 21. • The preservation of natural character - Objective 2 and Policies 13, 14 and 15. • Maintenance and enhancement of public open space and recreation opportunities - Objective 4 and Policies 18, 19 and 20. • Coordination and strategic management - Policies 4-7. • Identification of coastal hazards – Policy 24, requires identification of areas in the coastal environment that are potentially affected by coastal hazards and assess hazard risks over at least 100 years. • Recognition of activities which have a functional need to locate in the coastal environment - Objective 6 and Policy 6 and 9.
NPS for Electricity Transmission 2008	The objective of this national policy statement is to recognise the national significance of the electricity transmission network by facilitating the operation, maintenance and upgrade of the existing transmission network and the establishment of new transmission resources to meet the needs of present and future generations while managing the adverse environmental effects of the network and other activity on the network. This NPS is relevant to the management of natural hazards where electricity transmission activities interact with natural hazard areas.
NPS for Freshwater Management 2020 (Amended 2024)	The NPS-FM provides a national framework for the management of freshwater resources. At the centre of the NPS-FM is the concept of Te Mana o te Wai, which refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment.

Source document	Relevant matter & Comment
	This policy statement is relevant to the management of natural hazards as the use and development of hazard areas and the need for protection works has the potential to affect freshwater values. In particular, the management of terrestrial flood hazards will need to consider the concept of Te Mana o te Wai,
NPS – Indigenous Biodiversity 2023	The National Policy Statement – Indigenous Biodiversity requires councils to manage indigenous biodiversity, so it is reliant to the effects of climate change. Councils must support the natural adjustment of habitats and ecosystems in a changing climate. This is relevant particularly along the coastline and in areas prone to wildfire. Regional biodiversity strategies produced under this Policy Statement must take into account any co-benefits indigenous biodiversity may have including water quality, carbon sequestration and hazard mitigation
NPS on Urban Development Capacity 2022	While the NPS-UD directs that regional policy statements and plans enable intensification in existing urban areas, it also requires that intensification to achieve this is resilient to the current and future effects of climate change, that infrastructure capacity to service the proposed intensification is available, and, that safety and cultural, social and economic wellbeing of the inhabitants is provided for. The NPS-UD was updated in 2022 to incorporate amendments made by section 77S(1) of the Resource Management Act 1991 (as inserted by the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021). This amendment required that qualifying matters were better justified. This is relevant as qualifying matters include matters which make higher density development inappropriate in an area, and can include natural hazards.
Proposed NPS - Natural Hazard Decision-making 2023	The intent of this proposed NPS is to enable greater consistency in the treatment of natural hazards under the RMA, nationally. The NPS-NHDM is relevant as follows: • Policy 1 states that “When making planning decisions, decision-makers are to determine the level of natural hazard risk as high, moderate, or low”. • Policy 2 states (in summary) that when determining natural hazard risk, decision-makers are to consider, first, the likelihood of the natural hazard event occurring, and the consequences; and second, tolerance to a natural hazard event. Policy 3 states that decision-makers must adopt a precautionary approach when determining natural hazard risk if (in summary) the natural hazard risk is uncertain or little understood; and the risk could be intolerable.
National Environmental Standards	
National Environmental Standards for Sources of Drinking Water 2007	The National Environmental Standard for Sources of Human Drinking Water sets requirements for protecting sources of human drinking water from becoming contaminated. For the purpose of this NES, a human drinking water source is a natural water body such as a lake, river or groundwater that is used to supply a community with drinking water. This is relevant to the management of natural hazards and the use and development of hazards areas. The need for protection works has the potential to affect freshwater values and community water supplies. This is particularly relevant in relation to the management of terrestrial flood

Source document	Relevant matter & Comment
	hazards and saltwater intrusion into groundwater, the latter of which may be worsened by sea level rise.
National Environmental Standards for Telecommunication Facilities 2016	The National Environmental Standards for Telecommunication Facilities (NESTF) provides national consistency in the rules surrounding the deployment of telecommunications infrastructure across New Zealand while ensuring the effects on the environment are minimised and managed appropriately. Regulation 57 of the NESTF sets out that a territorial authority cannot make a natural hazard rule (a district rule that prescribes measures to mitigate the effect of natural hazards in an area identified in the district plan as being subject to one or more natural hazards) that applies to a regulated activity. This is because resilience is considered to be adequately factored into industry practice and telecommunication providers will either avoid hazard areas or engineer structures to be resilient to the hazard risk, while servicing existing communities within these areas.
National Environmental Standards for Electricity Transmission Activities 2009	The National Environmental Standards for Electricity Transmission (NES-ET) sets out a national framework of permissions and consent requirements for activities on existing electricity transmission lines. Activities include the operation, maintenance and upgrading of existing lines. The NES-ET is relevant to the management of natural hazards as it contains conditions which relates to the permitted vegetation clearance and earthworks thresholds, which is relevant to the management of stability hazards, flooding and drainage.
National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health 2011	The National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS) is a nationally consistent set of planning controls and soil contaminant values. It ensures that land affected by contaminants in soil is appropriately identified and assessed before it is developed - and if necessary, the land is remediated or the contaminants contained to make the land safe for human use. The NES-CS is relevant to the management of natural hazards as areas which are identified as being contaminated may be subject to natural hazards and the management of these areas may therefore need to respond to the risk from the contaminants as well as the likely impact or influence of the natural hazard event.
NES for Commercial Forestry 2023	The National Environmental Standard for Commercial Forestry (NES-CF) provides nationally consistent regulations to manage the environmental effects of forestry. The NES-CF is relevant as follows: • The NES-CF has permitted activity conditions which require activities to meet certain requirements to convey flood flows (for the 2% and 5% AEP event) and maintain stability. When these criteria are not met consent is required from the regional council, with flood hazards being one of the matters for discretion. • Fire breaks are also considered as a component of forestry infrastructure and activities are controlled more stringently where they interface with the coastal environment. • There are also conditions which relate to the erosion susceptibility of land which is relevant to the management of land stability.

Source document	Relevant matter & Comment
	• A permitted activity standard for managing forestry slash at harvest to avoid the collapse of slash piles and the ground beneath. This relevant to the management of natural hazards with particular regard to the risk of debris flows during flood events.
Other legislation and regulations	
Local Government Act (LGA) 2002	The Local Government Act 2002 (LGA) is the primary statute that mandates many local government functions. Section 10 of the LGA sets out the purpose of local government, and includes the requirement to promote the social, economic, environmental, and cultural wellbeing of communities in the present and for the future. As described below, the LGA is relevant to the management of natural hazards. A key requirement of the LGA is to prepare long term plans (LTPs) (under section 93), which identify local authorities' activities and expenditure over at least a 10-year planning horizon and provide a basis for accountability. Section 101A requires that as part of their LTP, local authorities must prepare financial strategies, which include asset management planning (i.e. what capital expenditure for network infrastructure, flood protection and flood control works are required to maintain existing levels of service). As such, through the LTP and asset management planning process, local authorities must make decisions about what level of natural hazard protection their assets are to provide (in the case of flood protection works) or what level of event they are to withstand (in the case of network infrastructure). In addition, a separate infrastructure strategy must to be prepared (under section 101B), which covers at least 30 consecutive financial years, and gives explicit consideration to the resilience of infrastructure in the event of natural disasters; the identification and management of risks relating to natural hazards and make appropriate financial provision for those risks.
Building Act 2004	In addition to the RMA responsibilities, the Council has responsibilities relating to natural hazards under the Building Act 2004. The Building Act manages natural hazards in relation to the construction and modification of buildings as follows: • Section 35 requires that Project Information Memorandums include details on the special features of the land concerned, including potential natural hazards; • Section 37 allows local authorities to delay building work until a resource consent is obtained. This provision can be used where development is taking place on hazard-prone land and Plan rules require a resource consent. • Section 71-74 relate to building on land subject to natural hazards. These sections set out limitations and restrictions for the construction of buildings on land subject to one or more natural hazards or is likely to accelerate, worsen or result in a natural hazard on land or any other property. Pursuant to section 72, consent must be granted if appropriate remedial measures are implemented as detailed in this section.

Source document	Relevant matter & Comment
	- The Building Act requires new buildings to meet the performance requirements of the Building Code (these requirements are designed to protect against certain hazards (ground shaking and flooding). ‘Natural hazard’ is defined in section 71 of the BA as any of the following: - erosion (including coastal erosion, bank erosion, and sheet erosion) - falling debris (including soil, rock, snow, and ice) - subsidence - inundation (including flooding, overland flow, storm surge, tidal effects, and ponding) - slippage It is noted that this definition does not include liquefaction.
Local Government Official Information and Meetings Act 1987 (LGOIMA)	This Act is relevant to the management of natural hazards as pursuant to section 44A, any council which has information about hazards on any land in the district, that is not apparent in the district plan, needs to make this available through Land Information Memoranda (LIM). Local authorities must provide a LIM on request.
Reserves Act 1977	The Reserves Act provides for the acquisition of land for reserves, and the classification and management of reserves (including leases and licences). The purpose of the Act refers to providing for preservation and management of reserves, ensuring the survival of indigenous species, flora and fauna, and ensuring as far as possible preservation of access to and along the coast and riverbanks, and fostering and promoting the preservation of the natural character of the coastal environment among other matters. Reserves can have multiple purposes, including use of land for flood management (such as water detention) during a flood event, as well as providing recreation, cultural and biodiversity values for communities. This act is relevant to the management of natural hazards as in many instances reserves land has an interface with the coast, rivers and streams. As such, this act also forms an important management tool for these areas.
Civil Defence Emergency Management Act 2002 (CDEM)	The Civil Defence Emergency Management (CDEM) Act provides the framework under which natural hazards are to be managed, and sets out the duties, responsibilities and powers of central and local government, lifeline utilities and emergency services. It establishes an ‘all-hazards’ approach that seeks to achieve the sustainable management of hazard risk through the ‘4 Rs’ of reduction, readiness, response and recovery. The CDEM Act, which is administered by the National Emergency Management Agency, requires the formation of a number of regional CDEM Groups and each must prepare a CDEM Group Plan that details how the risks that threaten their region will be managed. It is generally expected that the risk reduction component of the CDEM Group plans will be achieved through land use planning measures under the RMA.
National Disaster Resilience Strategy 2019	The purpose of the National Disaster Resilience Strategy (the Strategy) is to outline the vision, values, principles and goals for Civil Defence Emergency Management (CDEM) in New Zealand. The Strategy sets out what we as New Zealanders expect from CDEM and what we want to achieve, including priorities and objectives for increasing New Zealand’s resilience to disasters.

Source document	Relevant matter & Comment
	CDEM is important because New Zealanders are, and will continue to be, at risk from a broad range of hazards. Many communities and much industry and infrastructure are located in areas that are likely to be affected by hazards. CDEM must consider the following factors: • Demographic and future development trends; • Reliance on technology; • Human modification of the natural environment; and • The implication of climate change. This is the third Strategy made under the CDEM Act, which takes on board the lessons learnt from previous years, and seeks to better understand and manage national risks, including better processes for identification, assessment, monitoring and ownership of risks.
Building (Earthquake-prone Buildings) Amendment Act 2016	The Building (Earthquake-prone Buildings) Amendment Act 2016 introduced significant changes to the way earthquake-prone buildings are identified and managed under the Building Act. It uses knowledge learned from past earthquakes in New Zealand and overseas. The system is consistent across the country and focuses on the most vulnerable buildings in terms of people's safety. It categorises New Zealand into three seismic risk areas and sets time frames for identifying and taking action to strengthen or remove earthquake-prone buildings. This is relevant to the management of natural hazards as under this legislation, territorial authorities must: • Identify potentially earthquake prone buildings (EPB) and notify the building owners and request engineering assessments of potentially earthquake prone buildings; • Determine if a building is earthquake prone, and if it is, asking for an earthquake rating; • Issue notices to owners of EPB; and • Publish information about earthquake prone buildings on the EPB register.
Fire and Emergency New Zealand (FENZ) Act 2017	This Act unifies Fire Services across New Zealand and provides common objectives, functions, and operating principles for fire services across the nation. Local fire plans which contain policies and procedures for the management of public safety risks from fire are required under this Act. This is relevant to the management natural hazards, namely the management of wildfires and wildfire risk.
Soil Conservation and Rivers Control Act 1941 (SCRCA)	The Council has the functions and general powers of a catchment authority under the SCRCA. Under section 126(1) of the SCRCA, one of the Council's functions is to minimise and prevent damage in the Tasman district by floods and erosion. The SCRCA confers to the Council all powers, rights and privileges necessary to enable it to carry out this function, but has also been amended over the years to ensure that any work undertaken for this purpose does not derogate from the provisions of the RMA.
Natural Hazards Insurance Act 2023	The Natural Hazards Insurance Act (NHI Act) replaces the Earthquake Commission Act 1993 and aims to reduce the impact of natural hazards on people, property and the community by setting up the Natural

Source document	Relevant matter & Comment
	Hazards Commission (formerly EQC) to provide natural hazard insurance cover and natural hazard advice.
NZ Climate Change Strategy 2024	The NZ Climate Change Strategy sets the approach for how councils should deliver on New Zealand's climate goals focusing on transitioning to a low emissions economy. The strategy focuses on five pillars that councils must support including making sure infrastructure is resilient and communities are well prepared, credible markets support the climate transition, clean energy is abundant and affordable, world-leading climate innovation boosts the economy, and nature-based solutions address climate change.
Guidance documents	
Parliamentary Commissioner for the Environment – Preparing New Zealand for Rising Seas: Certainty and Uncertainty (November 2015)	The purpose of this report is to increase the understanding of how sea level rise will affect New Zealand and show how low-lying coastal areas around the country can be accurately mapped in a standardised way. The report also looks into how some councils have begun to plan for sea level rise and identifies problems with and gaps in the direction and guidance provided by central government. A number of topics relating to natural hazards are addressed in this report including coastal flooding and coastal erosion and chapter 7 explores dealing with coastal hazards in New Zealand.
Ministry for the Environment. 2024. Coastal hazards and climate change guidance. February 2024	This document is an update to the 2008 and 2017 Coastal hazards and climate change: guidance for local government document, in addition to the 2022 interim guidance regarding sea level rise. This guidance helps ensure coastal hazards and climate change are being factored into planning in coastal areas. It can be used as a tool to help decision makers consider the potential effects of climate change, now and in the future, based on the latest scientific information. This includes a 10-step process to assess the risks and determine what actions to take. Of note, the 2024 document update includes: • Additional information and estimates of sea-level rise. Notably, the guidance incorporates the NZ SeaRise Te Tai Pari O Aotearoa research programme's updated sea level rise projections which were released in May 2022. This body of work includes location specific sea level rise projections out to the year 2300 for every 2km of the Aotearoa coast and takes into consideration localised vertical land movement; • Advances in knowledge relating to the types of coastal hazards (such as sea-level rise, storms, flooding, or rising groundwater) and how they interact with each other; and • Updated guidance on carrying out risk assessments and adaptation pathways planning.
DoC NZCPS 2010 guidance note: Coastal Hazards, Objective 5 and Policies 24, 25, 26 and 27 (December 2017)	This guidance note covers the coastal hazard objective (Objective 5) and the four policies that primarily address coastal hazards (Policies 24, 27) in the New Zealand Coastal Policy Statement 2010. These share a common rationale and origin, and raise many of the same issues around interpretation and implementation. While this document is mainly relevant to coastal hazards, it also has implications for coastal impacts on pluvial and fluvial flooding.

Source document	Relevant matter & Comment
GNS Science Publications	GNS Science, Te Pū Ao, is New Zealand’s leading provider of Earth, geoscience and isotope research and consultancy services. Their purpose is to understand natural Earth system processes and resources, and to translate these into economic, environmental and social benefits. GNS have a number of geographical and hazard datasets which can be combined with topographical, population and GIS data to create spatial models which can assist in identifying sites and areas which are at risk from natural hazards. GNS have the following tools and guidance: • Risk-based Land Use Planning for Natural Hazard Risk Reduction (2013) – A guidance document which includes a toolbox aimed to support risk-based land use policy and plan development in local government; • Out on a LIM: The role of Land Information Memorandum in natural hazard management (2016) – A report which aims to document how natural hazard information is represented in LIMs produced in the Wellington Region; • Planning for risk: incorporating risk-based land use planning into a district plan (2013) - This report presents an approach for incorporating risk-based land use planning into a New Zealand district plan chapter; • Putting R(isk) in the RMA: Technical Advisory Group recommendations on the Resource Management Act 1991 and implications for natural hazards planning (2012) – A report that focuses on the implications of the Technical Advisory Group recommendations on the management of natural hazards through the RMA.; • Guidelines for assessing planning policy and consent requirements for landslide prone land (2007): Guidelines to assist planners in determining whether planning documents and resource consent applications at regional and district levels incorporate appropriate information on landslide and slope instability hazards; and • Pre-event recovery planning for land-use in New Zealand (2006) - This report addresses the issue of recovery after a disaster, and presents a methodology for pre-event recovery planning for land-use in New Zealand. In addition to the above, GNS also hold information on the following: • Hazard databases including earthquake epicentre, active faults and landslides; • Hazard models including earthquake ground shaking, slope stability, tsunami inundation, volcanic ash and fire spread; and • Multi-hazard risk assessment used to determine vulnerability to multiple hazard to reduce/avoid habitation in high-risk areas.
NIWA Website	The National Institute of Water and Atmospheric Research (NIWA), is a Crown Research Institute with a mission to conduct leading environmental science to enable the sustainable management of natural resources for New Zealand and the planet. NIWA considers that risks from natural hazards are part of everyday life for New Zealanders, including the risk of floods, storms, tsunamis,

Source document	Relevant matter & Comment
	landslides, severe weather or earthquakes. Awareness and understanding of the risk of natural hazards and effective risk management is necessary to reduce the vulnerability of our communities. Risk management is a way of preparing a community by employing measures to minimise impacts, and preparing them to cope with impacts. This includes planning to minimise impacts, well prepared emergency plans and measures to protect the most vulnerable people of the community. Risk mitigation (i.e. moderating the severity of a hazard impact) is the main objective of risk management. It aims to reduce the physical and economic impacts of an event and limit the human, material, economic and environmental costs of an emergency or disaster. NIWA also publish guidance documents which relate to the management of natural hazards and climate change. Notably, this includes a range of guidance tools that provides detail regarding the models and methods available that can be used to assess climate change effects.
Planning and Engineering Guidance for potentially liquefaction-prone land: Resource Management Act and Building Act aspects (2017) (Ministry for the Environment, Ministry of Business, Innovation and Employment)	This document provides guidance for a risk-based process to manage liquefaction related risk in land use planning and development decision-making to inform RMA and Building Act planning and consenting processes. While this guidance specifically focuses on liquefaction and its consequences, it is part of a broader objective that buildings and infrastructure be built with appropriate consideration of all aspects of the land conditions and natural hazards. This process involves a hierarchy of tools, with higher-level regional policy statement and plans providing an overarching framework that empowers the management of liquefaction-related risk via the lower-level district plan and consent processes. The guidance notes that the plan should include objectives covering: • Development, subdivision, use of land and construction buildings and infrastructure are informed by appropriate information on liquefaction risk; and • Environmental outcome statements for environmental effects resulting from liquefaction which are relevant to the region (e.g. protection of groundwater from physical disruption and contamination). Some of the policy matters a plan should include are: • Directing where future urban development is to be encouraged /avoided (based on liquefaction-related risk); and • Requirements for more detailed liquefaction assessments (where land use change or subdivision is proposed).
Planning for Development of Land on or Close to Active Faults – A guideline to assist resource management planners in New Zealand. Report for Ministry for the Environment by Institute of Geological and Nuclear Sciences Client Report 2002/124, July 2003	Guideline for land use planning approaches for land on or close to active faults. It is intended to assist local authorities minimise the natural hazard risk and the time it takes for individuals, communities, and the government to recover from fault rupture. The guideline aims to assist planners, emergency managers, earth scientists, and people in the building industry to avoid or mitigate the fault rupture hazard. Sections 2–9 of the guideline focus on the need for a risk-based approach to planning for land use on and near active faults. It recommends that councils:

Source document	Relevant matter & Comment
	• identify active faults in their district, with maps that are at the right scale for the purpose; • create 'fault avoidance zones' on their district planning maps; • evaluate the fault rupture hazard risk within each fault avoidance zone; • avoid building within fault hazard avoidance zones where possible; • mitigate the fault rupture hazard when building has taken place or will take place within a fault hazard avoidance zone.
Draft Nelson Tasman Civil Defence Emergency Management Group Plan 2025-2030	The Nelson Tasman region is susceptible to a wide range of hazards including earthquakes, landslides, floods and coastal inundation. Part of the Nelson Tasman Civil Defence Emergency Management (CDEM) Group project is to better understand the relationships between nationally and regionally critical infrastructure and key natural hazards. Notably, the plan seeks to set the strategic direction of CDEM in the Nelson Tasman Region over the next five years. This document identifies high-risk and low-risk regional hazards, which are determined using a process which considers: • The likelihood or probability of the event occurring; • The consequences of an event occurring based on the four environments (social, built, natural, economic); • The type of hazard and particular characteristics of the event such as depth and duration of flood water; and • The vulnerability of each element at risk such as community or infrastructure.
Nelson Tasman Land Development Manual 2020	Sets out requirements for design, materials, and construction standards. Stormwater system design capacities for primary and secondary systems are required to be designed taking into account the effects of climate change as expected in 2090 based on climate change scenario RPC 8.5. This manual also includes minimum freeboard requirements for buildings in relation to open channels, streams, rivers and the 1% AEP top water level. For areas subject to freshwater and tidal inundation, additional guidance on determining top water levels is provided by the Tasman District Council and Nelson City Council 2019 <i>Practice note: for calculating minimum ground and floor levels for subdivision and new buildings</i>.
Nelson Tasman Inundation Practice Note 2019 (IPN)	The IPN explains the methodology to determine minimum ground and/or floor levels for subdivision, new buildings and major alterations in areas identified as being subject to seawater or freshwater inundation within the Nelson and Tasman districts, including the effects of climate change. It is non-statutory guidance that sits alongside the Nelson Tasman Land Development Manual (2020). The IPN is currently being reviewed to give effect to more updated technical information such as the MfE 2024 Coastal Hazards and Climate Change Guidance.
Tasman Climate Response and Resilience Strategy 2024-2035	This Strategy document outlines the Council's response to climate change for the next 10 years and beyond. It has been developed with the community to mitigate and adapt to the specific impact of climate change on the Tasman Region. The key areas of focus for the Council include reducing greenhouse gas emissions, building climate resilience, leading by example and empowering communities to act. The Council agree to provide regular progress updates on implementation of the Action Plan

Source document	Relevant matter & Comment
	and engage with the community to ensure that their efforts remain relevant and effective over time.
Landslide Planning Guidance – Reducing Landslide Risk through Land-Use Planning, January 2024, GNS Science Miscellaneous series 144.	This guidance document sets out how landslide risk can be reduced through consistent land-use planning. Examples are included within this guidance of how landslide susceptibility, hazard and risk analysis can support and be incorporated into planning documents and assist in formulating policy, decision making, and preparing and assessing land-use, subdivision and building consent applications. This guidance document also notes that assessments of natural hazards must take into account Te Tiriti o Waitangi, te ao Māori and mātauranga Māori.

Appendix 4 Natural Hazard Provision Tables - Other Councils Researched

[See separate pdf](#)