

Te Tai o Poutini Plan – Section 32 Evaluation

Variation 2: Coastal Natural Hazards Mapping



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1. Overview and Purpose

Section 32 of the RMA requires objectives in District Plan proposals to be examined for their appropriateness in achieving the purpose of the Resource Management Act 1991 ('the Act' or 'the RMA'), and the policies and methods of those proposals to be examined for their costs, benefits, efficiency, effectiveness and risk in achieving the objectives.

The analysis set out in this report is to fulfil the obligations of the Council under s32 of the RMA. This section 32 evaluation report relates to the evaluation of options for the mapping of coastal inundation and coastal erosion hazards (Coastal Hazard Severe, Coastal Hazard Alert and Coastal Setback overlays) on the West Coast.

This s32 evaluation report should be read in conjunction with the s32 'Overview Report', that was proposed for the proposed Te Tai o Poutini Plan which also includes an overview of the s32 legislative requirements, the methodology and approach to the s32 evaluations and the process that the TTPP Committee has undertaken to date through the development of Te Tai o Poutini Plan, including consultation and engagement.

The s32 evaluation report relates only to the provisions in the proposed Variation 2 to Te Tai o Poutini Plan. This Variation seeks amend and updated the coastal hazard maps for three coastal hazard overlays – Coastal Hazard Severe, Coastal Hazard Alert and Coastal Setback.

2. Introduction to the Resource Management Issue

The West Coast is subject to a range of natural hazards, and people live and own property in areas susceptible to their effects. Effective planning for and management of natural hazards reduces the negative impacts of natural hazards on people, property and other aspects of the environment.

Coastal hazards overlays are mapped on the Te Tai o Poutini Maps with the objectives, policies and rules contained within the Natural Hazards section of Te Tai o Poutini Plan.

Coastal hazards (coastal erosion and inundation) in the proposed TTPP were mapped using the most accurate data and modelling available at the time. High accuracy LiDAR data was available for the Hokitika and Westport township areas as it had already been carried out for the planning of coastal and river protection works for those towns. The rest of the coast was mapped using lower accuracy space shuttle data.

More recently, improved LIDAR data like that used in Hokitika and Westport has become available for the remainder of the coast excluding the area north of Hector and south of Jackson Bay. This has meant the modelling work has been able to be updated to be more accurate and NIWA have been able to update the level of coastal hazard and the boundaries of these for the Coastal Hazard Severe, Coastal Hazard Alert and Coastal Setback overlays.

The need for the Variation was identified because there are substantial differences between the updated maps and what was notified in the proposed TTPP. There are several hundred properties that currently are mapped within an overlay where the

higher resolution data indicates they are not at risk, and there are several hundred properties that currently do not show any coastal hazard. Where the higher resolution data indicates that there is a significant risk of coastal hazards.

The proposed Variation involves the replacement of the proposed Plan maps with the updated maps, as shown on the map viewer at: <https://tpp.nz/coastal-hazards-variation/>.

No changes to any other part of the Plan are proposed, and no amendment to the relevant objectives, policies or rules are included.

2.1 Statutory and Policy Direction

2.1.1 Part 2 of the RMA

The Resource Management Act (RMA) sets out the functions of regional councils under Section 30, and the functions of territorial authorities under Section 31.

The RMA requires the West Coast Councils (the Councils) to control any actual or potential effects of the use, development, or protection of land for the purpose of the avoidance or mitigation of natural hazards.

In undertaking its functions, the RMA requires the Councils to recognise and provide for the management of significant risks from natural hazards as a matter of national importance (Section 6). It also requires the Councils to have particular regard to the maintenance and enhancement of the quality of the environment, and the effects of climate change (Section 7).

Section 106 of the RMA requires the consideration for all risks from natural hazards in subdivision consent applications, and the relevant Council has the ability to refuse subdivision consent if there is significant risk from natural hazards.

The RMA also states that district plans must give effect to the New Zealand Coastal Policy Statement (NZCPS) and the WCRC's Regional Policy Statement. These functions essentially direct the Councils to consider how future development may be impacted by natural hazards (including those intensified by climate change) while also avoiding or mitigating natural hazards by recognising that inappropriate land use and development can exacerbate natural hazards and put more people and properties at risk.

These matters are relevant when considering natural hazards issues in the development of TTPP. The RMA, particularly sections 6 and 106, and the NZCPS, encourage taking a risk-based approach to managing natural hazard planning and decision-making under the RMA, taking into account both the likelihood and consequences of natural hazards.

2.1.2 New Zealand Coastal Policy Statement 2010 (NZCPS)

Section 75(3)(b) of the RMA directs that a district plan must give effect to any New Zealand coastal policy statement. The NZCPS deals specifically within the New Zealand coastal environment, and the district plan must give effect to it (s75(3)(b) RMA).

In respect to natural hazards its focus is coastal hazards including consideration of climate change. The key objective and policies in the NZCPS of relevance to managing natural hazards on the West Coast are:

Objective 5 To ensure that coastal hazard risks taking account of climate change, are managed by:

- *Locating new development away 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.*

Supporting this objective are policies including, 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).

Relevant matters in terms of this topic include:

- priority to maintaining and protecting natural features as defences against coastal hazards to protect coastal land uses;
- the requirement to identify areas in the coastal environment potentially affected by coastal hazards over the next 100 years including consideration of the effects of climate change;
- avoiding redevelopment, or change in use that would increase the risk of adverse effects;
- discouraging hard protection structures where practicable; and
- identifying long-term sustainable risk reduction approaches, including relocation or removal of existing development and structures at risk.

2.1.3 National Planning Standards

The Ministry for the Environment National Planning Standards 2019 contain the following aspects of relevance to this topic:

13. Mapping Standard – this standard sets out the required colours for all zones, and symbols where the maps display specified features.

There are no specific mapping requirements for natural hazards, except that the overlays must not utilise the colours or symbols allocated to the specific zones and features identified in the mapping standard.

2.1.4 West Coast Regional Policy Statement (WCRPS)

The West Coast Regional Policy Statement (RPS) Chapter 11 Natural Hazards and Chapter 9 Coastal Environment have a significant bearing on the implementation of Section 6 of the RMA. TTPP is required to give effect to the RPS.

Chapter 11 of the WCRPS provides a framework for managing natural hazard risks on the West Coast. It also sets out the responsibilities of the local authorities in the region for the control of land use to avoid or mitigate natural hazards.

Chapter 9 of the WCRPS addresses the coastal environment and has specific objectives and a policy around natural hazard risk management in this location.

The objectives and policies relevant to this topic and that must be given effect to are: Objective 9.3, 9.4 and 11.1 Policies 9.6, 9.7, 9.8, 11.1, 11.2, 11.3 and 11.4

Objective 11.1.1 seeks that the risks and impacts associated with natural hazards are avoided or minimised.

Objective 9.3.1 seeks that appropriate regard be had to the level of coastal hazard risks for new subdivision use or development.

Objective 9.4 relates to existing coastal hazard risks and seeks that they be managed to enable the safety and wellbeing of people and communities.

Policy 11.1 seeks to increase awareness of hazard risks and the adoption of appropriate building controls, including avoiding inappropriate development in hazard prone areas, to reduce the susceptibility of the West Coast community to the adverse effects of natural hazards.

Policy 11.2 recognises that through appropriate planning, the need for protection works can be avoided by siting new subdivision, use and development away from existing or potential natural hazards. Subdivision use and development that may cause or contribute to a natural hazard should be avoided. In some cases activities in an area may cause or contribute to a natural hazard affecting another area. For example, an upstream or inland land or river use can have downstream or downgradient hazard effects on other development. The risk of subdivision, use and development affecting or exacerbating a hazard risk elsewhere needs to be assessed in plan and consent processes.

Policy 11.3 recognises that adverse effects arising from climate change may be significant in certain areas. It directs that when assessing natural hazard risk, councils should use the latest national guidance and the best available information on the impacts of climate change on natural hazard events.

Policy 11.4 recognises that there will be situations where modifying the environment to reduce susceptibility to natural hazards will produce benefits to the community in excess of the costs involved in protection or prevention works or programmes. Consideration should be given to the relocation of existing development and infrastructure away from areas prone to natural hazards, however it is recognised that this cannot always occur.

Policy 9.6 recognises that the potential impacts of climate change on coastal processes (and thus natural hazards) are complex, and a risk management approach to coastal hazard management is necessary when considering if coastal subdivision, use and development is suitable in the coastal environment.

Policy 9.7 requires that a minimum 100 year timeframe is used for assessing coastal hazard risks, particularly for proposed development in or adjoining areas identified as being high risk for hazards.

Policy 9.8 recognises that there are options to consider for managing coastal hazard effects on significant existing development, including relocation and removal of existing development, as well as hard protection structures. Where resource

management action is needed to protect people and property, the RMA provides for councils to take the best practicable option. Decision-makers will need to consider the potential social and economic impacts, including costs, to land and infrastructure owners of options to best manage *hazard effects*.

2.1.5 West Coast Regional Coastal Plan (WCRCP)

Section 75(4)(b) of the RMA directs that a district plan must not be inconsistent with a regional plan for any matter specified in s30(1). This includes the control of the use of land for the purpose of avoiding or mitigating natural hazards (s30(1)(c)(iv)). The relevant objectives of the proposed West Coast Regional Coastal Plan (pWCRCP) seek to ensure that the effectiveness of existing defences against the coast are maintained and that activities do not exacerbate the risk of erosion. The associated policies support the maintenance and upgrading of coastal protection structures, while ensuring that new coastal defences are appropriately placed so as not to exacerbate potential natural hazards elsewhere.

The pWCRCP identified 26 coastal hazard areas. These were reassessed post Cyclone Fehi, as areas as outlined in the table below. The Risk Priority Ranking relates to the degree of risk to built structures from the coastal hazard – rather than any particular judgement about the severity of the hazard itself. The coastal processes include the action of waves, tides and longshore currents on the movement of sediments along and perpendicular to the coast. For these natural processes to become hazards something needs to be impacted by them, such as a dwelling, or a highway, which has the potential to be impacted by the natural process. This is appropriate with a risk-based approach it is the significant risk being managed, where people and property are at risk, not where a severe hazard may exist but development does not.

WCRCP Coastal Hazard Area	Type of Coastal Hazard and Risk Priority Ranking
CHA 1 Karamea, from Kohaihai Bluff to Little Wanganui Head	Buildings: Residences around the Karamea/Otumahana Estuary are threatened by erosion and flooding. Road: SH67 Karamea Highway is exposed to erosion as it passes around the backshore of the Karamea/Otumahana Estuary. Sections of the Karamea-Kohaihai Road are exposed to erosion where it passes the Oparara Lagoon and Break Creek. Recreation: DOC Heaphy track facilities are threatened, as is the Golf Course at Karamea. Farmland: Farmland is at threat from erosion and flooding. Erosion: Migration of the Karamea River mouth, Oparara River mouth and Break Creek mouth can directly erode land during migration as well as change the exposure of the backshore to erosion from swell and storm waves. There is also erosion of the open coast by storm waves. Flooding: Wave washover flooding can affect low lying land during storms. The estuary mouths close infrequently but when they do it can result in flooding due to back up of water behind

	<p>them. Dune blowouts: Dune blowouts can deposit large amounts of dune sand on to land immediately behind the existing dune line.</p>
	<p>Medium: Moderate numbers of assets at risk. Existing management measures reasonably effective at reducing risk.</p>
<p>CHA 2 Mokihinui, from Gentle Annie Point to south of Miko</p>	<p>Buildings: Residences at Mokihinui and Gentle Annie are threatened by erosion and flooding. Road: Part of Gentle Annie access road threatened by erosion. Farmland: Farmland is being lost to erosion.</p> <p>Erosion: Long term erosion affects the coastline along this CHA. Erosion rates are higher nearer the Mokihinui River mouth. Mouth migration also threatens to cause erosion to the north bank of the Mokihinui River mouth.</p> <p>Flooding: Wave washover flooding affects land behind the beach</p>
	<p>Medium: Ongoing erosion and sea-flooding threatens existing buildings.</p>
<p>CHA 3 Hector , Ngakawau and Granity, from 400m north of Lamplough Stream to the mouth of the Orowaiti Lagoon</p>	<p>Buildings: Residential properties and school in Granity, Hector and Ngakawau are affected by erosion and flooding. In general, property to the west of SH67 in Hector, Ngakawau and Granity is very vulnerable to erosion and flooding. New subdivisions at the south end of the CHA have been set back to allow for continuing erosion. Road: Sections of SH67 (Karamea Highway) are likely to be threatened by erosion and flooding in the future. Farmland: Particularly in the southern half of this CHA significant areas of farmland are being lost to erosion.</p> <p>Erosion: The shoreline in CHA3 is experiencing long term erosion combined with short-medium term (1-20 year time frame) cycles of accretion and erosion. Erosion is caused by wave driven abrasion and transport of material northward exceeding sediment supply from rivers and from the coast to the southwest. Erosion rates vary over the length of the CHA as well as over time due to varying wave conditions and sediment inputs from rivers. Temporal variability is greatest near the mouths of the Ngakawau and Waimangaroa Rivers. Erosion rates in this CHA are sensitive to changes in sediment supply from the southwest (for example: sealevel rise resulting in build-up of beaches and storage of</p>

	<p>sediment west of the Buller River training walls). Any management practices which affect sediment delivery or movement along the shore within this CHA (i.e., groynes, beach mining or seawalls) have potential to impact on erosion rates/patterns.</p> <p>Flooding: The low-lying coastal land in this CHA is subject to wave washover flooding during storms. This risk is increased by erosion of the gravel barrier at the back of the beach. Extensive property and road flooding occurred during ex-tropical cyclone Fehi. Flood risk will increase with sealevel rise</p> <p>High: Many buildings at risk in the near future, notably the Granity School. Coastal hazards having a severe impact on communities.</p>
CHA 4 Orowaiti Lagoon	<p>Buildings: Many existing houses around the lagoon shore are at risk from flooding and erosion. This includes properties along Snodgrass Road, Orowaiti Road and in low lying areas of northern Westport.</p> <p>Road: The SH67 bridge approaches have been flooded from the lagoon and have also been affected by erosion requiring protection measures. Other minor roads are also threatened. Various 'paper' roads north of Utopia Road have already been lost to erosion.</p> <p>Farmland: Land north of Utopia Road has been lost to erosion. Some of this land is subdivided.</p> <p>Flooding: There are extensive low-lying areas around the lagoon where properties, roads and farmland are threatened by high tides, storm surges and river floods. Sea-level rise will significantly increase this risk in the future.</p> <p>Erosion: Erosion due to mouth migration (generally eastwards) has caused significant land loss in the past and is on-going. Mouth migration can change the exposure of the shore to wave action and can also cause erosion by river flows. Within the lagoon, local wind-waves and river floods can cause bank erosion.</p> <p>High: Houses and roads in low lying areas around Orowaiti Lagoon are at significant risk of flooding from the sea (and/or Buller River flood overflows into the Orowaiti). Within the lagoon the erosion hazard is not too severe and can be managed with the use of bank protection. At the lagoon mouth the hazard processes are much more severe and difficult to manage but there are fewer assets at risk</p>

<p>CHA 5 Carters Beach, from the Buller River mouth to a point level with Bradshaws Road</p>	<p>Recreation facilities: The sports fields of the domain are being affected by erosion and wave overtopping. The unsealed access road between the sports fields and beach (Rotary Road) has been truncated and closed due to erosion.</p> <p>Buildings: Low lying properties behind the domain/sports fields are at risk of flooding during high tides/storm surges. New subdivisions at the west end of the CHA have been set back to manage the erosion risk.</p> <p>Airport: Westport Airport runway extends close to the beach which is currently experiencing erosion. If erosion continues the runway may be threatened.</p> <p>Farmland: Farmland to the east and west of Carters Beach is threatened by erosion and flooding</p> <p>Erosion: The coastline at Carters Beach consists of low-lying sands deposited following the construction of the Buller River training walls (as a result of the dominant west-east longshore transport). There is no vegetation nor significant foredune protecting the backshore, and the coastline position is very sensitive to any change in wave climate or sediment supply. The coastline reached a position of maximum advance around 1981 and since then has eroded by approximately 40 m. It is not known whether this is short-medium term variability as the shoreline settles into a new equilibrium or the start of a longer-term trend relating to either/both a change in wave climate and/or a reduction in the supply of littoral drift sand from the south.</p> <p>Flooding: Land along this section of coast is very low lying and is affected by wave overtopping and flooding. Down-drift effects: The dominant westeast longshore transport drives sediment from this CHA past the Buller River training walls towards CHA3. Actions in this CHA (e.g., groynes, sand mining) have the potential to influence erosion rates to the east of the Buller River.</p> <p>Medium: Erosion and flooding are currently affecting recreation facilities at Carters Beach. If erosion continues at current rates the risk to buildings and the airport will increase.</p>
<p>CHA 6 Omau</p>	<p>Buildings: Several existing buildings (houses and baches), as well as the access to them is threatened. Several currently subdivided plots of land are threatened. The gardens of several existing buildings</p>

	<p>are currently being eroded, as are parts of Clifftop Lane.</p> <p>Erosion: The cliffs at Omau are relatively weak compared to those at Cape Foulwind and are they are retreating as the narrow beach at their base is eroded. Erosion rates are more severe at the eastern end of the CHA. As well as retreat of the cliffs by progressive toe-cutting and slab failure, consideration needs to be given to the risk of broader, lower angle collapse/landslide.</p> <p>Medium: Cliff retreat means that several residences and subdivided plots of land in Omau are likely to be affected by erosion within 50100 years.</p>
<p>CHA 7 Tauranga Bay, from DOC carpark to houses at south end</p>	<p>Recreation facilities: Road access and parking for the Cape Foulwind Walkway (DoC).</p> <p>Erosion: Creek mouth migration threatens parts of the access road and has caused problems in the past requiring erosion protection. Wave driven erosion is affecting parts of the bay and has threatened the parking area.</p> <p>Flooding: Wave washover flooding affects some areas around the bay</p> <p>Low: Hazard processes not severe, erosion protection measures effective at present. The value of assets at risk is relatively low and in the long term it would be possible to relocate access to Cape Foulwind Walkway if required.</p>
<p>CHA 8 Nine Mile Beach, from north end of beach to Parsons Hill, south end of beach</p>	<p>Buildings: Generally, buildings along this stretch of coast are adequately set back to manage their exposure to coastal hazards. With further development and continuing erosion there may be increasing hazards to buildings in the future. Road: Parts of Okari Road are threatened by erosion, particularly near the mouth of the Okari Lagoon. Farmland: Farmland behind Nine Mile Beach is being lost to erosion. Some of this farmland has been subdivided for residential development but generally the subdivision sites are adequately set back to manage the erosion risk.</p> <p>Erosion: Northward longshore transport is resulting in long term erosion of Nine Mile Beach. Erosion rates are fastest at the southern end of the beach, although during Fehi and Gita significant erosion occurred at</p>

	<p>the northern end of the beach. Mouth migration can cause local erosion at much faster rates around the Okari Lagoon mouth and Totara River mouth. Changes or management actions affecting sediment supply to the beach or sediment movement along the beach have the potential to change erosion rates/patterns.</p> <p>Dune Blowouts: The beach is backed by dunes, and dune blowouts can occur as a result of wave/wind action during storms.</p> <p>Low: Existing buildings and new development set back sufficiently to not be affected in near future. The risk to new development is being adequately managed by setting back buildings appropriately.</p>
CHA 9 Little Beach	<p>Buildings: Several baches are at high risk of erosion and flooding, with little buffer space left between the beach and the buildings. Road: Beach Road is threatened by erosion</p> <p>Erosion: Long term beach erosion affects the whole of Little Beach.</p> <p>Flooding: Wave washover flooding affects low lying land behind the beach.</p> <p>Medium: Limited assets affected but several baches threatened by erosion in near future.</p>
CHA 10 Woodpecker Bay, from BS19 672 484 to the south end of Seal Island BS19 649 449	<p>Road: SH6 is threatened by erosion and flooding at several locations. Buildings: Baches are threatened by erosion and flooding.</p> <p>Erosion: Woodpecker Bay is a pocket beach with limited sediment supplies (main source Fox River). The erosion focus is towards the centre and northern parts of the bay because these areas have greater exposure to south westerly and westerly swells, and experience greater northerly drift. Northerly swells during Fehi caused extensive damage at the southern part of the bay.</p> <p>Flooding: Wave washover flooding affects the land immediately behind the beach. Extensive flooding and wave washover damage occurred during cyclone Fehi.</p> <p>Medium: SH6 severely threatened by erosion for an extended distance but few other assets at risk.</p>
	<p>Road: SH6 is very close to the shoreline along the length of this CHA and is threatened in several places.</p>

<p>CHA 11 Maungahura Point to north end of Meybille Bay</p>	<p>Buildings: Several baches between the SH and coast are exposed to erosion and wave washover flooding.</p> <p>Erosion: Long term erosion is occurring along this coast but at a relatively slow rate. Vulnerability to erosion is very variable along this CHA depending on local conditions (geology, sediment supply and sheltering from waves by headlands or offshore rocks).</p> <p>Flooding: Wave washover at high tides can affect lower lying parts of the road and baches, although generally the shoreline slopes quite steeply behind the beach along this CHA.</p> <p>Low: Hazard processes not severe, being managed reasonably effectively through sections of protection work where required.</p>
<p>CHA 12 Punakaiki Village from north of the Pororari River mouth to the south end of the beach in front of the Punakaiki Village</p>	<p>Buildings: Much of Punakaiki Village is threatened, including houses and tourist accommodation (hotels, hostels and motor camp). Road: SH6 is threatened by erosion at the Southern end of the CHA. Recreation: The width of the beach and access to the beach are being affected as erosion of the beach occurs in front of the seawall.</p> <p>Erosion: Long term erosion of the beach is occurring in front of the village as a result of wave attack and northward longshore transport. There is also an erosion risk associated with river mouth migration.</p> <p>Flooding: Storm waves overtopping the beach can cause flooding.</p> <p>High: Continuing erosion very close to buildings in the Village. The recreational value of the beach is being reduced through continuing erosion in front of the seawall.</p>
<p>CHA 13 Punakaiki River beach, from south of Pancake Rocks to Razorback Point</p>	<p>Buildings: Hotel and baches. Road: A short length of SH6 is at risk.</p> <p>Erosion: River mouth migration threatens to erode land at the southern end of the bay. There is little long-term erosion, but short-term shoreline changes do affect the CHA and it is sensitive to any changes in external controls (i.e. sea-level rise or change in sediment supply) which may cause erosion.</p>

	<p>Flooding: Wave washover flooding affects land behind the beach.</p>
	<p>Medium: There is little long-term erosion, but assets located behind the beach have very little buffer space and are very vulnerable to any future changes affecting coastal processes.</p>
<p>CHA 14 Pakiroa (Barrytown) Beach, from just north of Burke Road to just before 17 Mile Bluff at the southern beach end</p>	<p>Farmland: Significant areas of farmland are being lost to erosion. Buildings: Development pressure is increasing along this stretch of coast. Various new subdivisions are being proposed and constructed. Setbacks are being applied to manage their exposure to the erosion hazard.</p> <p>Erosion: Long term erosion is the main hazard affecting this CHA. Erosion is being driven primarily by wave driven longshore drift of material from south to north. Erosion rates are highest along the southern to middle parts of the beach with erosion rates reducing further north. There is some accretion at the northern end of the beach. Any management practices which affect sediment delivery or movement along the shore (i.e., groynes, beach mining or seawalls) have potential to impact on erosion rates/patterns. Around creek mouths there are erosion risks associated with mouth migration.</p> <p>Flooding: Wave washover flooding affects land behind the beach and flooding can occur at creek mouths due to migration or blockage.</p> <p>Medium: Erosion rates are high along parts of this CHA and although there are few high value assets currently at risk there is increasing development/subdivision pressure.</p>
<p>CHA 15 17 Mile Bluff, from the end of CHA14 at 17 Mile Bluff to 10 Mile Creek</p>	<p>Road: SH6 is threatened in several locations along this CHA. Buildings: Several houses/baches to the west of SH6 are at risk.</p> <p>Erosion: Erosion of low-lying areas fronted by beaches as well as slope erosion of steeper parts of the coastline can affect parts of this CHA. Erosion risk is very variable along the CHA depending on local geology and wave exposure.</p> <p>Flooding: Wave washover flooding can affect lower lying portions of this CHA.</p>

	<p>Low: Erosion rates are generally low, and the hazard is currently being adequately managed through the use of short sections of armour/seawall.</p>
<p>CHA 16 Rapahoe from 1.5km north of Rapahoe to south of Seven Mile Creek</p>	<p>Buildings: Several properties in Rapahoe are at risk of erosion including residences, the pub and campground. Several undeveloped sections are also at risk. Road: SH6 is exposed to erosion for approximately 1km to the north of Rapahoe. Within Rapahoe, Beach Road is already truncated by erosion</p> <p>Erosion: Long term erosion of the shoreline is occurring as a result of sand and gravel removal (by northward transport and abrasion) exceeding supply (from Seven Mile Creek, cliff erosion and probably also bypassing around Point Elizabeth from the South). Depletion and rollover occur on the remnant beach barrier, while wave attack on the bluff at the northern end threatens the stability of the road around the bluff. Creek mouth migration also poses an erosion risk to both the north and south banks of Seven Mile Creek (including parts of the raised terrace to its south). Erosion rates along this CHA vary significantly, predominantly due to the varying exposure to wave energy and direction (due to the sheltering effect of Point Elizabeth).</p> <p>Flooding: Wave washover flooding occurs during storms when waves overtop the gravel barrier.</p> <p>High: On-going processes threaten to erode several properties as well as SH6. Sea flooding will become an increasing problem as more erosion occurs.</p>
<p>CHA 17 Cobden from Point Elizabeth Walkway carpark to Grey River mouth</p>	<p>Buildings: Houses in Cobden are threatened by erosion and flooding. Road: North Beach Road in Cobden is threatened by erosion and flooding. Te Tai o Poutini Plan Section 32 – Report 5 Hazards and Risks 18 Erosion: Long term erosion of the coastline at Cobden is continuing and is now very close to affecting the road and buildings there.</p> <p>Erosion is driven by an imbalance between the supply of sediment from the Grey River and the coast to the south, and the rate at which sediment is removed from the beach by northward longshore transport and abrasion.</p> <p>Flooding: Wave washover flooding threatens the road and properties</p>

	<p>Medium: Ongoing erosion increasingly threatening North Beach Road and houses at north end of Cobden.</p>
<p>CHA 18 Blaketown to Karoro, from the Grey River mouth to between Karoro and South Beach</p>	<p>Airport: The corner of the Greymouth airport runway enclosure at Karoro is threatened with erosion. Recreation: Blaketown beach access is affected by erosion Buildings: Few buildings are currently threatened by erosion although this is a heavily developed CHA and any long-term erosion would cause significant problems.</p> <p>Erosion: Recently, parts of the beach have experienced short term erosion, especially adjacent to the airport runway at Karoro. The causes of this erosion are not fully understood. Down-drift effects: Due to the predominantly South to North drift of sediment, actions in this CHA may affect CHA 17. However, the degree of connectivity between these CHAs, past the Grey River and its training Walls, is not firmly established.</p> <p>Medium: Few assets currently impacted but any long-term erosion would have significant consequences. There is some uncertainty over the degree to which actions in this CHA affect CHA 17.</p>
<p>CHA 19 South Beach to Camerons</p>	<p>Buildings: Several properties including the school, hotel and houses have been affected by flooding. Road: SH6 and local roads have been affected by flooding in the past. Recreation: Wave washover during storms can damage the access road. Previously recreational access to the beach was restricted during periods when the river mouth had migrated a long way north.</p> <p>Flooding: Flooding caused by mouth migration and/or partial/full closure of the New River / Kaimata mouth presents a significant risk along this CHA. River floods can cause flooding to properties in Paroa when the mouth has migrated a long-distance northwards or is partially closed.</p> <p>Erosion: Erosion can occur during mouth migration when the river is forced to extend parallel to the shore. As wave driven longshore transport deposits material into one side of the river mouth, the river erodes land on the opposite side of the mouth and extends the lagoon. Erosion has historically been less of a problem than flooding. Historically, the mouth of the New River / Kaimata has migrated over almost the full length of this CHA. Currently there is little erosion</p>

	<p>risk as the mouth is prevented from northward migration, although the rock bund itself is at risk of erosion during severe river flows and waves.</p>
	<p>Medium: Although flooding has occurred in the past, the current channel management regime appears to have reduced flood risk significantly.</p>
<p>CHA 20 Taramakau, from Camerons to south bank of Arahura River</p>	<p>Road: Serpentine Road immediately south of the Taramakau is at risk of erosion. The northern end of this road is no longer maintained. Farmland: Farmland on both sides of the Taramakau mouth and along the coast between the Taramakau and Arahura Rivers is at risk from erosion. Buildings: There are currently 2-3 buildings within 100 m of the beach around the Awatuna/Waimea Creek area.</p> <p>Erosion: Movement of the Taramakau River mouth can cause erosion on either the south or north banks. Prior to 2006 the mouth was offset to the south and caused erosion of farmland and loss of two houses. Before the late 1990's the mouth flowed to the north with significant erosion affecting the north bank. Migration of the mouths of the Arahura River and the smaller creeks such as Serpentine Creek and Waimea Creek can also cause erosion. Northern mouth migration of Serpentine Creek has previously threatened the bend on Serpentine Road. There is also some risk of coastal erosion away from the river mouths. While there is scant information regarding any long-term erosion trend, short-term (months to decades) erosion/accretion cycles are expected associated with storm and recovery cycles and transient imbalances between sediment supply from the Arahura River and further south and losses due to northward longshore transport and abrasion. Little analysis of open coast erosion along this section of coast is currently available.</p> <p>Flooding: Flooding due to storm waves affects parts of this CHA. Constriction or closure of creek mouths can also cause flooding.</p> <p>Low: Few assets at risk, no management currently carried out.</p>
<p>CHA 21 Hokitika, from south bank of Arahura River to level with end of Golf Links Road, Takutai</p>	<p>Buildings: Parts of the town as well as industrial land and some dwellings on the north of the town are at risk. Recreation: Hokitika beach access, parking and facilities are at risk from coastal hazards. The Sunset Point spit-head is also at risk of erosion, including the</p>

	<p>historic Tambo Shipwreck. Road: SH6 is not threatened in this CHA but various minor roads are at risk. Farmland: Farmland north and south of Hokitika is affected by coastal processes.</p> <p>Erosion: The position of the coastline at Hokitika has historically experienced fluctuations of up to 200m over years to decadal time scales. Erosional and accretional phases tend to migrate northwards and are influenced by the position and orientation of the river mouth. There has been little long-term trend in erosion or accretion observed at Hokitika. During phases of erosion, rapid retreat of the coastline can occur. North of Hokitika, around Houhou Creek, migration of the creek mouth can cause erosion from the creek or by allowing waves to attack the backshore.</p> <p>Flooding: Wave washover flooding can impact land immediately behind the beach. Dune Blowouts: Dune blowouts can occur as a result of wave/wind action during storms, particularly in the southern part of this CHA.</p> <p>High: There are many high value assets at risk on a very dynamic coastline. Current management practices seem to be reasonably effective at managing the erosion risk.</p>
CHA 22 Okarito from south side of Lagoon mouth, around the settlement	<p>Buildings: Parts of Ōkārīto settlement are at risk from flooding and erosion including houses, hostels, campground and the airstrip. Road: Roads within Ōkārīto are affected by flooding. Recreation: Recreation opportunities are affected by flooding, including historic sites and tourist accommodation.</p> <p>Flooding: Flooding from the Ōkārīto Lagoon occurs due to closure of the lagoon mouth. The lagoon can close when waves drive Te Tai o Poutini Plan Section 32 – Report 5 Hazards and Risks 20 sediment across the mouth. Erosion: Lagoon mouth migration can cause erosion</p> <p>Medium: Moderate number of assets affected by flooding from the lagoon. Mechanical opening of lagoon mouth used to manage the risk.</p>
CHA 23 Hunts Beach	Buildings: The settlement at Hunts Beach is becoming more threatened by flooding as the coast continues to erode.

	<p>Flooding: Flooding by wave washover affects land behind the beach. During ex-cyclone Fehi flooding caused severe property damage.</p> <p>Erosion: Erosion by storm waves and mouth migration can affect Hunts beach. Erosion of the shoreline has been observed over at least the past 25 years.</p> <p>Low: Whilst Hunts Beach experiences high hazard there are relatively few assets at risk.</p>
CHA 24 Bruce Bay	<p>Road: Approximately 2 km of SH6 runs close behind the beach and is threatened by erosion and flooding. There was severe damage to SH6 during Fehi, with the road washing out. Buildings: Properties (Marae and fishing cabin) on the landward side of SH6 are threatened by wave washover flooding.</p> <p>Erosion: Long term erosion of the coast is occurring as well as cyclic changes associated with changes in the position of the Mahitahi River mouth. Erosion by river flows due to mouth migration can affect the highway adjacent to the mouth.</p> <p>Flooding: Wave washover flooding can affect the highway and properties during storms.</p> <p>Low: Hazards are severe but other than SH6 there are few assets at risk</p>
CHA 25 Putaiwhenua/Okuru to Waitoto/Waiatoto, from north of Okuru River mouth to south of Waiatoto Lagoon	<p>Buildings: Various residences and undeveloped subdivisions in Okuru are at risk on both the north and south sides of the Okuru Lagoon backshore. Infrastructure: Power pylons on the Waiatoto Lagoon backshore have previously been affected by erosion. The rubbish tip south of Hannahs Clearing has also been threatened with erosion. Farmland: Farmland along this CHA is affected by erosion. Road: Parts of the Jackson Bay Road pass close to the shoreline and/or lagoon backshore and could be threatened by erosion in the future.</p> <p>Erosion: The mouths of the Okuru/Turnbull/Hapuka Rivers and Waiatoto River both migrate over several kilometres of separate sections of this CHA. At both lagoons the position of the river mouth can change the exposure of the lagoon backshore to river flows and wave action which in turn can cause erosion. In addition to erosion as a result of river mouth migration there is also erosion of the open coast on this CHA.</p>

	<p>Flooding: Lagoon mouth closure can cause flooding of low-lying land and buildings around the lagoons. Wave washover flooding affects parts of this CHA. Dune blowouts: The beach is backed by dunes, and dune blowouts can occur as a result of wave/wind action during storms.</p> <p>Medium: Past episodes of erosion have seriously threatened residences in Okuru, the Hannahs Clearing rubbish dump, and the power lines at Waiatoto Lagoon.</p>
<p>CHA 26 Neils Beach, from east of Arawhata River mouth to Jackson Bay</p>	<p>Buildings: Neils Beach has approximately 15 houses. The properties most at risk are approximately 80 m from the current high tide mark (Oct 2015). In Jackson Bay township several low-lying buildings are at risk of inundation. Infrastructure: The north end of the Neils Beach airstrip is within approximately 30m of the beach and is at risk of erosion if the current trend continues Farmland: There is little actively farmed land around Neils Beach. A small paddock owned by a MāoriTrust exists between the houses and the beach and is being actively eroded (Oct 2015). Road: From approximately 1 km West of the Neils Beach turning the Jackson Bay Road passes close to the shoreline and is threatened by erosion. The informal access track from Neils Beach to the Arawhata River mouth has been eroded in places.</p> <p>Erosion: The main hazard affecting Neils Beach is erosion. Over the period 2010-2015 the shoreline at Neils Beach experienced high erosion rates of 3-4 m per year but prior to this the shoreline was much more stable. There is little/no sediment supply passing around Jackson head from the south so the only sediment supplies to this stretch of coastline are from local landslides/streams between Jacksons Bay and Neils Beach and the Arawhata River. For this reason, the stability of the shoreline is very dependent on the position and orientation of the Arawhata mouth and its recent flood history. A westerly mouth location appears to encourage sediment storage on Neils Beach while an easterly mouth "drains" this storage and promotes erosion. It is unclear to what extent the current erosion is part of short-term variability due to river mouth processes or a longer-term trend (e.g. driven by a waning sediment supplies or sea-level rise). Erosion potential at Jacksons Bay township is limited by existing rock/rubble walls, but erosion potential will increase with sea level rise.</p>

	<p>Flooding: There is likely a risk of flooding from the Arawhata River, particularly if the mouth is constricted by a high beach barrier which is not rapidly eroded on the rising limb of a flood. Also, the risk of sea flooding will increase if the erosion of the foredune fronting the Neils Beach village continues. This is because locally the erosion has already removed the dune crest, lowering the natural protective barrier. Flooding is the main hazard in Jackson Bay township. High sea levels will flood up Seacombe Creek onto the adjoining roads, carpark, and the private property alongside Pier Street.</p>
	<p>Medium: The current erosion rate is high and is starting to threaten parts of the road and runway. There is still a reasonable buffer before any houses will be directly affected by erosion.</p>

Reference: Measures, R. & Rouse, H. (2022) Review of West Coast Regional Council Coastal Hazard Areas, prepared for West Coast Regional Council, NIWA client report CHC2022-081

2.1.6 Poutini Ngāi Tahu –West Coast Regional Council Mana Whakahono ā Rohe

WCRC, Poutini Ngāi Tahu and Te Rūnanga o Ngāi Tahu signed a Mana Whakahono ā Rohe in October 2020. This outlines in detail the relationship between the parties and how they will work together around resource management. There are some key sections which have guided the development of Te Tai o Poutini Plan.

Sections 3.18 – 3.23 recognise Poutini Ngāi Tahu historic heritage and cultural landscapes and practices – wāhi tupuna, wāhi tapu, urupā, Poutini Ngāi Tahu archaeological and cultural sites, kōiwi tangata and taonga (collectively Poutini Ngāi Tahu Heritage). It is identified that Poutini Ngāi Tahu Heritage is recorded within planning instruments, that there is a whakapapa relationship of Poutini Ngāi Tahu with Poutini Ngāi Tahu Heritage and that impacts on Poutini Ngāi Tahu Heritage are impacts on Poutini Ngāi Tahu. It recognises the Poutini Ngāi Tahu should participate in decisions that impact on Poutini Ngāi Tahu Heritage.

Section 4 recognises the importance of Iwi Management Plans and that they shall inform the development of planning frameworks, instruments and documents, as well as decisions on individual resource consents. Acting in accordance with iwi management plans is agreed as the primary means by which a Treaty partnership approach to resource management in the region can be achieved.

3. Resource Management Issue and Analysis

3.1 Background

Section 31 of the RMA gives District Councils the responsibility of controlling any actual or potential effects of the use, development, or protection of land for the purpose of the avoidance or mitigation of natural hazards..

3.1.1 Operative Plan Provisions

The operative Buller, Westland and Grey District Plans were prepared prior to the management of significant risks of natural hazards being added into Section 6 of the RMA.

The Grey District Plan has one objective and four policies around natural hazards but does not map any specific natural hazard overlay areas.

The Buller District Plan has one objective and five policies around natural hazards and includes mapped natural hazards at Punakaiki (rock fall), Little Wanganui (rock fall and debris flow), Mokihinui (flooding) and Hector – Miko coastline (debris flow) but no mapped coastal natural hazards.

The Westland District Plan has one objective and two policies around natural hazards and includes mapped natural hazards at Hokitika (coastal erosion) and the Waiho River (flood hazard).

The three operative plans all reflect a combination of two factors – a limited level of knowledge around the type and extent of natural hazards on the West Coast and their development being undertaken prior to natural hazards becoming a Section 6 matter in the RMA.

Natural hazards have been a consideration as part of subdivision consents across all three districts. The pressure for coastal development as well as the ad hoc growth of rural lifestyle blocks means that the number of dwellings and extent of community risk has significantly increased over time. Combined with the effects of climate change, which is evident from the frequency of severe weather events effecting the West Coast, the hazardscape is considerably elevated compared with the time at which the three operative plans were written.

3.1.2 Proposed Te Tai o Poutini Plan

Te Tai o Poutini Plan (TTPP), the combined proposed District Plan for the West Coast, was notified on 14 July 2022.

The TTPP identifies and regulates a wide range of hazards including:

- Flood hazards
- Earthquake hazards
- Land instability hazards
- Lake tsunami hazards
- Coastal tsunami hazards
- Coastal erosion hazards
- Coastal flooding/inundation hazards

These hazards are managed through the Plan through the identification of specific mapped hazard overlays, and rules that relate to that specific hazard.

The s32 report for the proposed TTPP – Te Tai o Poutini Plan Section 32 Report 3 Hazards and Risks Part One Natural Hazards (<https://tppp.nz/proposed-tppp-plan/section-32-reports/>) outlines the overall natural hazard framework and background to this and I do not repeat this information here.

The TTPP includes mapped areas of Coastal Hazard Severe, Coastal Hazard Alert and Coastal Setback overlays across the West Coast. The following reports and analysis were used to inform the development of these overlays.

Title	Review of West Coast Region Coastal Hazard Areas, v2. NIWA. February 2022
Author	Measures, R. and Rouse, H
Brief Synopsis	Review and assessment of Coastal Hazard Areas (CHA) for the West Coast Region, prepared for the Regional Coastal Plan, updated following Cyclone Fehi. CHAs have been identified and prioritised based on a risk assessment which considers not only the level of hazard, but also assets at risk. Extensive stretches of the West Coast which experience high levels of hazard from erosion and flooding have not been included in CHAs because they have no/few assets at risk. Similarly, CHAs may be given low priority because of the small amount of at-risk assets, even though the hazards are severe.
Link to Document	https://tppp.nz/wp-content/uploads/2022/04/CHA_2022-Measures-andRouse.pdf

Title	Omau Cliffs Subdivision, Geotechnical Assessment Report. WSP
Author	Omau Cliffs Subdivision, Geotechnical Assessment Report. WSP
Brief Synopsis	Geotechnical report prepared for a proposed subdivision at Omau / Cape Foulwind. This report summarises the findings of the geotechnical investigation and assessment of Lot 1 to 23 and presents development conditions and recommendations for future works within the lots in terms of allowable building areas, earthworks, stormwater and foundations.
Link to Document	Geotechnical report prepared for a proposed subdivision at Omau / Cape Foulwind. This report summarises the findings of the geotechnical investigation and assessment of Lot 1 to 23 and presents development conditions and recommendations for future works within the lots in terms of allowable building areas, earthworks, stormwater and foundations.

Title	Mapping for priority coastal hazard areas in the West Coast Region, March 2022
Author	Bosserelle, C. and Allis, M.

Brief Synopsis	<p>Detailed assessment of areas identified in the proposed Regional Coastal Plan as Coastal Hazards Areas to inform development of TTPP overlays. This study maps areas susceptible to coastal erosion and inundation, it does not include other hazards such as tsunami or river flooding. Coastal erosion and inundation hazards were assessed, and hazard area mapped. The erosion hazard assessment is completed using a hybridprobabilistic approach that accounts for available shoreline data and derived trends but also allow for expert judgment to account for effect that are difficult to quantify and/or where no/limited data is available. The study also mapped land exposed to coastal flood inundation from extreme storm-tides, wave setup and sea level rise. Inundation hazard assessment is completed using a hydrodynamics model for Westport/Orowaiti area and static (“bathtub”) for other CHA.</p> <p>The modelling work that informed this report was undertaken using spatial information provided from Space Shuttle data for much of the West Coast, due to the unavailability of LIDAR.</p>
Link to Document	<p>https://tppp.nz/wpcontent/uploads/2022/04/WCRC_CHA_Report_1.1_Final.pdf</p>

In relation to the three coastal hazards that are the subject of this Variation, the relevant Plan rules that relate to the overlays are:

- NH-R38 Repairs and Maintenance to Existing Buildings in the Coastal Severe and Coastal Alert Overlays
- NH-R39 New Unoccupied Buildings and Structures in the Coastal Severe and Coastal Alert Overlays
- NH -R40 Additions and Alterations for Commercial and Industrial Buildings and Critical Response Facilities in the Coastal Severe and Coastal Alert Overlays
- NH -R41 Additions and Alterations of Existing Buildings used for Sensitive Activities in the Coastal Severe and Coastal Alert Overlays
- NH -R42 New Commercial, Industrial, or Critical Response Facilities Buildings, Additions and Alterations to Commercial, Industrial or Critical Response Facilities Buildings not meeting Permitted Activity Standards
- NH – R43 Coastal Alert Overlay: New Buildings for Sensitive Activities and Additions and Alterations of existing Buildings that increase the net floor area for Sensitive Activities
- NH – R44 Coastal Severe Overlay: New Buildings for Sensitive Activities and Additions and Alterations of Buildings that increase the net floor area for Sensitive Activities
- NH -R45 New Buildings for Sensitive Activities in the Coastal Setback Overlay
- NH – R46 New Buildings for Sensitive Activities in the Coastal Setback Overlay not meeting Restricted Activity Standards

3.1.2 Development of Draft Variation Mapping

At the time of notification of TTPP, LIDAR for the West Coast was being flown. It was acknowledged at that time that it would be preferable that LIDAR was used to underpin the coastal inundation modelling, as this gives a much higher degree of accuracy.

In addition the Coastal Setback overlay was applied as a blanket 100m precautionary layer, along the coastline in all locations where the inundation modelling had not been undertaken.

By early 2023 LIDAR became available for the majority of the West Coast, with the exception of the area in Buller District north of Mokihinui.

This enabled the inundation modelling to be re-run, using this more accurate spatial data. No changes were made to the model were made, other than the inclusion of this more accurate spatial data and the same NIWA staff who did the proposed TTPP analysis, undertook the re-run of the model. Because LIDAR was now available for a much larger area of extent of the West Coast than the Space Shuttle data, the inundation modelling was also able to be undertaken for all areas south of Mokihinui where the Coastal Setback overlay was in place.

Title	Mapping for priority coastal hazard areas in the West Coast Region Coastal inundation hazard update using 2022 LiDAR, March 2023
Author	Bosserelle, C. and Allis, M.
Brief Synopsis	Report that outlines the update of the inundation modelling undertaken with the new, more accurate LIDAR data. The study mapped land exposed to coastal flood inundation from extreme storm-tides, wave setup and sea level rise.
Link to Document	https://tpp.nz/wp-content/uploads/2023/11/2023-03-NIWA-CHA-Rpt-inundation-only-update-for-7-CHAs-but-ex-Westport-LiDAR2022.pdf

As part of the update to the modelling NIWA provided new, updated shape files for the Coastal Hazard Severe, Coastal Hazard Alert and Coastal Setback overlays, which reflect the updated modelling. These have been used as the new overlay maps for this Variation.

3.2 Consultation and engagement

The updated mapping was first presented to the TTPP Committee on 18 April 2023. The report outlined the degree of change from the proposed TTPP overlays.

Title	Te Tai o Poutini Plan – Updates to Coastal Hazards Mapping
Author	Lois Easton
Brief Synopsis	Report that outlines the update of the inundation modelling undertaken with the new, more accurate LIDAR data and implications for TTPP. Identifies the need to prepare a

	Variation to provide more accurate updated coastal hazard overlays.
Link to Document	https://tpp.nz/wp-content/uploads/2023/04/TTPP-Committee-Meeting-Agenda-18-April-2023.pdf

After presentations to staff and elected representatives at the three district councils outlining the updated mapping and its implications for the West Coast, a further report was brought to the TTPP Committee in October 2023.

Title	Update to Proposal to Prepare a Coastal Hazards Variation to the Plan
Author	Lois Easton
Brief Synopsis	Report outlining the proposed approach to undertaking the Variation including the consultation approach proposed around the draft maps. Identifies consultation to be undertaken over November – December 2023.
Link to Document	https://tpp.nz/wp-content/uploads/2023/10/Agenda_Te_Tai_o_Poutini_Plan_Committee_12_October_-2023.pdf

A map viewer showing the proposed Plan maps and the draft Variation maps was developed and made available on the TTPP website.

A consultation plan was developed and implemented to invite public engagement with the draft Variation. This included:

- Public notices in the papers
- Information on the Facebook pages of the Councils
- A letter being sent to all submitters on the Coastal Hazard provisions of TTPP
- Information provided on the TTPP website.
- Inclusion of the mapping tool hosted on the TTPP website that shows the draft Variation
- Production of information sheets that explain the draft Variation and its potential impacts.

Alongside this a series of consultation meetings were held across the West Coast during November. Based on a community request, a further online meeting was also held.

Twenty-four persons and organisations provided written feedback on the draft Variation. Feedback was also collected verbally at the community meetings. Key points raised in the feedback were:

- Almost all people providing feedback opposed the Variation
- People felt that coastal protection works are needed and should be supported
- Many people do not understand or agree with the methodology used
- Concern expressed from people who don't believe sufficient weight has been placed on existing erosion protection structures

- Concern about transition and managed relocation options
- Need for guidance on how to manage risks for existing communities
- Decisions should be made based on individual acceptance of risk
- Concern about effects on property values and insurance
- Opposition to a regulatory approach
- Concern about confusion created from including areas adjacent to the Westport Hazard Overlay at Snodgrass Road.

An overview of their feedback and response to this is contained in a report that was presented to the TTPP Committee on 14 February 2024, as per details below.

Title	Te Tai o Poutini Plan – Feedback on Draft Coastal Hazards Variation to the Plan and Recommendation to Proceed with Variation
Author	Lois Easton
Brief synopsis	Summarises feedback from consultation and recommends adoption of Variation for notification.
Link to Document	https://tpp.nz/wp-content/uploads/2024/02/Agenda-Te-Tai-o-Poutini-Plan-Committee-14-February-2024.pdf

The TTPP Committee considered the feedback and sought further information from officers and NIWA in response to the points raised in the feedback. This was considered by the Committee at its meeting on 29 April 2024. A detailed presentation by Dr Bosserelle explaining the methodology to undertaken the coastal hazard mapping was also made and is available online as per the details below.

Title	Te Tai o Poutini Plan – Draft Coastal Natural Hazards Variation – Further Information and Recommendation to Proceed with Variation
Author	Lois Easton
Brief synopsis	Provides contextual information around the draft Variation and analyses the implications of proceeding vs retaining the proposed Plan maps.
Link to Document	https://tpp.nz/wp-content/uploads/2024/04/Agenda-Te-Tai-o-Poutini-Plan-Committee-29-April-2024-Memorandum.pdf

At this meeting the TTPP Committee resolved to proceed with the Variation and notify it for submissions on 27 June 2024.

4. Scale and Significance Evaluation

The level of detail undertaken for the evaluation of the Proposed Variation has been determined by an assessment of the scale and significance of the implementation of these provisions. The scale and significance assessment considers the

environmental, economic, social and cultural effects of the provisions. In making this assessment regard has been had to the following:

	Minor	Low	Medium	High
Degree of change from the Operative Plans				x
Degree of change from the Proposed TTPP			x	
Effects on matters of national importance (s6 RMA)			x	
Scale of effects – geographically (local, district wide, regional, national)			x	
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?)			x	
Scale of effects on those with particular interests, e.g. Tangata Whenua		x		
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?		x		

Likelihood of increased costs or restrictions on individuals, businesses or communities			X	
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4.1 Explanation Summary

The level of detail of analysis in this report is moderate. The updated mapping represents a significant change in terms of properties identified as affected by natural hazards compared to the operative plans. There is a lesser degree of change when compared to the proposed TTPP.

The proposal relates to the required recognition and provision for management of the significant risks from natural hazards as a matter of national importance (Section 6). It also requires the Council to have particular regard to the maintenance and enhancement of the quality of the environment, and the effects of climate change (Section 7). Section 106 requires the consideration for all risks from natural hazards in subdivision consent applications.

The proposal will affect communities and individuals.

The Proposed Variation is a key tool to reduce vulnerability to risk, to increase the communities' resilience to and recovery from disasters and encouraging connectedness and well-being. The scale of effects on people is moderate. All the areas identified within the Proposed Variation overlays are known areas of significant natural hazard risk. As much as they have been able (e.g. through Building Consent mechanisms and existing Operative Plan provisions) the three district councils have already been managing the natural hazard risk and applying requirements such a geotechnical design and freeboard allowances. By accurately mapping the areas subject to the most significant risk this targets the provisions better.

Buildings and land affected by the proposed mapped areas are owned by private landowners who may raise concerns with the restrictions on their private property rights, and with hazards identified on their properties due to resale and insurance implications. However, the TTPP restrictions only come into effect if the landowners are proposing activities that trigger rules in the TTPP. In the majority of instances, the restrictions will have little effect on the day-to-day operation and function of businesses and residences. Many landowners are already aware of being within a hazard area. From a public good perspective, future generations will benefit greatly from the improved management of natural hazards.

Poutini Ngāi Tahu are actively considering the impacts of natural hazards on their whenua. Both papatipu runanga have long term aspirations to provide safe options for the future, with a lower hazard risk.

The management of significant risks from natural hazards is a s6 RMA matter that is one of the district council functions under ss31(1)(b)(i) and 74(1)(b) RMA, and must be undertaken to give effect to the NZCPS and the WCRPS. Provisions to manage natural hazards have the potential to affect a wide range of people. Additional

consenting information requirements can impose additional costs, however the costs to people and the environment could also be high if hazards are not appropriately managed.

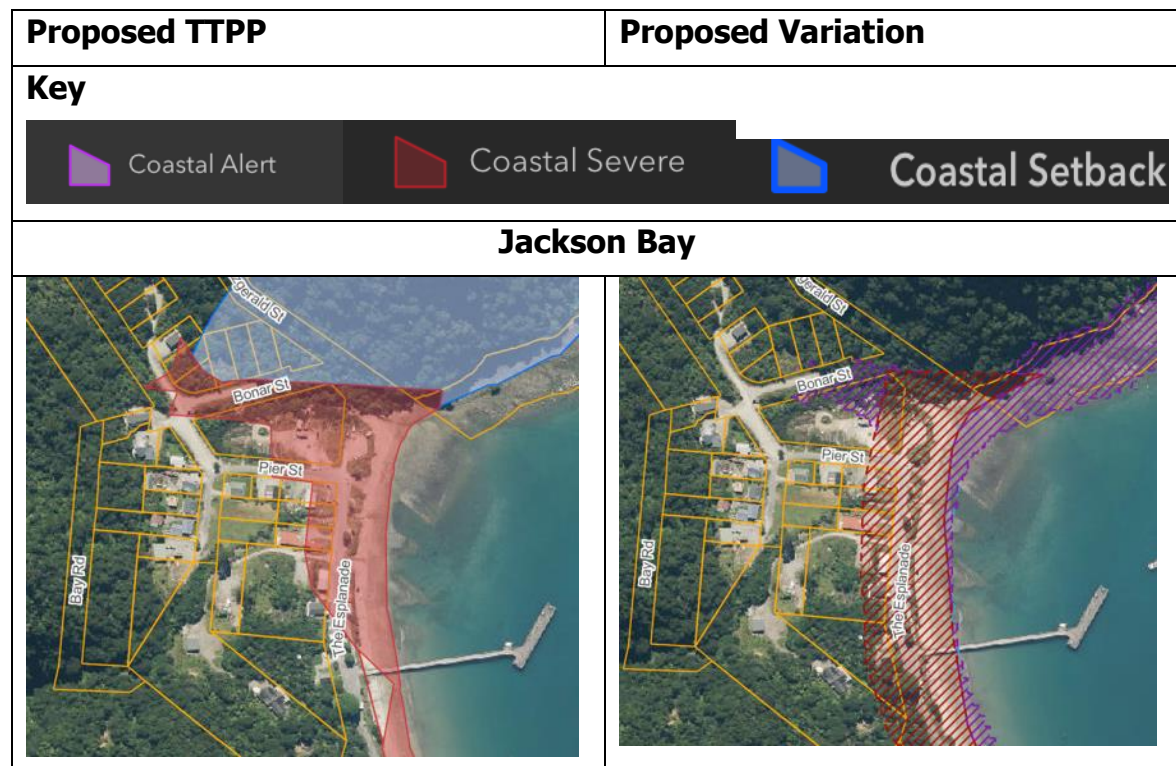
Overall, it is considered that the scale and significance of the proposal is moderate. The level of detail in this report corresponds with the scale and significance of the environmental, economic and cultural effects that are anticipated from the implementation of the Variation provisions.

4 Evaluation of the Proposed Variation

4.1 Description of the Proposed Provisions

The Variation alters three of the natural hazard overlays in TTPP – the Coastal Hazard Severe, Coastal Hazard Alert and Coastal Setback Overlay.

A comparison showing where there are significant mapping differences between the proposed TTPP and the proposed Variation are shown in the maps below:



Neil's Beach



Hannah's Clearing



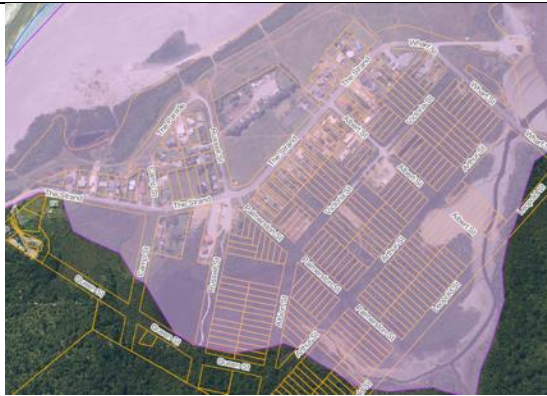
Okuru



Bruce Bay



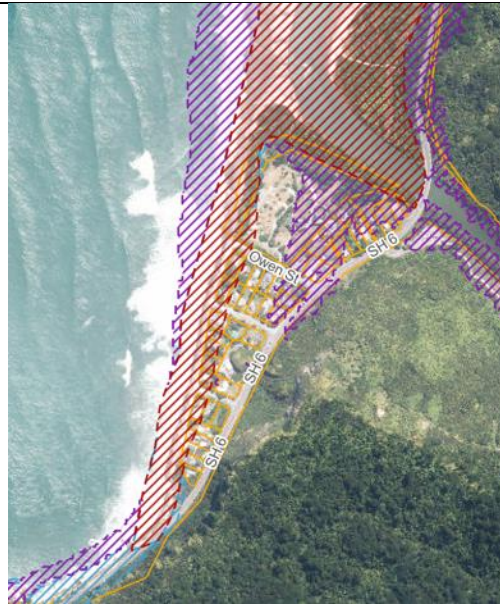
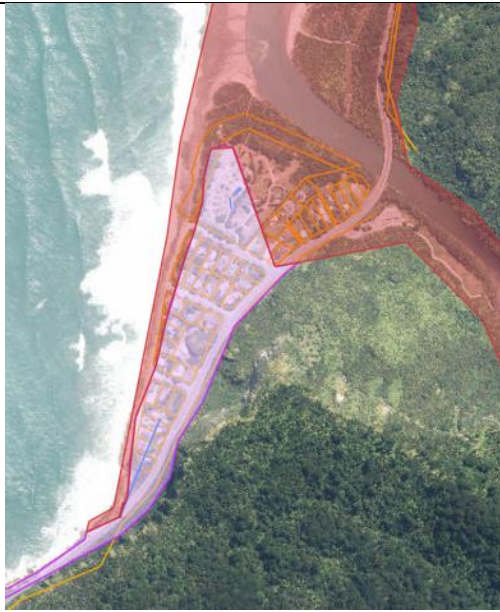
Ōkarito



Rapahoe



Punakaiki



Charleston



Omau



Carter's Beach





4.2 Differences Between the proposed TTPP and the Variation Mapping

There are significant differences between the proposed Plan and Variation mapping. A GIS analysis has been undertaken to look at the number of properties affected and this is outlined in the table below. Key points to note are that there are a large number of properties that are identified as being in a coastal hazard area in the proposed TTPP, where the updated mapping does not have these properties affected. No differentiation has been made in terms of ownership of the titles in this analysis with many of the titles, particularly in Westland District, falling within Public Conservation Land rather than private ownership.

	Notified Plan Maps	Variation Maps
Buller District – Coastal Alert	948 titles – 655 with more than	676 titles – 379 with more than

	50% of the property affected	50% of the property affected
Buller District – Coastal Severe	319 titles – 212 with more than 50% of the property affected	342 titles – 207 with more than 50% of the property affected
Buller District – Coastal Setback	146 titles – 70 with more than 50% of the property affected	168 titles – 11 with more than 50% of the property affected
Total Buller Properties Affected	1413 titles – 927 with more than 50% of the property affected	1186 titles – 597 with more than 50% of the property affected
Grey District – Coastal Alert	499 titles – 312 with more than 50% of the property affected	88 titles – 29 with more than 50% of the property affected
Grey District – Coastal Severe	32 titles – 24 with more than 50% of the property affected	13 titles – 10 with more than 50% of the property affected
Grey District – Coastal Setback	13 titles – 4 with more than 50% of the property affected	52 titles – 14 with more than 50% of the property affected
Total Grey Properties Affected	544 titles – 340 with more than 50% of the property affected	153 titles – 53 with more than 50% of the property affected
Westland District – Coastal Alert	356 titles – 228 with more than 50% of the property affected	722 titles – 324 with more than 50% of the property affected
Westland District – Coastal Severe	210 titles – 145 with more than 50% of the property affected	159 titles – 97 with more than 50% of the property affected
Westland District – Coastal Setback	124 titles – 48 with more than 50% of the property affected	89 titles – 6 with more than 50% of the property affected
Total Westland Properties Affected	690 titles – 228 with more than 50% of the property affected	970 titles – 427 with more than 50% of the property affected
Total Region Wide Properties Affected	2647 titles – 1698 with more than 50% of the property affected	2309 titles - 1077 with more than 50% of the property affected

This analysis shows that in total there are 338 fewer properties affected by the draft Variation maps, than are shown in the proposed Plan. However, the spread of this is not even. Across Buller and Grey District there are significant decreases in the numbers of properties affected – but in Westland District there are significantly more properties affected. This is due to the flat topography in South Westland, in particular, and the updated coastal inundation maps show the hazard goes much further inland than the notified Plan maps.

It is also important to note that in all the districts there are “winners” and “losers” – the water still has to go somewhere, and what the LIDAR does is enable much better analysis of where the water will go. This means that some properties will not be affected, but others, not shown in the proposed Plan maps, are identified as a property that will be affected. Additionally, some properties will have their hazard level change eg from Coastal Setback to Coastal Alert – or vice versa.

4.2 Evaluation of Options

For this evaluation two options have been considered – Option A is the status quo, with the provisions of the Proposed Plan as Notified. Option B is the proposed Variation.

Option	Benefits	Costs	Efficiency and Effectiveness	Risk of Acting/Not Acting
Option A: Proposed Plan as Notified	<p>There are hazard provisions already in the Plan.</p> <p>Some property owners who are at risk of a hazard have been correctly identified as having a hazard layer on their property.</p>	<p>Known incorrect maps in the Plan.</p> <p>Risk that development could occur in known hazard areas that are unrestricted due to incorrect maps.</p> <p>Some property owners who are not at risk of a hazard have a hazard layer on them creating additional costs and regulatory requirements. May also affect insurance for these properties even though they are not at risk.</p> <p>The Maps would still exist – the Councils can't "unknow" the information. This could undermine confidence in the coastal natural hazards provisions for the insurance and property sector</p> <p>Creates a confused regulatory situation – building consents would be required to use the correct information.</p>	<p>Current coastal hazard maps are now known to be inaccurate and not reflect the most up to date information. Building Act processes will use the most up to date maps which will create confusion and uncertainty.</p> <p>It is not efficient or effective to have confusing or uncertain provisions.</p>	<p>The evaluation under section 32 must consider the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions in the proposal.</p> <p>It is considered that there is certain and sufficient information about the mapping information as this has been developed based on a nationally consistent approach.</p>
Option B: Proposed Variation	<p>Means that known incorrect maps are replaced.</p> <p>Known properties which are prone to natural hazards are identified via maps in TTPP. This ensures property owners, developers and the community</p>	<p>Hearing of submissions on coastal hazard provisions would be delayed until the Variation hearing likely early in 2025.</p> <p>Some property owners who thought they were not in a hazard area will now be affected. They will face reduced development opportunities and</p>	<p>The proposed maps are a more effective and efficient option than the proposed Plan as they are more accurate and based on the most up-to-date science.</p> <p>The proposed approach is consistent with the NZCPS and</p>	<p>There is considerable national experience with the use of coastal hazard overlays and use of LIDAR for modelling is now regarded as good practice.</p> <p>The large amount of technical work done on the extent of the hazard areas, and degree of risk</p>

	<p>have access to the information about the risk of natural hazards.</p> <p>Property owners who are not at risk of a hazard will have this identification removed from their property thereby avoiding future costs for them.</p> <p>Reduces risk that development could occur in known hazard areas. Avoiding the establishment of hazard sensitive activities in areas at risk from natural hazards will limit exposure of additional people and property to significant risk.</p> <p>Over time social disruption in natural hazard events will be reduced as TTPP provisions help reduce the risk to people and property.</p> <p>Over time reduction in requirements for insurers/uninsured homeowners to pay out on destroyed and damaged properties as aspects such as freeboard requirements, and managed retreat are put in place.</p> <p>Correctly identifying areas where new subdivision and development should be avoided will reduce the pressure to expand the extent of coastal protection works – which are a significant cost to communities and can in themselves have significant environmental and cultural impacts.</p>	<p>potential constraint on some activities for areas identified at risk from natural hazards.</p> <p>Insurers may react to hazard identification of additional properties identified and refuse to insure them.</p> <p>Effect on land values for those properties identified in particularly the Coastal Severe and Coastal Alert Hazard overlays.</p>	<p>gives effect to Section 6 of the RMA.</p>	<p>has been verified in many instances through the extent and areas affected by actual natural hazard events on the West Coast and there is a good degree of certainty around the accuracy of the mapping through the use of the LIDAR information.</p> <p>The TTPP Committee has sufficient information to determine the effect of the provisions.</p>
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	<p>Submissions on proposed Plan coastal hazard maps and rules and the Variation maps heard together – a clear process</p> <p>Clear message to insurance sector that the TTPP natural hazards provisions are science and evidence based</p> <p>Clear regulatory situation – building consent processes aligned with TTPP.</p>			
<p>Quantification: Section 32(2)(b) requires that if practicable the benefits and costs of a proposal are quantified. The evaluation in this report identifies where there may be additional cost(s), however the exact quantification of the benefits and costs discussed was not considered necessary, beneficial or practicable.</p>				
<p>Summary: The benefits of accurately identifying areas where natural hazards occur through the updated overlay maps outweigh the costs.</p> <p>In order to meet the requirements of the WCRPS and the RMA the most appropriate option is Option B: Proposed Variation.</p> <p>The proposed provisions are considered to be the most effective means of achieving the TTPP objectives at this time as together they will:</p> <ul style="list-style-type: none"> • give effect to the NZCPS and WCRPS • enable the councils to fulfil their statutory obligations, particularly s6(h) of the RMA • ensure that adverse effects of natural hazards are managed appropriately by identifying the areas where these need to be managed • enable the councils to effectively administer TTPP and to monitor the outcomes of the proposed provisions in a clear and consistent manner. 				

5. Summary

This evaluation has been undertaken in accordance with Section 32 of the RMA in order to identify the need, benefits and costs and the appropriateness of the proposal having regard to its effectiveness and efficiency relative to other means in achieving the purpose of the RMA.

The evaluation demonstrates that this proposal is the most appropriate option: -

The updated coastal hazard maps will provide greater certainty to plan users on the locations where development is at risk of coastal hazards and where it can be undertaken more safely.

Overall, it is considered that the set of preferred provisions is the most appropriate given that the benefits outweigh the costs, and there are considerable efficiencies to be gained from adopting the preferred provisions. The risks of acting are also clearly identifiable and limited in their extent.