BEFORE THE HEARINGS PANEL
FOR THE PROPOSED TE TAI O POUTINI PLAN

UNDER	the Resource Management Act 1991
IN THE MATTER	of a submission on the Te Tai o Poutini Plan variation 2 – Coastal Natural Hazards Mapping
BY	**Vance and Carol Boyd** Submitter 447, FS117

SUBMISSION OF Vance & Carol Boyd : VARIATION 2 TO THE TE TAI O POUTINI PLAN

Dated: 30 August 2024

MAY IT PLEASE THE PANEL

Introduction

[1] This is a submission on the proposed Te Tai o Poutini Plan (**TTPP**) variation 2 – Coastal Natural Hazards Mapping (**Variation**).

[2] The Submitter could not gain an advantage in trade competition through this submission.

[3] The Submitter wishes to be heard in support of this submission.

[4] If others make a similar submission, the Submitter will consider presenting a joint case with them at the hearing.

Background

[5] We own three lots at Hannahs Clearing being 1984 Haast -Jacksons bay Road (two lots) and adjoining to the south, Lot 3.

[6] We originally submitted on the proposed plan, including on Coastal Hazards, in October 2022. I understand that as far as applicable this original submission will be taken into account as well as this submission.

Submission

[7] The Submitter opposes the Variation in its current form.

[8] As part of the consultation process the submitter prepared feedbacks for the TTPP committee and presented it at a Committee meeting. This feedback is relied on as part of our submission and is **appended** as **A.**

Mapping

[9] The Variation mapping is opposed on the following basis:

(a) Counsel for the Submitter sent a letter to the TTPP Committee dated 20 May 2024, before the Variation was notified. This letter was on behalf of a number of property owners affected by the

Variation, including the Submitter This letter and supporting email is attached to this submission as **Appendix B**.

(b) This letter is also relied on as part of this submission, notably in terms of:

(i) the Variation mapping being inconsistent with Part 2 of the New Zealand Coastal Policy Statement (**NZCPS**), the West Coast Regional Policy Statement (**RPS**), and guidance regarding the mapping of coastal hazards from the Ministry for the Environment (**MfE**);

(ii) issues with the methodology of NIWA reports which informed the mapping of the Variation;[1]

(iii) issues regarding the uncertainties of erosion and inundation hazards in the Variation mapping, stemming from the NIWA reports;

(iv) the application of NZCPS Policies 24 and 25;

(v) ineffective and insufficient consultation being undertaken; and

(vi) the Variation process being inconsistent with processes followed in other recent plan review processes in different jurisdictions.

(vii) Recent trends cast further doubt on the accuracy of the mapping. These aspects are outlined in **Appendix C.**

(c) The Submitter seeks the mapping be revised and that the Submitter properties in particular be removed from any alert or severe coastal hazard overlay.

[10] While it is noted that the Council's website states the Variation does not propose any changes to the relevant proposed TTPP rules, the

[1] Contained within the NIWA reports (February 2022 Measures and Rouse; March 2022, Bosserelle and Allis) (together the **NIWA reports**).

Submitter opposes the associated coastal hazard overlay rules on the following basis:

Scope

(a) The Submitter lodged the above original submission which addressed, in part, the coastal hazard policies and rules in the proposed TTPP.

(b) The Variation regarding the mapping has fundamentally changed the planning framework for new owners affected by the coastal natural hazard rules and the proposed TTPP generally.

(c) The TTPP rules directly flow from the coastal natural hazard mapping overlays, as proposed to be varied by the Variation.

(d) In response to the letter Counsel for the Submitter sent to the Committee on 20 May 2024, the Committee's legal counsel (Wynn Williams) replied in a letter dated 7 June 2024. This letter acknowledged that the rules hearing will be delayed until the mapping Variation catches up, so the hearings are heard all as one. Therefore, the Submitter considers there must be sufficient scope for submissions on the rules and related coastal hazard provisions as well as mapping, through this Variation.

(e) This letter is attached to this submission as **Appendix D**

(f) There is no prejudice to other parties in allowing for scope for submissions to include those on the rules relevant to the Variation, as the submissions on the Variation will be notified allowing for further submissions on the provisions. That the mapping and provisions/rules changes will be heard together in one hearing means that earlier submitters and later submitters will all follow the same timeframes.

(g) As was found in *Clearwater*[2] and similar cases regarding scope, there would be significant prejudice to those landowners now affected and interested in the new overlays to not be able to participate in rules policies and objectives which are now engaged as a result of the Variation. This is as a result of applying the first *Clearwater* limb of the test, in understanding scope by reference to whether the status quo of the planning framework has changed as a result of notification of a proposed plan. The Variation fundamentally changes the status quo of the existing planning framework (and the proposed TTPP as originally notified) by amending and introducing new alert and severe overlay areas.

Risk Based Approach.

(h) The proposed plan makes it clear that a risk based approach is being taken with regard to classifying natural hazards. This is reinforced by comments made in the S42a report re hazards other than coastal.

(i) The plan classifies coastal land as coastal severe and coastal alert. There appears to be no general nationally recognised definition of Coastal Hazard Severe, or for that matter Severe Hazard. Activities relating to dwellings in this zone are proposed to be generally Non Complying.

(j) The GNS publication Risk-based Lland use Planning for Natural Hazard Risk Reduction, is referred to in the general natural hazards S42a report and is one of the most comprehensive guides we have been able to find. Its approach is confirmed in various Environment Ministry releases. Categorising risk involves combining likelihood of events with consequences or effect. The relevant section of the GNS publication is **Appendix E**

(k) The guide contains a table which translates a level of risk to a recommended consent status. Non Complying is recommended

[2] *Clearwater Resort Ltd v Christchurch City Council* HC Christchurch, AP34/02, 14 March 2003. Also see *Palmerston North City Council v Motor Machinists Ltd* [2014] NZRMA 519.

only for an intolerable level of risk. We suggest that the level of risk at Hannahs Clearing, particularly at the south end of the village, is not intolerable. The risk is from erosion not inundation from flowing water. The land is about 6m above the sea. Erosion is a slow and historically cyclical process. At the time of writing this submission a revetment is under construction as a consequence of a recent (April 24, weather event.

(l) If we apply the likelihood of erosion happening to the extent that it reaches residential buildings and causes damage it could be considered to be level 4 - possible in 50-100 years (Figure 4

(m) We then consider the consequences chart, example, figure 5.1. We suggest that we can discount death or severe injury as a result of erosion. There would be ample warning to avoid that. There are a small number of dwellings in the Severe Hazard area. If we said that 21% to 40% of them could be damaged by erosion, but I suggest that steps would be taken before that happened, then we would have a score of 1 as there are no buildings of social cultural significance in the proposed Severe Coastal Hazard zone at Hannahs Clearing.
Applying these numbers to the framework, Figure 3.1, gives a score of 4, translating to a recommended permitted planning status. If we reconsider and say the probability is level 5 it moves the planning status to controlled. Given that there are a low number of dwellings in the severe hazard zone, there are no buildings of social or cultural significance and the likelihood of death is minimal we fall well short of the catastrophic rating required to justify a Non Complying classification.

(n) To overcome this requires either a change in the non complying status or a change in the zone description or both.

Changes sought on rules

(o) The rules relevant to the Variation require more clarity regarding the relationship between the legal effect / operative status of the rule and savings/exemptions for when resource consents (and established activities) are granted and/or implemented prior to the date the proposed TTPP gains legal effect / becomes operative. Specifically:

(i) where consents are considered to have been given effect to, or partially given effect to, in terms of s 125 of the Resource Management Act 1991 (**RMA**), the new coastal hazard overlay and related provisions do not apply;

(ii) where there has been a previous subdivision of a single title for predominantly lifestyle or residential purposes, but those new subdivided sections are not yet built on, the new coastal hazard overlay and related provisions do not apply; and

(iii) where existing use rights apply in terms of ss 10, 10A, and 20A of the RMA, the new coastal hazard overlay and related provisions do not apply.

(p) The rules require clarity as to what 'lawfully established' means in terms of the Variation and the proposed TTPP. The Submitter seeks instead that terminology consistent with the RMA is used, and that greater savings protection is afforded to property owners who have bought and invested in lifestyle or residential properties, or which have obtained resource consents for buildings, or which have developed on the basis of existing use rights.

(q) the statuses of some activities under proposed TTPP rules relevant to the Variation are unnecessarily restrictive and should be reduced. Specifically;

(i) discretionary and non-complying activities under Rules NH-R43 and NH-R44 respectively should be reduced to restricted discretionary; and

(ii) permitted activities under Rules NH-R1 and NH-38 should be expanded to include a provision for existing structures as a permitted activity.

(r) It is submitted that the above clarifications and changes are consistent with the NZCPS direction not to increase risk per Policy 25, as opposed to implementing a blanket avoidance or reduction of risk in a plan.

Summary of relief sought

[11] The Submitter seeks the following specific relief:

Mapping

(a) That the proposed mapping overlays in the Variation are not accepted, and any further coastal natural hazards mapping overlays are revised to be consistent with the NZCPS, the RPS, and the MfE coastal hazards mapping guidance.

(b) That the Submitter properties specifically are excluded from the coastal alert and coastal severe overlays.

Rules

(c) The rules relevant to the Variation are given greater clarity regarding the relationship between the legal effect / operative effect of the rule and savings/exemptions for when resource consents (and established activities) are granted and/or implemented prior to the date the proposed TTPP gains legal effect / becomes operative.

(d) The rules relevant to the Variation are given greater clarity regarding what 'lawfully established' means in terms of the Variation and the proposed TTPP, particularly that terminology consistent with the RMA is used.

(e) Rule NH-R43, relating to discretionary activities within the coastal alert overlay zones, and Rule NH-R44, relating to non-complying activities within the coastal severe overlay zones, should be amended to be either of the following:

(i) the activities within Rules NH-R43 and NH-R44 should be classed as Restricted Discretionary activities; and/or

(ii) in the alternative, the non-complying activities in Rules NH-R43 and NH-R44 should exclude single titles subdivided for lifestyle or residential purposes as of the date the proposed TTPP rule gains legal effect or becomes operative.

(f) Rules NH-R1 and NH-38, relating to permitted activities within the coastal hazard overlay zones, should be expanded to include rebuilds, and reasonable extensions, of existing structures (as of the date the proposed TTPP rule gains legal effect or becomes operative) as a permitted activity.

[12] The Submitter seeks the following general relief:

(a) The below Table of Relief Sought further particularises how the Submitter considers the relevant rules could be amended to achieve the above intentions in this Submission, however additional, alternative, consequential, or necessary changes to these provisions may be sought.

(b) such other relief as may be required to give effect to this submission, including alternative, consequential or necessary amendments to the proposed TTPP that address the matters raised by the Submitter.

Dated 30 August 2024

Table of relief sought

Those parts the Submitter considers should be removed are ~~struck out~~

Those parts the Submitter considers should be included are <u>underlined</u>

Rule	Activity	Activity status where compliance not achieved
All Natural Hazard Overlays		
NH-R1	**Reconstruction and Replacement of Lawfully Established Buildings in all Natural Hazard Overlays** **Activity Status Permitted** Where: ~~1. This is the reconstruction/replacement of a building lawfully established at the time of notification of the Plan;~~ 2. <u>This is the reconstruction, replacement, or reasonable extension of an existing structure which has either obtained resource consent, or been lawfully established at the time the Plan becomes operative; and</u> 3. The building has been destroyed or substantially damaged ~~due to fire, natural disaster or Act of God~~; 4. The destroyed/damaged building is reconstructed or replaced within <u>5</u> ~~2~~ years in the Westport Hazard, Coastal Severe and Flood Severe Overlays; 5. The destroyed/damaged building is reconstructed or replaced within 5 years in all other natural hazard overlays; and ~~6. The reconstructed/replaced building is similar in character, intensity and scale to the building that it replaces.~~	Refer to specific Natural Hazard Overlay Rules.
Rules for the Coastal Severe and Coastal Alert Overlays		
NH-R38	**Repairs and Maintenance to Existing Buildings in the Coastal Severe and Coastal Alert Overlays**	NA

	Activity Status Permitted Where: 1. For repairs and maintenance there is no increase in the area of the building; 2. <u>For the rebuild or reasonable extension of an existing structure which has either obtained resource consent or been lawfully established at the time the Plan becomes operative;</u> 3. For reconstruction of a building lawfully established at the time of notification of the Plan where: a. The building has been destroyed or substantially damaged due to fire, natural disaster or Act of God; b. The destroyed/damaged building is reconstructed within 5 years in the Coastal Alert overlay and 2 years in the Coastal Severe overlay; c. The reconstructed building is similar in character, intensity and scale to the building it replaces.	
NH-R43 Option 1	**Coastal Alert Overlay: New Buildings for Sensitive Activities and Additions and Alterations of existing Buildings that increase the net floor area for Sensitive Activities** **Activity Status <u>Restricted</u> Discretionary** Where: 1. These are located in the Coastal Alert Overlay	NA
NH-R43 Option 2	**Coastal Alert Overlay: New Buildings for Sensitive Activities and Additions and Alterations of existing Buildings that increase the net floor area for Sensitive Activities** **Activity Status Discretionary** Where:	

	1. These are located in the Coastal Alert Overlay. **<u>Activity Status Restricted Discretionary</u>** <u>Where:</u> 1. <u>These are located within a single title subdivided for lifestyle or residential purposes at the time the Plan becomes operative.</u>	
NH-R44 Option 1	**Coastal Severe Overlay: New Buildings for Sensitive Activities and Additions and Alterations of Buildings that increase the net floor area for Sensitive Activities** **Activity Status ~~Non-complying~~ <u>Restricted Discretionary</u>** Where: 1. These are located in the Coastal Severe Overlay	NA
NH-R44 Option 2	**Coastal Severe Overlay: New Buildings for Sensitive Activities and Additions and Alterations of Buildings that increase the net floor area for Sensitive Activities** **Activity Status Non-complying** Where: 1. These are located in the Coastal Severe Overlay **<u>Activity Status Restricted Discretionary</u>** <u>Where:</u> 1. <u>These are located within a single title subdivided for lifestyle or residential purposes at the time the Plan gains legal effect.</u>	

Appendix A - TTPP Committee Meeting Feedback

Appendix A.

Vance and Carol Boyd. Rapid 1984, Hannahs Clearing.

Feedback for the TPP Committee. Draft Coastal Hazard Mapping . Prepared by Vance.

Introduction.

The coastal settlement of Hannahs Clearing , previously known as Carters Mill, consists of about 60 homes and the Haast Area School. The settlement is surrounded by Department of Conservation Stewardship Land. Houses were built from the mid 1960's, originally to service the then Carter's sawmill. Early maps and photos show that prior to that there was a cattle resting area about where the school is now. The Westland District Council has approved land subdivision on the seaward side of the road since around year 2000. In doing so they recognised that the surrounding DOC land limits available sites and considered that there was no obvious threat from coastal hazards. Our property consists of the last three titles at the south western end of the village. Our house is on two titles, while the third is vacant land with a physical building platform. All three titles are forested with trees estimated to be up to 350 years old.

Why am I taking the opportunity to provide feedback now?

The committee has the ability to decide if the overlay maps should be notified as is, or if they should be withheld from the plan pending further study and community consultation. I hope to persuade the committee that the latter should be the case. It would be even better to withdraw all of the coastal hazard sections from the PDP at this stage to allow the process to proceed properly. If the outcome of an adaptive coastal hazard stratergy was that the PDP was the best tool (doubtful) then this could be addressed at a ten year review.

If the maps proceed to the notified PDP stage then the reality is that residents are faced with employing expensive experts before the commissioners and, if unsuccessful at that stage will face even greater cost at Environment Court level. I feel that the further proposals such as these advance, the harder it becomes to change them. The committee has the ability to decide whether, based on a common sense approach, the maps as they stand are fit for purpose and whether at this stage, the limited science behind is sufficient to justify their potential consequences for residents. Although my focus is on Hannahs Clearing I'm sure the points I wish to make won't be unique to there.

Feedback on the consultation process.

The online form, which can be used for brief feedback, asks initially for comment on the consultation process. My comments relate to the process and should not be considered to be personal criticism of those involved.

I think the consultation process, at least as it relates to CHA's 25 and 26 in South Westland was unsuccessful. The revised mapping has about 150 properties at Okuru, Hannahs Clearing, Neils Beach and Jacksons Bay in proposed severe coastal hazard areas. The implications of this are that to build or extend a house on land in this area would be a Non Complying activity. This would have significant effect on property values, and insurance and would impose significant restrictions on individual property owner's rights.

It's reasonable to expect that a large number of people would be concerned about this and would want to be involved.

In fact only four parties, all from Hannahs Clearing took part in the "drop in" session at Haast and a further two, one from Neils Beach and one from Hannahs Clearing took part in a later video session.

I think there are several reasons for this. Firstly people claim they were unaware of what is proposed. I understand that the main method of communication was by email to those who had submitted on the draft PDP. This may have left out those who are affected by extensions to the map overlays. Also there are a number of absentee owners who don't regularly pick up on word of mouth information and those subject to special rating schemes who may have felt unaffected.

There are other factors. When the first draft of the PDP was being prepared for notification there was a meeting at Haast attended by about 50 people. Unfortunately the consultation then and later proceeded on the basis of "this is what we are going to do and we are here to explain it" rather than on the basis of "is there a problem and if so what are our options?" As a result residents, most of whom struggled to understand the process due to the time required and their busy lives, felt that it would be a waste of time taking part in consultation as decisions had already been made. To some extent this sentiment was vindicated by no change being made to the previously notified PDP hazard provisions between consultation and notification. For example I provided feedback about the inadequacy of the mapping because of (amongst other things) the lack of LIDAR land height information but the process ploughed on anyway. This is why with LIDAR information we are now back where we were. I have appended my original feedback on the pre notified draft proposals to this document.

Further factors as to why the consultation has not worked are that unlike the Buller region we have not experienced any immediate coastal threat to property, so it has not really been on people's radar. For example the March 2022 NIWA report, which is the principal document relied on to support the mapping, has 9 pages relating to the Granity , Hector, Ngakawau area and has 9 references to previous reports relating to that area. By contrast Hannahs Clearing gets less than one page of analysis and there are no studies or reports which have been on people's minds.

Finally, there are probably some who think that it doesn't matter what is in a plan, things will just carry on as before down here.

I have noted before that the approach taken to possible coastal hazards, via the PDP, is at odds with a body of reports providing guidance including the extensive 2017 Ministry for the Environment publication, Coastal Hazards and Climate Change – Guidance for local Government. Other more recent publications on the same theme include a 2023 publication from international consultants WSP in conjunction with the Helen Clark foundation. Both of these reports set out the principle of consultation in detail. The extract and chart below outline the recommended process. In terms of the five stage ten step process we seem to have minimised step one, then leapt straight from a once over lightly step two straight to step eight. It should be no surprise that the consultation process hasn't really worked.

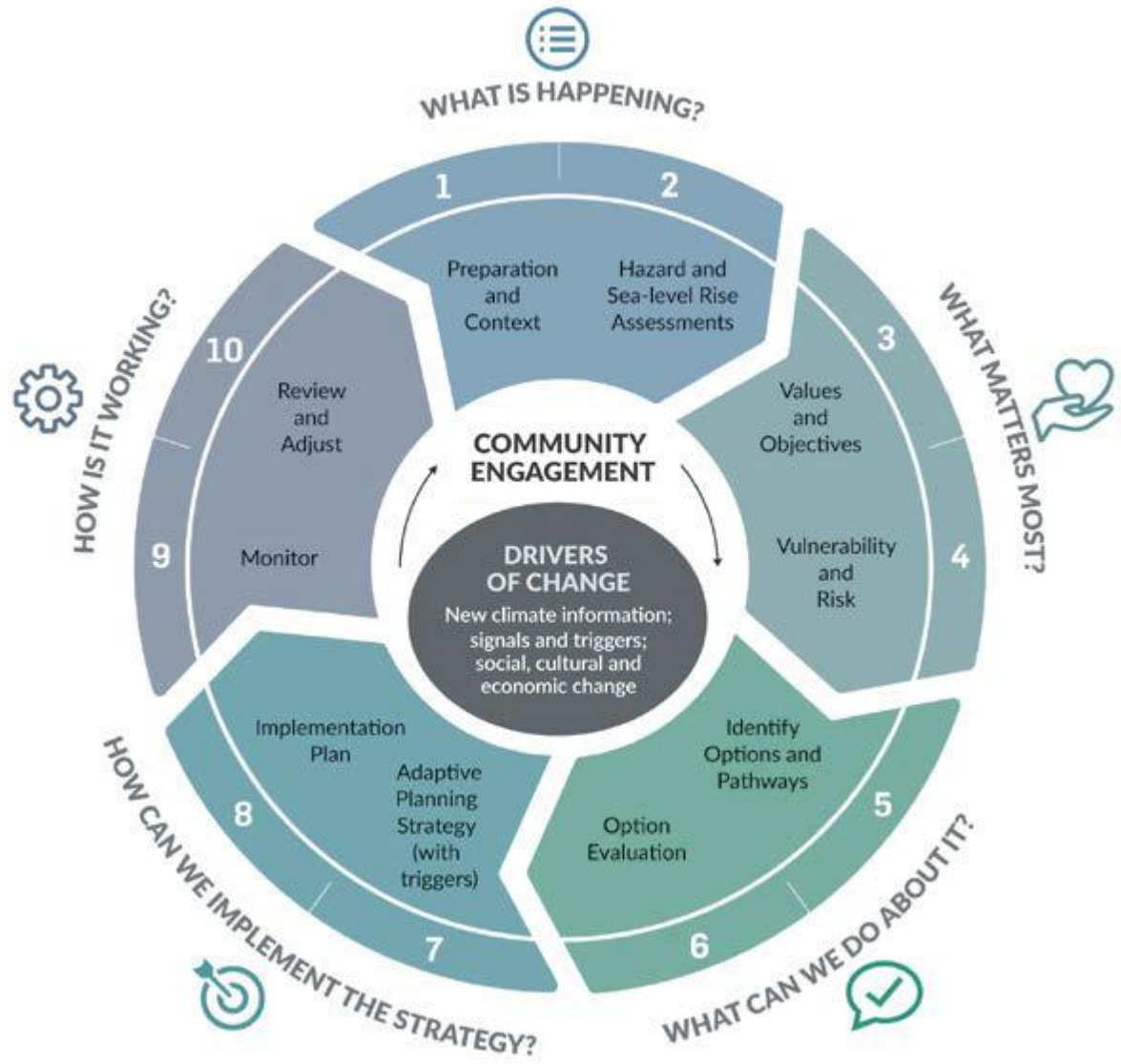
*"**A. What is happening?** (includes setting the context and preparation through to undertaking sea-level rise and hazard assessments based on scenarios) – **Chapters 1–6***

B. What matters most?** (centred on values and objectives: people and asset service delivery and undertaking risk and vulnerability assessments) – **Chapters 7–8

C. What can we do about it?** (identifying and evaluating options) – **Chapter 9

D. How can we implement the strategy?** (secure and implement an adaptive planning strategy) – **Chapter 10

E. How is it working?** (monitoring and regular reviews and possible adjustments) – **Chapter 11 "



Feedback on Updated mapping.

The mapping process was undertaken with limited resources and on a tight time frame. Below I comment on what I consider are specific inadequacies. I am conscious that in raising these it will be tempting to ask NIWA for answers to some questions. The problem with this is that it naturally leads to a defensive position being taken. I think the real solution is to start again following the methodology of the process outlined above.

For some time the West Coast coastal area has been divided into 7 CHA's (Coastal Hazard Areas)

The areas are classified as high, low and medium priority. Our property is in CHA 25. The South Westland CHA's are classified medium priority as opposed to those in Buller which are generally high priority. CHA's were adopted using advice provided by NIWA about 2002.

In 2022 NIWA were asked to further consider the CHA's and to map hazard areas including severe coastal hazard areas. The report regarding this work can be found here https://ttpp.nz/wp-content/uploads/2023/11/2022-03-NIWA_CHA_Report-inundation-erosion-for-7-CHAs.pdf.

At the time of this report LIDAR height information was not available but that information became available shortly after the PDP submission period closed. As a result NIWA updated their previous work and released a further report https://ttpp.nz/wp-content/uploads/2023/11/2023-03-NIWA-

CHA-Rpt-inundation-only-update-for-7-CHAs-but-ex-Westport-LiDAR2022.pdf. These reports form the basis for the mapping.

In the PDP the introduction explains the map overlays as follows:

"Coastal Hazard Overlays – "Coastal Severe" where risk from coastal erosion and inundation have been modelled and mapped, "Coastal Alert" where risk from coastal inundation has been modelled and mapped. "Coastal Setback" where modelling has not been undertaken and is a precautionary approach. "Coastal Tsunami" is where the most—"

As you will see from my comments below I find it hard to accept that risk for CHA25, particularly with regard to erosion, was "modelled" There simply isn't enough information currently available. In 2022 I raised this during a conversation with one of the NIWA report authors. He conceded that there was little information available and due to time pressure the authors were required to use "educated guesswork".

Some points re the mapping :

1. The adoption of the maps and their relevance to the PDP took place without any attempt to follow the recommendations of the Ministry for the Environment 2017 document Coastal Hazards and Climate Change advice for Local Government. That document and others, including the WSP/Helen Clark Foundation report emphasises the desirability of following a ten part cycle process starting with identifying the problem and ending with monitoring the solution. Matters such as local knowledge, appetite for risk, soft and hard mitigation options have not been explored. Jumping straight to a plan with land use being Non Complying is a big step and a very blunt instrument compared with other options and should require very sound science.
2. The NIWA mapping report deals at some length with the methods adopted for the calculation of inundation and coastal erosion but in my view is light on the information used as the basis for erosion calculations, particularly in CHA25. This is because unlike some northern CHA's the data just doesn't exist. The explanation for CHA25 takes less than one page.
3. The severe hazard areas are defined as being areas where hazard can exist due to possible inundation or erosion but specifics as to which could cause the possible hazard and why are not provided.
4. The LIDAR data has disclosed that our house site is 6.2m above the datum; our vacant property is 6.4m while those to the north are at about 5.5m. These heights are well above any estimated storm tide plus wave setup height estimates. My assumption is therefore that the village is not likely to suffer from inundation, so the mapping was perhaps done on the basis of erosion. On the other hand many properties at Okuru are around 3.0m high so perhaps the mapping of the of the severe zone there was done on the basis of inundation. Okuru has a substantial mitigation structure.
5. Large parts of Hokitika, Greymouth and Westport towns are at a height of around 3m. The rules for these areas are either less restricted or not yet clear. Following this section is a figure showing heights at Hannahs Clearing.
6. The later mapping, done after LIDAR heights were available moved the eastern boundary of the severe zone at Hannahs Clearing slightly closer to the sea. There is no explanation given for this.
7. The NIWA report (page 82) comments that there are no trends indicated for the shoreline at Hannahs Clearing. This is supported by a trend line which shows a neutral erosion position until south by the old rubbish tip site.
8. Below I have included photographs from 1951 to 2022. While there has no doubt been episodic and cyclical shoreline erosion and accretion over that time it is clear from the

photos that there has been little overall change between 1951 and the present. This is in line with the NIWA statement that shorelines in Hannahs Clearing and north do not show (long term) trends. Around page 42 the report comments on the methods used to estimate future coastal erosion. Where data is lacking estimates are calculated using information derived from photo comparisons over as long a term possible.

9. The mapping has a narrow band of severe hazard at the north of Hannahs Clearing which expands to be wide enough to cover most of our properties which are only 480m to the south. There is no explanation for this; certainly neither the photographs nor the LIIDA data disclose any reason for it. In fact our properties are higher than those to the north and as can be seen from the images they have additional protection provided by forest and vegetation. My discussion with one of the NIWA authors left me with the impression that this aspect of the mapping was somewhat arbitrary and a reaction to some erosion at the old tip site to the south during ex tropical yclone Fehi .
10. No 50 year or for that matter 25 or 75 year mapping has been made available. In my view this restricts understanding and limits the ability to consider adaptive change with trigger points - if that is what is required.
11. Westland has over 20 of special rating districts, including at Okuru and Neils Beach . The purpose of these is to provide the Regional Council with funding for the construction and maintenance of mitigation structures .There is an extensive hard structure at Okuru and a soft feature at Neils Beach. The mapping and NIWA report does not appear to take these into account. The Regional Council 2021-2031 plan is committed to working with existing communities to investigate the provision of protection where it is required. This objective was confirmed in this year's Chairman's report and is in accord with most recommendations for dealing with climate change where infrastructure and settlement currently exists.
12. The draft plan accepts that a main divide earthquake has a 75% probability of occurring within the next 50 years. My advice is that this will likely result in some coastal uplift and will certainly result in beach accretion due to large volumes of material being transported down rivers. This has been the case over recent centuries. Aerial observation of the Haast coastal plain clearly shows inland sand hills marking where the coast was during roughly 300 year events. It seems reasonable to factorAF8 into any coastal hazard planning, but this has not been done. The estimates from experts in the seismic field suggest that the certainty of AF8 in the next 50 years is much higher than the certainty of coastal hazard threat.
13. I am not alone in thinking that the mapping is inadequate. The WCRC has submitted on the proposed plan objecting to the generalised nature of the mapping and the potential effect on community wellbeing. The Council submission is appended later.
14. Additionally, the Department of Education commissioned an adaptive pathway report from international consultants WSP, regarding potential coastal hazard threats to the Hannahs Clearing School which is about 250m up the beach from our place. That report considers that there is no short or medium term threat and it should be business as usual until 2070 and business as usual with adaptation, if required from 2070 to 2120. The report also comments that further study of the beach is required and takes into account statements contained in the WCRC long term plan about general monitoring and community consultation. This seems sensible given the current lack of data.
15. The existing severe coastal mapping boundaries pass through parts of existing houses e.g. through the third bedroom of my friends house at Okuru. To suggest that the mapping is this accurate is not sensible.

Photographs etc.

Figure 1. Hannahs Clearing town site, 1951, taken looking east. The dogleg in the road to the left of the cattle resting place provides a good reference to later images. Distances can be estimated by reference to the distance from the coast to the road and the distance to Little Groper Creek running roughly parallel to the eastern of the road.

Figure 2. Similar view from the east ,1951. Little Groper stream is more obvious.

Figure 3. An aerial photo of Hannahs Clearing, then known as Carter Mill taken in 1979. Reference to the road dog leg suggests that the cattle resting place in earlier photos was about where the school grounds are.

Figure 4. A comparable photo to 3, above taken late 2022. The building to the west of the dogleg in both photos is now a family home. Our house can be seen top right of photo.

Figure 4 . Hannahs Clearing from the west. 1988.

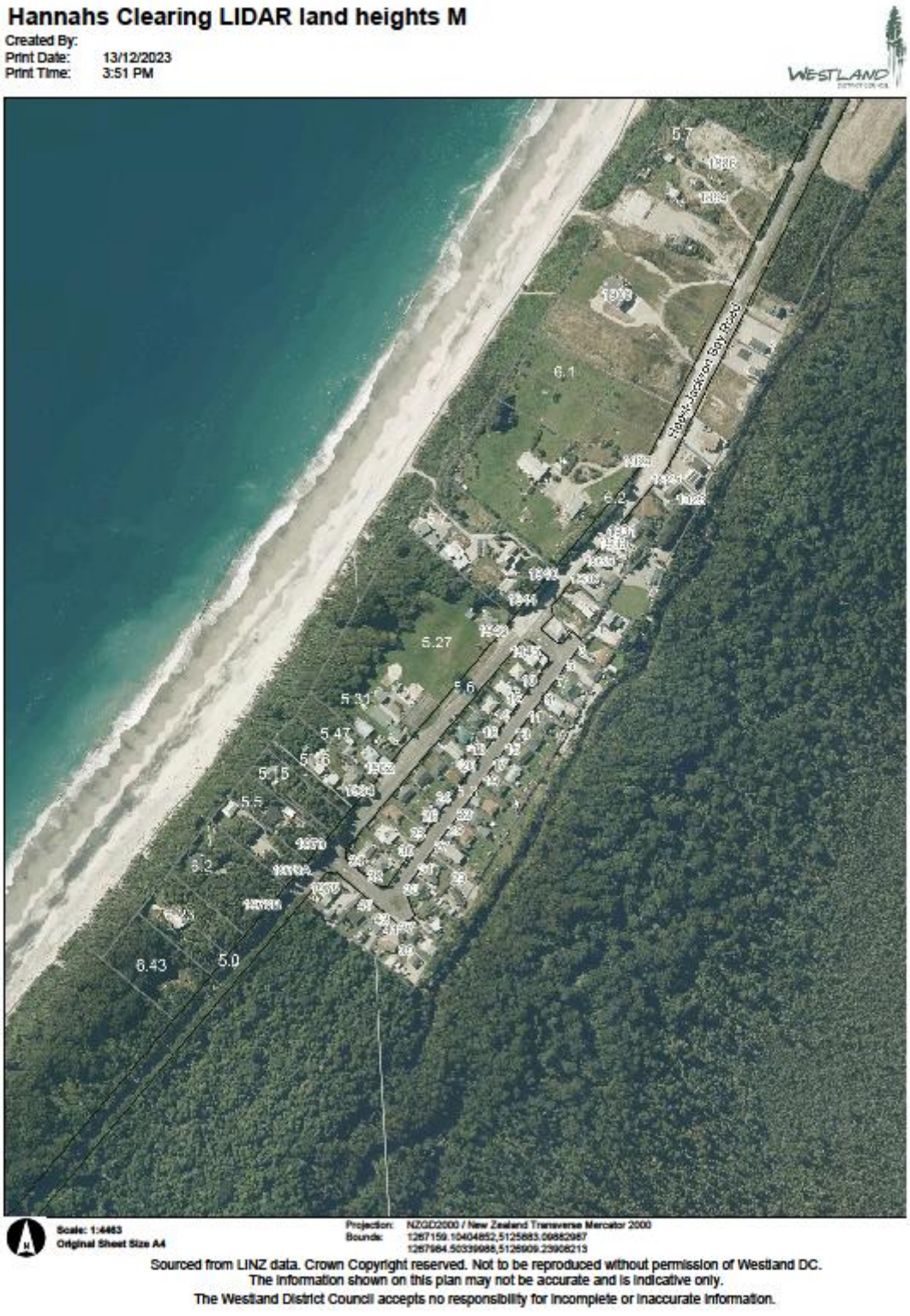


Figure 5. A current WDC LINZ data photo of Hannahs Clearing with LIDAR land heights in meters shown in white.

These heights were sourced from LINZ DEM LIDAR data. Our house and vacant section is in the left lower. One again the road dog leg , coast and stream can be used as comparisons with earlier photos.

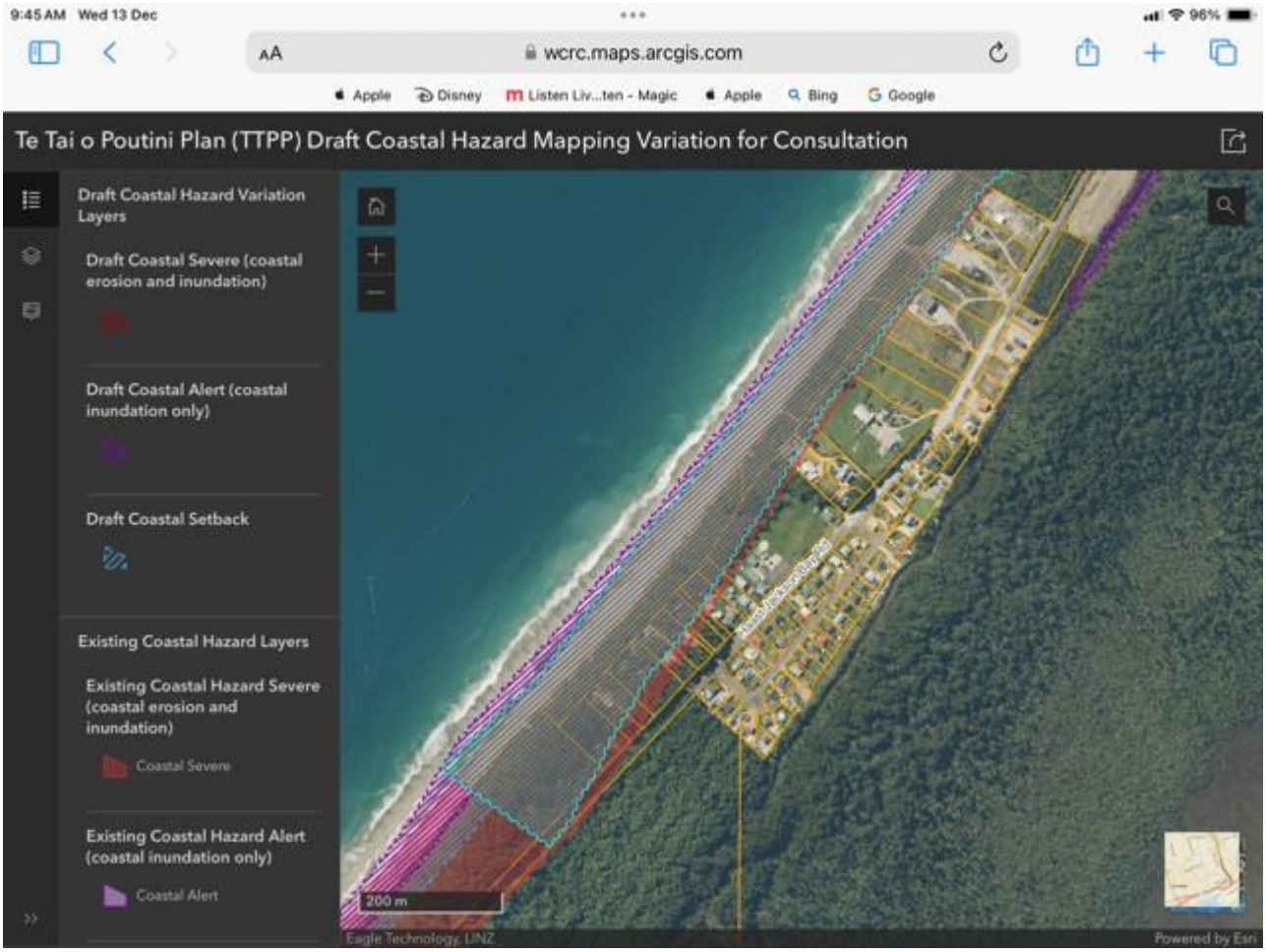


Figure 6. A screen shot of the severe hazard re mapped area at Hannahs Clearing. The area is relatively narrow at the north of the village. As it goes SW it passes through some houses, before completely including some houses and practically all of our vacant section.

Other feedback I would like the Committee to consider.

For years the West Coast has tended to take a more permissive approach to regulation than other regions of New Zealand and seems to have recognised the rights of individuals to as far as possible control their own destinies.

The issue of Natural Hazards and how to deal with them has been considered by many local bodies. It s interesting therefore that the approach proposed via the PDP is one of the most restrictive if not the most restrictive I have found.

Local bodies have generally fulfilled their responsibilities by publishing advisory maps (i.e. let the buyer beware) and for existing settlements by working toward taking an adaptive approach for areas with existing infrastructure. This is in line with the WCRC long term plan but at odds with the PDP.

The Kapiti Council started going down a similar path to the PDP, albeit with a much more comprehensive risk assessment report. My understanding is that after backlash the Council commissioned a panel of experts to review the original report. Despite its detailed approach the mapping was found to be too simplistic and not fit for purpose. The coastal hazard provisions were withdrawn from the PDP and the council then appointed a panel chaired by Sir Jim Bolger to tackle an adaptive pathway approach in consultation with the community. That work is continuing.

There seems to have been a rush to complete the PDP. It's unclear why this is although it's been suggested that there were concerns that the previous Government may have foisted some regime upon the region if haste was not displayed. I sincerely hope that threat has passed and we can back off to a more considered approach.

Vance Boyd, 17 December 2023.

Appendix B - Letter to West Coast Regional Council

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20 May 2024

West Coast Regional Council
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Attention: Te Tai o Poutini Plan Committee
By email: info@ttpp.nz; Michelle.Conland@wcrc.govt.nz; Doug.Bray@wcrc.govt.nz; Lois.Easton@wcrc.govt.nz

Dear Members of the Te Tai o Poutini Plan Committee

Imminent Notification of Variation to the Te Tai o Poutini Plan (TTPP) – Coastal Hazard Mapping

1. We act for a number of property owners concerned as to the impending variation for coastal hazards. Our clients reside own properties located at Hannah's Clearing and Okuru. We understand that the TTPP Committee has recently agreed to notify a variation to the TTPP (anticipated for 27th June 2024) to include amended coastal hazard (severe) layers. We understand these layers will impose a non-complying consent status for new buildings, significantly impacting our clients' ability to develop and use their land.

2. Our clients have serious concerns regarding:

   (a) The methodology and adequacy of the NIWA reports informing these hazard overlays;

   (b) Inadequacy of consultation to date in preparation of the proposed variation (particularly in respect of ascertaining appropriate adaptive management approaches);

   (c) Incorrect interpretations of the New Zealand Coastal Policy Statement (NZCPS).

3. As detailed below, we consider there are significant uncertainties and potential inaccuracies in the severe coastal hazards mapping that need to be addressed before proceeding with formal Schedule 1 notification under the RMA for any variation. We strongly urge the Committee to delay the notification of this variation until these issues are resolved.

4. Proceeding to notification in advance of resolving these issues will put significant costs on Council in terms of protracted litigation on the Variation and puts landowners at a significant and unfair disadvantage in having to formally rebut erroneous hazard mapping once notified.

5. In terms of hearing streams for the TTPP, we strongly urge that any plan provisions (methods, policies, objectives, rules) for coastal hazards must be heard in the same hearing stream along with the mapping of the severe coastal hazards overlay. If this variation on mapping proceeds after provisions for natural hazards are heard, many landowners affected by the variation will be unjustly and prejudicially affected without a right to participate. Best practice would see rules and overlays to which those relate, to be heard together.

Key Points of Concern

Methodological Issues with NIWA's Report

6. Our clients believe that NIWA's methodology[1], particularly the application of a 100-year risk assessment only for erosion and inundation coastal hazards, is flawed. This assessment appears to have been taken from a literal interpretation of the NZCPS policy 24 and 25.

7. There is no dispute as to the obligations contained in ss67(3)(b) and 75(3)(b) RMA for the TTPP to *give effect to* NZCPS (being a combined regional and district plan).[2] The process of identification of hazards over a 100 year planning horizon is clear in policy 24, however the matter of how to manage those risks within the life of the combined plan leaves relatively more discretion.

8. Policies 25(a) and (b) are directed at subdivision, use or development (including redevelopment) which *increases the risk* of social, environmental and economic harm and the risk of adverse effects from coastal hazards. The policies do not require the complete avoidance of risk which is defined as *… a combination of the consequences of an event (including changes in circumstances) and the associated likelihood of occurrence*[3] ... but rather seek to avoid increasing risk. This requires a comparative exercise based upon existing risk and zoning.

9. Our review of the Committee's April agenda, the NIWA reports, and the existing s32 report for natural hazards[4], also show that there has been inadequate consideration of alternative timeframes or adaptive management strategies, as is directed in the recent Ministry for the Environment (**MfE**) guidance materials (2024), and as followed in other recent plan review processes in different jurisdictions.

[1] Contained within the NIWA reports (February 2022 Measures and Rouse; March 2022, Bosserelle and Allis) (together the **NIWA reports**).
[2] Per *Environmental Defence Society Incorporated v New Zealand King Salmon Co Ltd & Others* [2014] NZSC 38; [2014] 1 NZLR 593; [2014] NZRMA 195; (2014) 17 ELRNZ 442.
[3] Policy 25(a) and Glossary.
[4] Report 5

Application of NZCPS Policy 24 and 25

10. The NZCPS and the MfE guidance[5] emphasise the importance of adaptive management and suggest that risk assessments for coastal hazards can consider shorter timeframes, such as 25 or 50 years, in addition to the 100-year timeframe in order to inform risk management options and pathways. While we accept policy 24 directs a requirement to identify risks to a 100-year planning horizon, this does not translate to a requirement that:

    (a) Only a 100 year (1:100 AEP) line in the TTPP is notified with an avoidance / non complying regime; nor

    (b) That management of those identified risks in a TTPP framework could be something different than the above.

11. Put simply, policy 24 directs identification, but how to manage that subsequently depends on factors such as community risk appetite (informed through consultation), costs, cultural and social consequences).

12. Given the consequences of this particular proposal (affecting a significant number of property titles in the severe overlay), the need for informed consultation to feed into a s32 analysis assessing that, is heightened. The absence of 25, 50 and 75 -year mapping for public consumption severely restricts understanding and limits the ability to consider adaptive change with trigger points (per step 5 of the MfE guidance). In principle it is acceptable to consider modelling coastal inundation at the same time as coastal erosion although it depends on locality. The s32 document prepared for the previous overlays suggests significant consultation, but it is not clear upon what actual information around mapping was provided.

13. We have lodged a LGOIMA request for 25 and 50 year mapping which is referenced in the 2022 NIWA report but was not publicised. We have also sought information on the instruction / scope of work provided by Council staff to NIWA to inform this work.

14. A more flexible and adaptive approach may better align with local conditions and community risk appetites – but this can only be understood through community assessment (which is not necessarily available through a schedule 1 notification process, that becomes inherently adversarial).

15. Other recent second generation plans have conducted informed community consultation based upon a range of timeline mapping, for example, Christchurch City and Dunedin. Without any input from the community in terms of risk appetite, there can

[5] Including Step 5 – requirement to identify options and pathways - several types of adaptation options are available for adapting to coastal hazards and climate change consistent with NZCPS policy 25 and 27.

be no understanding of what are the possible and appropriate adaptive management responses (as opposed to a simple non complying regime in severe overlays).

16. There is a fundamental failure in the committee moving to notify the variation, without assessing these relative costs and benefits in accordance with revised s32 RMA (at least to a draft / high level).

17. We note that the previous s32 documentation for natural hazards is flawed in a number of ways and now requires updating, including because:

    (a) It is based upon the MfE 2017 guidance for coastal hazards and climate change, not the 2024 guidance;

    (b) It does not include an appraisal of options for adaption based upon community risk appetite informed by available mapping over different timeframes (as set out above);

    (c) It will need to be updated in light of the revised severe overlay mapping and this should underpin any decision towards notifying the variation.

Specific Issues and Uncertainties in the Mapping – erosion

18. There are specific issues and uncertainties in the current severe overlay mapping that need to be addressed. For instance:

    (a) The LIDAR data and NIWA's report has revealed inconsistencies in the erosion and inundation risk assessments.

    (b) The mapping includes areas that have shown no significant long-term erosion trends. Despite clear evidence as to the stability of some areas in terms of coastal erosion, those remain mapped as severe.

    (c) The mapping provides for no site specific recognition of mitigations on the ground – such as stop bank walls and structures at Okuru, or natural processes of accretion which mitigate erosion processes. NZCPS policy 24(1)(b) requires assessment of *both short-term and long-term natural dynamic fluctuations of erosion and accretion.*

    (d) Adequate data and historic information about shoreline changes and sediment budgets are needed, along with an understanding of how vulnerable the coast is to climate change.

    (e) Page 93 of the 2022 NIWA report references the uncertainty of the mapping including in light of the occurrence of a major earthquake not being accounted for although it would significantly affect the shoreline relative to sea level and

that the pulse of sediment transported down rivers will modify (build up) the shoreline.[6]

(f) We have sought expert input to provide comment on the NIWA reports. We are informed there are further uncertainties as to:

(i) What data, if any, other than the erosion at the old dump site at Hannah's Clearing was used to create the map of shoreline changes (Figure 4-34 of the March 2022 report).

(ii) There are obvious inaccuracies in some parts of the mapping – for example at Hannah's clearing where the mapping shows a pattern of of abrupt change to the inland boundary to the Severe area overlay, suggesting and area between two known data points is extrapolated with straight lines rather than with due consideration of the geomorphology and land-use.[7] This contradicts with section 3.11 of the NIWA 2022 report, suggesting that hazard areas were manually reviewed.

19. Uncertainty of the projected erosion presents an onerous burden on landowners, and although providing for residential activities as 'permitted' may be too generous, the assessment of historical land-use and the risk under existing subdivision patterns suggests that there is scope for special consideration in addressing a differing activity status for existing residential / lifestyle sections. In other words, existing subdivisions for residential and lifestyle sections have generally been approved according to the ODP approach for discretionary consents within 150 masl – which necessitated a comprehensive hazards risk assessment. Any case for intensification, rezoning, or further infill subdivision would potentially be an increase in risk – as opposed to simply providing a reasonable consenting pathway for existing activities (i.e. single dwellings on single lots)[8].

Uncertainties for inundation mapping

20. In terms of inundation, the NZCPS asks councils to consider, over 100 years, the *"cumulative effects of sea level rise, storm surge and wave height under storm conditions"* and add SLR into the mix (Policy 24.1(e)).

21. The approach in the NIWA reports however essentially takes a very high tide combined with a very large storm surge and a very high sea-level anomaly all at the same time. This approach is arguably more 'deterministic' than 'probabilistic'.

22. The NIWA methodologies should be clarified and recalibrated in light of the 2024 MfE guidance, and likely held off until later guidance expected this year, is released.

[6] This is despite the TTMP also stating there is a 75% chance within 50 years scenario of an AF8 event, which would result in coastal accretion. The uncertainty of this consequence could also be built into a more adaptive management approach.
[7] Refer to the screenshots of GIS overlays provided to the DPR Committee by Mr Boyd.
[8] Consistent with policy 25 NZCPS – to avoid *increasing* risks of harm and adverse effects.

Consequences of Proceeding with Notification

Ineffective Consultation Process

23. The consultation process to date has been inadequate. Our clients inform us that many affected property owners were not properly informed or engaged. We have sent the Committee's April meeting minutes to a number of our clients who are affected by the overlay, and they were not aware of this process (despite being actively engaged in other TTP matters). Effective consultation is crucial for ensuring that the mapping accurately reflects local conditions and community needs. It is also crucial, as above, and required under MfE guidance to understand and inform any s32 assessment on relative options.

24. It is inefficient and not consistent with the requirements of s32 to put in place rules that might put residents to unnecessary expense of obtaining discretionary consents when the s32 report itself suggests that a little bit of further assessment right now would remove that need[9].

Contrary to MfE guidance

25. The following are key extracts in relation to the mapping and planning of erosion coastal hazards, and which are contrary to the 2022 NIWA approach to date:

    (a) Page 19 – the principle of proportionality applies in determining adaption planning processes - decisions affecting small areas and few people and requiring little sunk investment may reasonably consider climate change effects over a shorter timeframe. This should be applied on a community-specific basis and a number of those (such as Hannah's clearing and Okuru) where subdivision consents have already issued for single dwelling use – would qualify as small with little sunk investment.

    (b) Page 56 - There is likely to be considerable spatial variability in future erosion rates under RSLR (Dickson et al, 2023). The NIWA approach assumes uniformity along the entire West Coast jurisdiction.

    (c) Page 72 - Councils should engage with the wider community to understand what 'things or objects' of value could be affected by increasing coastal hazards and rising sea levels. This engagement should be done after the coastal hazards and SLR assessments are complete.

        (i) Consistent with the footnoted examples, we consider this should be done before formal Schedule 1 notification, and as part of feeding into any s32 assessment.

[9] Second generation plan reviews for Christchurch, Dunedin, Northland, and Auckland Council all provided for consultation based upon 30, 50, and / or 100 year coastal erosion timeframes, to inform community feedback for options analysis. See for example: https://www.aucklandcouncil.govt.nz/environment/what-we-do-to-help-environment/Documents/predicting-auckland-exposure-coastal-instability-erosion.pdf

(d) We also understand that further technical guidance on this subject matter is to be released by MfE later this year[10]. It would therefore be prudent to hold off notification of the variation until that is received.

Interpretation of NZCPS

26. Our clients are concerned about overlapping and duplicating regulation in the form of a non-complying building rule applying to vacant residential allotments, which have already been subdivided in anticipation of residential development and obtained site specific hazard assessments to support the same.

(a) Site-specific investigations of potential slope erosion hazards are likely to be more detailed than any district-wide coastal hazard assessment. Council could effectively control and require these assessments on a case by case basis without a blanket presumption of avoidance or a non complying regime. A lesser activity status would be entirely appropriate.

(b) In considering what rule may be the most appropriate in the context of the evaluation under s 32 of the Act, the correct approach remains as expressed in *Wakatipu Environmental Society Inc v Queenstown Lakes District Council*[11] namely where the purpose of the Act and the objectives of the Plan can be met by a less restrictive regime then that regime should be adopted. Such an approach reflects the requirement in s 32(1)(b)(ii) to examine the efficiency of the provision by identifying, assessing and, if practicable, quantifying all of the benefits and costs anticipated from its implementation. It also promotes the purpose of the Act by being enabling so that people can provide for their well-being while addressing the effects of their activities.[12] The direction in policy 25 of the NZCPS does not change this case law, in that this direction provides for consideration of *increases* in risk.

(c) the 'avoidance' and 'mitigation' directions from the NZCPS in relation to high risks can equally be undertaken through existing resource consents which have issued residential allotment titles, which appropriately address the risks of coastal erosion on the ground, rather than high level assumptions or modelling. This is a key point of difference to consideration of intensification (i.e. denser subdivision and development or rezoning) in coastal hazard areas as compared to providing just before existing subdivided allotments to develop as anticipated.

27. Adaptive management and design are "Acceptance" strategies rather than an avoidance one – i.e. accept the risk (erosion) and the costs consequent on the hazard being realised (relocating buildings). Such an approach is consistent with Objective 5 of the NZCPS which provides:

[10] MfE's website states that broader guidance on the practical steps to take as part of the adaptation process is expected to be published later in 2024. When this *Adaptation Planning Guidance* is released, a condensed technical version of the *Coastal hazards and climate change guidance* will sit alongside it.
[11] *Wakatipu Environmental Society Inc v Queenstown Lakes District Council Decision* C153/2004 at [56].
[12] *Royal Forest and Bird Protection Society of New Zealand Inc v Whakatane District Council*, [2017] NZEnvC 051, at [59].

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.

28. When assessing the risk of an effect, the High Court has stated that it must be able to satisfy itself (on the balance of probabilities) that the risk of the future event occurring is likely, albeit that it may be a low probability event.[13] The case law is clear that a mere suspicion of an effect is not enough, as there must be at least a scintilla of evidence (not just a theory) sufficient to support a prognosis of an adverse effect on the environment.[14]

29. This is particularly relevant in that policy 24 of the NZCPS is subject to the requirement to take '*into account national guidance and the best available information on the **likely** effects of climate change on the region or district'.*

30. Council has not provided the evidence to support the notification of a severe hazard layer only based upon high level 1:100 AEP events, with an associated non-complying rule for new buildings. A number of properties within this will have already demonstrated that they have satisfied Policy 3 of the NZCPS by assessing the risk of coastal hazards, and taking steps to mitigate the risk to the point of acceptability through subdivision.

31. At best the NIWA 'lines' are an initial, untested, attempt to decide the initial (draft) location of the hazard lines for the eventual variation. These are not fit for immediate schedule 1 notification along with a non-complying / avoidance building regime.

Conclusion

32. Given the concerns outlined above, we strongly recommend that the TTPP Committee delay / suspend the notification of the coastal hazard mapping variation. A thorough review of the methodology, additional community consultation, and consideration of adaptive management strategies are necessary steps to ensure that the TTPP accurately reflects the risks and needs of the West Coast communities. We suggest prudent steps would be:

    (a) To commission a peer review of the NIWA reports;

    (b) To publicly notify for comment any further peer review commissioned;

    (c) To assess community risk appetite and consequences by way of requesting feedback on a range of options on a continuum from risk management

[13] *R J Davidson Family Trust v Marlborough District Council* (2017) 19 ELRNZ 628 (HC), at [133].
[14] *Shirley Primary School v Christchurch City Council* [1999] NZRMA 66 (EnvC).

(avoidance) to adaptive management consistent with Step 5 in the MfE Guidance (and including based upon NIWA 50 year erosion mapping, which is known to exist);

(d) To await further MfE technical guidance being released this year; and

(e) To then use the above to inform any s32 assessment.

33. **Attachments** – extracts from opinions expressed by previous Environment Court Judge Allin, in the context of the Kapiti plan review process.

Yours faithfully
TODD & WALKER LAW

Rosie Hill / **Ben Russell**
Senior Associate / Solicitor
Email: rosie.hill@toddandwalker.com
Matter ID: 36398

Appendix C - Summary of recent trends

Recent trends at Hannahs Clearing.

We have already traversed what are perceived to be inadequacies in mapping given the consequences of the proposed Severe Coastal Zoning.

As stated elsewhere the 2022 NIWA report acknowledges the fact that the shoreline at Hannahs Clearing has episodes of accretion and erosion but that no long term trend can be identified. It further states, and we accept, that there currently exists a phase of active erosion. The report states that erosion is difficult to predict, however based on history the current erosion will reverse at some stage, in the worst case scenario when AF8 occurs, expected to be within the next 30 years.

Recent events illustrate the difficulty with mapping erosion areas. In April 2024 number of coinciding circumstances caused erosion to the shoreline of the West Coast, including at Hannahs Clearing.

Subsequent actual measurements compared with Google maps and Council aerial imagery show that between April 2021 and the end of April 2024 the shore adjacent to houses at the south of the village eroded 14m while over the same period the shore adjacent to houses at the north of the village eroded 26m. This is contrary to the coastal hazard mapping which shows a greater risk at the south where homes are placed in the Severe Hazard zone while those in the north are not.

This reality simply illustrates the difficulty in predicting erosion without detailed site specific studies being undertaken. As ratepayers we don't feel it is our responsibility to finance these studies and suggest that this should fall upon those seeking to impose severe restrictions. This view is consistent with that expressed in Ministry for the Environment guidance publications.

We realise that further work is expensive for whoever undertakes it and suggest that a more permissive and uniform zoning proposal could avoid the need for this.

Appendix D - Letter from Counsel for TTPP Committee

7 June 2024

Attention: Rosie Hill | Ben Russell

Level 2
Craigs Investment Partners House,
Five Mile Centre,
36 Grant Road, Frankton, 9300

By email to: rosie.hill@toddandwalker.com

Dear Rosie and Ben,

Te Tai o Poutini Plan – Coastal Hazard Mapping Variation

1. We act for the Te Tai o Poutini Plan Committee in respect of its proposed Te Tai o Poutini Plan (**TTPP**). We refer to your letter dated 20 May 2024 (**Letter**), and subsequent email dated 28 May 2024 in relation to the TTPP – Coastal Hazard Mapping Variation (**Variation**).

2. At paragraph 7 of your letter, you refer to the TTPP as a combined regional and district plan. We wish to clarify at the outset that the TTPP is a *combined district plan* as per section 80 of the Resource Management Act 1991 (**RMA**) and does not include the provisions of the regional plan.[1] As such, the Te Tai o Poutini Joint Committee (**Committee**) only has the functions of the District Councils in respect of preparation of a District Plan and not the functions of the Regional Council.

3. In respect of the Variation, you have identified a number of concerns and seek that notification of the Variation be delayed. The Committee has already resolved to notify the Variation and notification is scheduled to take place on 27 June 2024.[2] Once the Variation has been notified, the Variation will follow the schedule 1 RMA process, and be considered by the Independent Hearing Panel. We consider that the concerns you have raised are best addressed to the Independent Hearing Panel in a submission on the Variation.

4. To the extent you have raised concerns regarding the Committee's process, including in respect of consultation, we note that there is no obligation on the Committee to consult, except to the limited extent provided for in clause 3 of Schedule 1. Notwithstanding, the Committee did undertake community consultation in respect of the Variation. Details of the consultation can be found in the Agenda for the Committee Meeting on the 14 February 2024.[3] Accordingly, we do not consider there is any procedural reasons why notification of the Variation should be delayed.

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1 Local Government Reorganisation Scheme (West Coast Region) Order 2019.

2 Lois Eaton 'Te Tai o Poutini Plan – Draft Coastal Natural Hazards Variation – Further Information and Recommendation to Proceed with Variation' dated 29 April 2024.

3 Lois Easton 'Te Tai o Poutini Plan – Feedback on Draft Coastal Hazards Variation to the Plan and Recommendation to Proceed with Variation' dated 14 February 2024, at paragraph 4.

5. In order to ensure that your client's concerns are able to be addressed, we have recommended to the Committee that the hearing of the coastal hazard provisions, currently scheduled for October 2024 as part of the Natural Hazards topic, be deferred until such time as the notified Variation has "caught up" in the schedule 1 process. This means that submissions on the coastal hazard provisions and on the maps will be heard together.

Yours faithfully
Wynn Williams

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- Hazard maps, inundation maps, overlays of current and proposed development;
- Consequence analysis – what do minor to severe events look like?
- Keep it simple.

Questions to ask and information to gather:

- If a major event happened to this locality, what would be the main issues of concern?
- What are the expectations about how this area is to be managed into the future? (e.g., housing, or commercial development)
- What are key matters affecting exposure, e.g., important buildings, access ways, vulnerable communities, important icons?
- What do people want to know more about?

Be prepared for:

- Conflicts that may arise due to stakeholders' unfamiliarity with risk estimation and the uncertainties and value assumptions associated with the method.
- This step will also reveal what are the 'sticking points' – areas of biggest concern or areas where beliefs about the hazard and associated risks are most at odds with those of hazard technical advisors.

3.3 STEP 3 - LIKELIHOOD

Once the land use and consequences have been determined, only then should the likelihood be evaluated (Figure 3.5). For example, if a natural hazard event has a return period of 1:100 years then, using the table below, this event would be considered to be "possible" (level 4). Similarly if a natural hazard even has a return period of 1:500 years, then it would be considered to be unlikely (level 3). The level calculated for the natural hazard is needed to complete the risk-based approach (Step 4).

Level	Descriptor	Description	Indicative frequency
5	Likely	The event has occurred several times in your lifetime	Up to once every 50 years
4	Possible	The event might occur once in your lifetime	Once every 51 – 100 years
3	Unlikely	The event does occur somewhere from time to time	Once every 101 - 1000 years
2	Rare	Possible but not expected to occur except in exceptional circumstances	Once every 1001 – 2,500 years
1	Very rare	Possible but not expected to occur except in exceptional circumstances	2,501 years plus

Figure 3.5 Likelihood scale.

As part of this step, while no formal communication with the stakeholders and general public is required, the decision around the likelihood, and the fundamental assumptions on which it was based should be recorded for the purposes of transparency and to allow for later use under Step 4.

Once the land use, consequences and likelihood have been determined (Steps 2 and 3), a risk-based approach can be applied.

3.3.1 Likelihood table assumptions

The assumptions relating to the use of the likelihood table are follows:

- The likelihoods provided are accepted by key stakeholders.
- The table is scaleable, in that it allows for the evaluation of multiple hazards, i.e., flooding, landslides, tsunami, fault rupture.

3.4 STEP 4: TAKE A RISK-BASED APPROACH

In order to take a risk-based approach, the consequences and likelihood need to be quantified to provide a level of risk.

To achieve this, a matrix can be used that incorporates the relevant risk level, expressed as a function of consequences multiplied by likelihood (Figure 3.6). The risk then ranges from 1 (extremely low) to 25 (extremely high).

	Consequences				
Likelihood	**1**	**2**	**3**	**4**	**5**
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	8	10
1	1	2	3	4	5

Figure 3.6 Quantifying consequences and likelihood (adapted from Saunders, 2012b).

The risk levels then need to be determined. Figure 3.7 shows how the risk levels were determined from Figure 3.6. In practice, participation and associated debate would be required within council and with the community to determine the thresholds for the levels of risk (See Section 3.1.1– Building an Engagement Strategy).

Risk	**Level of risk**
1-9	Acceptable
10-19	Tolerable
20-25	Intolerable

Figure 3.7 Qualifying levels of risk from Figure 3.6 (adapted from Saunders, 2012b).

When decision makers are considering the risk levels and the planning options to address the levels of risk, they should consider the questions detailed in Table 3.4. A robust and thorough consideration of these questions will help ensure that the right risk and consent thresholds are established, and that the objectives, policies and rules developed in response to the risk levels achieve their intended outcomes.

Table 3.4 Questions to be considered when determining levels of risk (adapted from Standards New Zealand, 2004, p82).

Acceptability	Is the risk reduction option likely to be accepted by relevant stakeholders?
Administrative efficiency	Is this risk reduction option easy to implement or will it be neglected because of difficulty of administration or lack of expertise?
Compatibility	How compatible is the risk reduction option with others that may be adopted?
Continuity of effects	Will the effects be continuous or only short term? Will the effects of this risk reduction option be sustainable? At what cost?
Cost effectiveness	Is it cost effective, could the same results be achieved at a lower cost by other means?
Economic and social effects	What will be the economic and social impacts of this risk reduction option?
Effects on the environment	What will be the environmental impacts of this risk reduction option?
Equity	Are risks and benefits distributed fairly e.g. Do those responsible for creating the risk pay for its reduction?
Individual freedom	Does the risk reduction option deny any basic rights?
Jurisdictional authority	Does this level of organisation or government have the authority to apply this option? If not, can higher levels be encouraged to do so?
Leverage	Will the risk reduction option lead to additional benefits in other areas?
Objectives	Are organisational objectives advanced by this risk reduction option?
Regulatory	Does the risk reduction option (or lack of option) breach any regulatory requirements?
Political acceptability	Is it likely to be endorsed by the relevant government authority? Will it be acceptable to communities?
Risk creation	Will this risk reduction option introduce new risks?
Timing	Will the beneficial effects be realised quickly?

Once levels of risk have been determined, the matrix is then colour-coded (Figure 3.8), based on the levels of risk shown in Figure 3.7. The use of colours allows a faster assessment of the levels of risk involved. The colours of green and blue (acceptable i.e. permitted/controlled), yellow and orange (tolerable with consent i.e. restricted discretionary, discretionary) and red (intolerable i.e. non-complying, prohibited – see Figure 3.9), are considered standard colours for this approach (Standards New Zealand, 2004).

	Consequences				
Likelihood	**1**	**2**	**3**	**4**	**5**
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	8	10
1	1	2	3	4	5

Figure 3.8 Colour-coding the matrix based on level of risk (adapted from Saunders, 2012b).

The stage uses the colours, based on the levels of risk, to determine the consent status (i.e., treatment) of the activity (Figure 3.9).

Level of risk	Consent
Acceptable	Permitted
Acceptable	Controlled
Tolerable	Restricted Discretionary
Tolerable	Discretionary
Intolerable	Non complying, prohibited

Figure 3.9 Level of risk and associated consent status (adapted from Saunders, 2012b).

Non-complying and prohibited are merged together, but it is acknowledged that the former allows for development, while the latter avoids development. For the purposes of this example, the two are merged to allow for high consequence activities to take place in high-risk areas that may not be able to be avoided, e.g., a port.

In the final stage of the process, consequence values 1–5 are relabelled into roman numerals to ensure no confusion between the likelihood scale and consequence scale. Figure 3.10 provides the final framework, where risk equates to consent status applied.

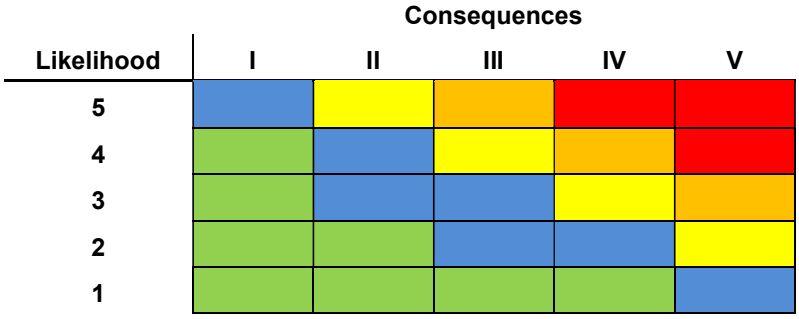

Figure 3.10 The risk-based planning framework (adapted from Saunders, 2012b).

Not all consent categories may be required. The consent categories that are used need to relate to the level of risk associated with the hazard, and the desires of the community to address this risk. As such, it may be that a council chooses to use only the following consent categories when implementing the risk-based approach: permitted, discretionary, and non-complying.

3.4.1 Public views on risk acceptability and mitigation

At this stage, stakeholder acceptance of the determined levels of risk and associated consent categories are assessed. It is also when ideas about risk mitigation may be reviewed – particularly in relation to areas of greatest contention.

Risk communication at this step serves two purposes:

1. To get feedback from stakeholders and affected parties on whether the risk categories and/or consent levels are appropriate, and to check for perverse outcomes; and
2. To discuss what trade-offs might be made between extra margins of safety, possible benefits, and costs of mitigation.

The actions that should be undertaken for completing this step include:

- A review of the proposed risk categories and the current and proposed land use activity, and identification of the areas of greatest contention;
- Getting stakeholder input to identify any control options for reducing risk. If necessary, review the risk control measures in terms of their impact on risk reduction, likely costs, and potential increased risk for other parties. Re-present these to stakeholders and affected parties for discussion about acceptable costs and benefits, and identification of any additional risks associated with the measures;
- Checking whether there are new stakeholders, affected parties, or issues associated with implementing control measures, and revise the stakeholder analysis and engagement strategy to address this.

Key actions for this step include:

1. Sharing information:
    - Clarify the purpose of this step – i.e., to agree on categorisations of risk as acceptable, tolerable or intolerable, so that appropriate decisions can be made about future land use;
    - Be transparent about the rationale (i.e., method and assumptions) behind the proposed levels of risk and the consent categories; and
    - Discuss what is known about the likely impact of the proposed consent categories on foreseeable land use.
2. Questions to ask and information to gather:
    - Are the risk thresholds levels for tolerable, intolerable, and acceptable appropriate?
    - Are there concerns about the impacts on land use?
    - Are risk trade-offs possible and/or desirable?
    - Are risk reduction measures desirable and acceptable?
    - Is further consultation/discussion required before recommendations are made?
3. Be prepared:
    - For changes from initial risk perceptions, as earlier steps (1 and 2) may have raised awareness the natural hazard, the decisions, and the planning options associated with this.
    - This stage may require several iterations.

Engagement approach options include holding working groups (e.g., community board members, CDEM representatives, iwi representatives, and local stakeholders) to hold initial discussions of the issues at this stage. This group may also serve as a conduit for wider public engagement.