Minutes:
Mini-CAP Meeting Signals, Triggers and Thresholds for Raumati and Paekākāriki Adaptation Areas

Date: Wednesday, 20 March 2024

Location: Robin's Nest, Ngā Manu Nature Reserve, 74 Ngā Manu Reserve Road, Waikanae

Time: 2.00 pm – 4.00 pm

Attendees: Jim Bolger (Chair), Donald Day, Martin Manning, Susie Mills, Kelvin Nixon, John Barrett, Moira Poutama, Jerry, Stephen Daysh, Monique, Derek Todd, Jason Holland, Sandhira Naidoo, Alfred Lison, Heather Patterson, and Abbey Morris

Apologies: Mark Taratoa, Olivia Bird, Glen Olsen, Tim Sutton, Sophie Hanford, Sean McKinley, Michael Moore

Agenda Item	Comments
Opening & Introductions	**Karakia** by **John Barrett** **Welcome** by **Jim Bolger, Chair** Jim noted that some CAP members have raised concerns with the use of the word 'strawman' as the description of the thresholds CAP are drafting as part of their adaptation recommendations report to Council. Jim agreed with this view that a 'strawman' has negative connotations as somebody that you put up with the intention of knocking down. Jim suggested the wording be changed to 'optional thresholds'. **CAP agreed to change the term 'strawman thresholds' to 'optional thresholds.'** *Note: The CAP is developing starter for discussion threshold recommendations for Council to develop further and agree on with the community after Takutai Kapiti and CAP.*
Confirmation of the minutes	**Jim Bolger, Chair** *6 December 2023 CAP meeting minutes* Jim asked the CAP if anyone wished to raise issue with the minutes from CAP's meeting on the 6th of December 2023. • Kelvin raised a question regarding the bullet point where it is recorded that Derek referenced that the National Adaptation Plan recommends including the SSP5-8.5 sea-level rise scenario in adaption planning. Kelvin continued that he believed Derek meant the Ministry for Environment's 'Coastal hazards and climate change: Guidance for local government' (2017). • Jason added that upon searching the National Adaptation Plan there is recommendation to use the SSP5-8.5 scenario or the RCP8.5 scenario (eg pages 68-69), adding that both documents include recommendations to use these/either one of these scenarios. • Kelvin agreed that no change needed to be made. No further issues were raised. Jim asked for members of the CAP to confirm the minutes from 6 December. Don moved to confirm the minutes. Martin seconded.

	6 March 2024 CAP meeting minutes Jim asked for comments on the minutes – none were raised. Kelvin moved to accept the minutes. Don seconded.

Signals, Triggers and Thresholds for the Raumati and Paekākāriki Adaptation Areas	**Stephen Daysh, Mitchell Daysh and Derek Todd, Jacobs**
	RAA and PAA Signals, Triggers and Thresholds Memo
	RAA and PAA Signals, Triggers and Thresholds Pathways PowerPoint Presentation
	
	Stephen began the discussion by reminding the CAP of the definitions of signals, triggers, and thresholds:
	• Stephen explained that thresholds describe a situation that the community do not want to occur (an example could be the inability to walk along the beach at high tide), with triggers are then set to determine the change point to minimise the occurrence of the threshold being met. Signals are then set based on these thresholds which will give early warning that a threshold is approaching and offer sufficient time to adapt further to the hazard by preparing to move to the next step in the adaptation pathway.
	• Stephen continued by reminding the CAP that each adaptation area and management unit will have individually set signals, triggers, and thresholds that are reflective of the different communities' values, the different geographies, and the potential hazards present in each area.
	• Stephen reiterated that that CAP's task today is to decide on optional thresholds that will be presented to the community as a starting point for further engagement and discussion after CAP have submitted their report to Council.
	• Abbey offered an example of railway tracks where you can pull the lever to change the direction of travel, in this case the railway lever is the trigger that indicates a change in coastal adaptation action is needed to change direction and ensure the threshold is never met.
	• Derek reminded CAP on how Hurunui District Council used signals, triggers, and thresholds as part of coastal adaptation planning done for Amberley Beach.
	• Stephen asked Derek if a community could have more than one threshold. Derek replied yes, and with the Amberley Beach example the community has set several thresholds based on different hazards such as the distance of erosion, the cost of maintenance for protection structures, insurability of properties, depth, and duration of flooding, amongst several others.
	• Derek explained how signals, triggers, and adaptation thresholds work in action when related to deteriorating effectiveness and performance of the present adaptation action against the hazard over time. He shared:
	  ○ An example of a seawall, whose effectiveness and performance against the hazard will decrease over its lifespan.
	  ○ That we want to avoid the seawall's deterioration causing a threshold to be reached, so we plan for enough lead time to enact our next adaptation action before the threshold is reached. Derek added that actions have different lengths of time to put into place, so this needs to be considered when choosing the trigger point based on the threshold.
	  ○ In the example of the seawall, explained that if the next action is to 'enhance' that same seawall to be effective against the new level of hazard it would take less time to put in place due to easier consenting process, lower building costs, etc. This means the lead time for this

	action is shorter and the trigger can be placed in a scenario/time frame that is closer to the threshold set by the community. Derek contrasted that to building a whole new seawall, which would have a longer process due to the same factors, so the trigger's lead time would need to be longer – different triggers depending on what action is in the next part of your pathway. • Stephen reminded the CAP that adaptation thresholds need to respond to community values, risk exposure and agreed levels of service, emphasising that they are personal to individual communities. • Monique joined the discussion and gave a review of why we need to develop these optional adaptation thresholds, by explaining that a key part of the process is engaging with the community, but this will not happen until after the CAP's report is submitted, so CAP will be recommending some draft starting points for Council to help begin further engagement. Monique added that CAP may wish wider recommendations in their report that could mitigate the risks of various sources of flood water which are outside of inundation and not being covered in the Takutai Kāpiti project scope. ○ Stephen commented that the Kāpiti Coast District has many sources of water that are connected, whether it is inundation water, ground water, from the hills etc., so he asked Monique if she considered that these thresholds will be reflective of the level of water regardless of where it comes from. ○ Monique replied that CAP's pathways might address the coastal inundation risk, but the CAP have not dug down into how to address a high groundwater table which might be a better option to mitigate a flood risk than putting a coastal barrier up to protect coastal inundation. ○ Stephen added that this detailed analysis of flood water sources will be up to Council to complete if it chooses to do so after it receives the CAP's report, but reiterated that CAP are still able to make notes of recommendations regarding these other flood water sources in their report. ○ Jim noted that the CAP will need to be clear in their communication of this to the community as if there is a flood with water up to your knees you are not going to care where it came from, but you will still need to find the source to be able to fix it. ○ Martin agreed with Jim and added that there needs to be an improved monitoring system to identify the sources and understand the complexity of the relationship between our different waters to be able to effectively monitor for the triggers. ○ Jim responded that the CAP would need to recommend that Council ensure the drains can respond effectively to flooding, which could cost significant money for investment which the community may be unlikely to support. • Monique reminded the CAP of the Raumati and Paekākāriki community objectives that were developed according to the community values engagement report as thresholds are developed in line with the community's values and what they do and do not want to see happen in their community. • Monique began the discussion on the draft/starter for discussion thresholds for CAP to consider for the Raumati Adaptation Area (RAA) and Paekākāriki Adaptation Area (PAA):

	○ Jim noted that he felt that insurability would obviously be a concern for the community, but how could they possibly know what percentage of dwellings would need to be affected as part of their threshold? ○ Monique responded that if the threshold was that properties began to be refused insurance, then the number of uninsurable properties could be set to one if that is what the community determined. Which is why we are only creating suggestions and structures of thresholds that the community can assign their values to in future engagement projects, we are not filling in the blanks for them. ○ Jim maintained that it is clearly desirable to avoid properties losing insurability, but how could we know? The direction of the insurance industry is not easy to predict. ○ Stephen gave an example of another community where twenty-one houses could not get insurance and were not protected, but the community was more motivated to make sure the road could stay. ○ Martin reported a story of properties that insurance companies were withdrawing from. ○ Susie noted that the insurability threshold should also include the cost of obtaining insurance in addition to the number of properties unable to be insured. Susie added that there is already one insurance company that will not insure at all on the Coast, so the percentage of insurance companies that pull away from insuring on the Coast could be a factor included for consideration. • Monique moved on to the threshold topic of coastal flooding, with possible elements to include being the level of water, accessibility, or number of times a year water enters dwellings, etc., and asked the CAP what elements they considered significant for the area. She also noted there are levels of flood water that become unsafe for public health. Susie responded she believed it to be an issue of depth and frequency. Derek added that this type of threshold is not needed for erosion units. • Monique moved onto the possible topic of Council infrastructure, particularly the impact on water infrastructure, and asked the CAP if they wanted to include this as a possible threshold topic or align more closely with the values expressed by the community. ○ John remarked that the Jacob's report indicates this should be a concern of ours. ○ Stephen asked Monique if three waters infrastructure was included here, Monique confirmed this but clarified that it is more focused on wastewater and drinking water as storm water infrastructure is far more adaptable. ○ Derek explained that if the impact of climate change is getting close to impacting those assets you need time to relocate them or increase their resilience to the hazard. ○ Susie suggested access to roading should be a topic included in the optional thresholds, due to houses losing access. ○ Derek added that flooding could erode the road and access ways as another consideration. ○ Kelvin also noted that power, internet, and chorus infrastructure are often underground. • Stephen asked the CAP if they wanted to be able to compare all their optional thresholds for all adaptation areas together.

	○ Abbey responded that these thresholds are different for each area as the hazards and risks are different for each area, even though there are some similarities between them. ○ Kelvin noted thresholds should be common across the country and asked Stephen for comments from his experience with Hawke's Bay. Stephen responded that this part of the process was completed after the report was released as they ran out of time. ○ Monique added to Abbey's comment noted that communities who have developed their thresholds, set thresholds in line with their varying tolerance to different risks. For example, different values between types of property owners, where bach owners and permanent residents show different tolerance levels. Monique also noted that there are communities where a sizeable portion are not insured already, and others where some may not mind having water flooding their garage, so their values may be different. • Jim responded that whatever the insurance industry decides will be a main driver, and Jason commented that those who own a house worth $150 thousand may have differing values from those whose house is worth $2 million. Jim added that a lot of work that we do could be absorbed into a nationwide approach in due course, however, Stephen commented that this is like district plans where each area has their own strategy. • Stephen clarified for the minutes that the CAP would like the TAG to form an integrated table which brings together the thoughts and ideas from discussions on CAP's optional thresholds for all adaptation areas, as well as form wording options for CAP to confirm. ○ Derek suggested there be a difference in thresholds for road access between those imminent to be eroded and those imminent to be flooded. Monique added that the road is going to be affected long before the pipes under the road are affected. ○ Susie mentioned that a lot of new subdivisions now have underground power. Monique moved onto discussing the septic tank topic of possible thresholds, explaining that PAA relies on septic tanks so flooding could mean wastewater spillage and no access to toilets, although the risk of flooding in this area is low. • Jim commented that Cyclone Gabrielle took no notice of any of these things and people had to survive. He added that you cannot guarantee against that sort of storm event and assume you are secure. • Kelvin replied that he thinks it is relevant, and we cannot have any control over when a cyclone comes, but climate change will bring more intense rainfalls on a more frequent basis. • Jim replied that means CAP should be inviting Council to take a tougher line on where new buildings are allowed. Stephen responded this is an 'avoid' adaptation action. • Stephen clarified to the CAP that the topic under discussion is about the septic system's disposal fields and how flooding will impact them, but one of these fields could also be eroded away, so this could be reflected in the description. Derek remarked that this should be a different threshold as erosion does not occur on a frequency basis, rather by distance or area. • Jerry agreed the impacts on septic tanks should apply to both the inundation and erosion areas as it shows the community that we heard their concerns and have considered the impacts in detail, then they can decide whether to keep it.

	• Derek clarified the purpose of thresholds, where you are saying that the next step in your pathway will alleviate the problem and stop us meeting the threshold. • Susie suggested wording that includes the 'effectiveness' of the septic systems being impacted a certain number of times in a certain timeframe. Jim offered the addition of 'operational effectiveness.' Monique moved onto discussion of beach access as a possible threshold topic. • Monique began by highlighting to the CAP that beach access is highly valued by both RAA and PAA, so the CAP may need to discuss today what beach access looks like, whether it is being able to go on the sand or walking along the top of a seawall. Monique added that beach access is already impacted in this area during high time. • John commented that beach access simply means being able to access the beach. • Kelvin noted that for NAA and CAA, CAP draft optional thresholds included beach access being impacted X number of times over X years. • Susie remarked that you already cannot walk down on the beach at Paekākāriki at high tide, so perhaps high tide is not the correct measurement. Jerry added that it is the same situation at Raumati South. Stephen offered 'mid-tide' as phrasing. • Derek responded that impact to access to the beach was important for NAA and CAA because many of their points of beach access are through natural dune systems rather than seawalls. There is a difference between access to the beach and access across the beach. • Jason reminded the CAP that we can give the community the structure and they can fill the gaps (e.g. whether it be low, mid, high or some other tide) themselves. • Abbey asked the CAP for their decisions on what units this threshold will be applied to, as inundation happens inland and you cannot access the beach inland, suggesting the issue of beach access is not applicable to the inundation units in PAA and RAA. CAP confirmed it was applicable to erosion units only. Monique continued onto thresholds based on impacts to seawalls, reminding the CAP that waves do already overtop the seawalls in these areas at times. • She explained that the overtopping itself might not be an issue for public safety but rather the velocity the water that hits the seawall. Monique noted that this scenario happened at Owhiro Bay where the water hit the seawall so hard that someone was swept out to sea. • Monique continued that the second seawall threshold is more about the condition of the seawall itself. Derek added that seawalls fail in two ways; toe erosion or back scour which depends on the nature of the natural behind the seawall. • Kelvin suggested that the threshold be based on the maintenance needed to upkeep the condition of the seawall. Kelvin also suggested that the number of times that the seawall is overtopped, and the amount of maintenance or reinforcement needed in a certain number of years should be considered as two separate threshold topics. • Stephen noted that he was walking along the Raumati seawall at high tide recently and the water was already overtopping it. • Jerry asked if there is a measurement that could be used which considers the height of the seawall, the height of the tide, and the number of times the seawall is overtopped. Jerry added this because he swims out at Raumati Beach every

	morning and witnesses it overtopping often. Derek discussed the joint probability between the tide and the waves, low tide with high waves and high tide with low waves, adding that you could go down a rabbit hole trying to find the answer. • Jim reiterated Jerry's point that water overtopping the Raumati seawall is already happening frequently. Storms like Cyclone Gabrielle are unpredictable, and nothing can prepare you for them. Jim continued Jerry's point by asking the CAP if overtopping the wall currently is not harming us then what is the next situation that we do not want to see and can create a threshold from? • Susie commented that clearly if this was a threshold, it has already been reached in Paekākāriki. Monique continued on to explaining the significant effect threshold topic, which is trying to capture that we are wanting to avoid any serious injuries or fatalities in a significant weather event, avoid allowing storms to significantly compromise the effectiveness of adaptation, and consider the number of dwellings that are affected as a result of these storms in a particular community. • Monique also added the cost to the public for maintenance of the protection structure has been included as a topic to include. • Susie commented that the issue of cost should be kept in for all areas to allow those that are not beach front owners to also have a say. Stephen suggested moving on to discussion of the cultural thresholds topic. • Jim asked John what a threshold for cultural values, such as ability to harvest kai, might look like. John replied that would be too difficult to specify today as many iwi have different values, so more discussion would be needed. Moira agreed that further communication will need to happen, specifically around access and ceremonial practices. • Jerry noted that erosion of culturally significant sites should also be included. Jim asked the CAP if anyone wanted to raise any further points that should be addressed in this meeting. None were raised. **The outcome of the discussion can be seen in Appendix 1 to these Minutes.**
Next Steps	**Abbey Morris, KCDC** Abbey explained that given the CAP has requested so, the TAG will help with crafting some wording of the thresholds discussed today, and CAP will have the opportunity to confirm these at the next meeting.
Closing Karakia	By **John Barrett**

ATTACHMENTS
• **6 December 2023 CAP Meeting Minutes** • **6 March 2024 CAP Meeting Minutes** • **RAA and PAA Signals, Triggers and Thresholds Memo** • **RAA and PAA Signals, Triggers and Thresholds Pathways PowerPoint Presentation**

Takutai Kāpiti.

Kāpiti Coast DISTRICT COUNCIL
Me Huri Whakamuri, Ka Titiro Whakamua

Appendix 1: CAP's Draft Optional Thresholds for RAA and RAA for Further CAP Discussion

Thresholds Template

Possible Topics	Possible thresholds	Applicable?			
		RAA Erosion	RAA Inundation	PAA Erosion	PAA Inundation
Insurance	___ dwellings are unable to obtain insurance for coastal hazards. *The cost of X properties has increased to unaffordable rates.*	Yes	Yes	Yes	Yes
Frequency of coastal flooding	__ m or more of water ponds at _____ (specified location/s) for a continuous period of more than __ days.	No	Yes	No	Yes
Depth of flooding	Water enters __ dwellings within _____(specified community) __ times in __ years.	No	Yes	No	Yes
Water infrastructure	~~Critical water~~ *Drinking water and wastewater* infrastructure is within __m of Mean High Water Springs position	Yes	No	Yes	No
Road access reduced due to erosion or inundation	*X times in x years that people loose road access and/or services to their property*	Yes	Yes	Yes	Yes
Services reduced due to erosion or	*X times in x years that people loose services to their property*	Yes	Yes	Yes	Yes

Thresholds Template (continued)

Possible Topics	Possible thresholds	Applicable?			
		RAA Erosion	RAA Inundation	PAA Erosion	PAA Inundation
Significant event	Any serious injuries and/or fatalities that occur as a result of a coastal erosion or coastal inundation event. A coastal storm significantly compromises the effectiveness of the existing inundation (or erosion) protection structures. A coastal storm causes damage to more than __ dwellings in _____(specified community).	Yes	Yes	Yes	Yes
Cost to public - maintenance	The overall cost of the current publicly funded (specified) management approach exceeds $__ per year. A targeted rate of more than $__ per year is required to fund the ongoing publicly funded maintenance of the current (specified) management approach.	Yes	Yes	Yes	Yes
Cost of private maintenance	The cost to maintain or replace privately owned seawall exceeds what ___ number of property owners are prepared to pay.	Yes	No	Yes	No

Thresholds Template (continued)

Possible Topics	Possible thresholds	Applicable?			
		RAA Erosion	RAA Inundation	PAA Erosion	PAA Inundation
Recovery time between events	_____ community is required to respond to __ significant coastal storms within __ years at _____ location. Emergency works costing $__ are required _____ (frequency) to repair protection structures within a settlement.	Yes	Yes	Yes	Yes
Cultural					