

# Workshop notes

Natural hazards

Tuesday 21 October 2014

Workshop lead - Michael Day

## Attendees:

Jeremy Busck

Dragonfly Springs Wetland Sanctuary

Chris Richmond living waters

Sarah Ho

David Lourie, Forest and Bird

Louise Wilson, Federated Farmers

Fraser Campbell

Margaret Hicks

Ursuline Buckingham

Kaylee Wilson, Opus

Jacqui Hori-Hoult , NZTA

Laura Townchend, OPUS

## Regional council staff

Michael Day

Ben Lee

Michael Payne

## Session 1: Flood hazard risk

*Key questions for the discussion:*

- 1) *Do you think that greater earthworks restrictions are required in floodplains?*
- 2) *Views on the regional council managing materially damaged/destroyed buildings.*
- 3) *Are there any key aspects of regional flood hazard management that we've missed?*

## General comments:

- How has the Proposed RPS changed hazard management? Answer - more prescriptive than operative RPS - lot more direction to district councils. Better modelling and mapping and new national policy statements (such as the coastal policy statement) has enabled us to be more specific with regards to our 'high risk' areas for natural hazard risk.
- Subdivision, how does this relate? Primarily a district council function. Can regional plan give direction? District councils look at/have regard to flood mapping undertaken by NRC as well as the coastal hazard mapping done by NRC.

### **Views on greater earthwork restrictions in floodplains?:**

- There was a view that earthworks should be restricted in flood plains. Staff response - NRC's initial thoughts are 'yes' and we will be looking at this in the review.
- Subdivision has further increased susceptibility. New rules for earthworks in flood plains supported but should include some exceptions, for example to restore natural flood plains. Earthwork rules also don't account for changes proposed to restore wetlands.
- It was mentioned that the Proposed RPS (through flood hazard risk policy) flags an assessment of earth works on floodplains.
- There was a view that council should be discouraging development on floodplains because of the impact on neighbouring properties. Staff mentioned it is unlikely that a policy prohibiting development on flood plains or in a flood hazard zone is unlikely to pass the section 32 cost benefit test but policy allowing assessment of earthworks and the cumulative effects of earthworks would be OK.
- It was mentioned that earthworks are not the only issue on flood plains - structures like fences and walls are an issue as well.
- There was general support from the stakeholders for more controls (rules) on earthworks in floodplains.

### **Flood and coastal hazard mapping/modelling:**

- Does land use factor into models? Yes, you have default values. You then factor in land use and rainfall.
- When were the Priority Rivers flood hazard maps produced? Answer – most in 2012, so do not account of latest IPCC projections. Toby - latest (2014) coastal hazard (erosion) mapping has accounted for latest projections. Need to identify storm surge levels separately from high rainfall to avoid overestimating.
- Toby - if you overestimate the risk, there is a cost to the property owner.
- What is timeframe for regional coastal hazard mapping? Toby - coastal erosion mapping should be released before end of year and coastal inundation could be around the middle of next year. Toby, hope to release in one batch but limited to areas with lidar coverage. Flood mapping is happening concurrent to this.
- Margaret Hicks - a lot of river management plans need to be updated to factor in new IPCC projections on climate change.
- There was a suggestion that council could have a disclaimer for maps without lidar flood mapping? Toby responded that approximately 80 percent of the region is not covered by lidar so there probably isn't much point.
- Toby mentioned that erosion of cliffs etc. as a result of sea level rise has been taken into account in latest coastal hazard modelling.
- What about impermeable surface rules for district councils and associated storm water networks? Mapping does not include effects on storm water networks, district councils have been trying to map this themselves.

- A recent upgrade in the Whangarei portion of the model was to model a main storm water drain however do we model every drain? This is a conversation to be had between councils.
- Staff mentioned that there is currently a vacuum in standards for flood mapping at a national level.
- Question - does flood mapping take into account timing, for example tide timing? Toby, assumption factored in that the 2 yr ari high tide peak happens at same time as flood peak. In other words a worse case scenario. Needs to be viewed alongside coastal storm surge maps.
- Regarding the cost of Lidar data, Toby outlined in cost approximately \$ 600 per sq km. It was mentioned that it is inefficient if infrastructure providers (such as NZTA) and the regional council are both getting Lidar data for the same locations and that there are opportunities for these agencies to work together to benefit all parties. It was agreed that better coordination between agencies would be beneficial.
- There was a discussion around Tsunami risk, work needed to translate wave heights to run up areas on shore. Need lidar data. Most councils not yet in position to incorporate this mapping.
- It was mentioned that the Hutt River floodplain management plan used a 400 year return period design storm for modelling flood risk and maybe there some catchments in Northland should use greater than 100 year return period modelling.

### **Group discussion**

- It was mentioned that district councils should look to regional plans for guidance - regional plans should give that guidance. Staff mentioned that RPS gives that guidance and gave an overview of RPS provisions.
- Louise gave overview of consenting process and how district councils look to regional flood maps to inform their decision making.
- The priority river flood hazard maps were complimented, particularly the details they go into.
- It was queried where all the 'new' natural hazard data be housed? Council staff mentioned that the Proposed RPS promotes a regional natural hazard database – this is one option.
- It was mentioned that NZTA is showing good leadership in creating wetlands as part of their work.
- Water storage - silt traps and dams as a way of attenuating flood flow should be considered as part of the picture.
- The idea of a natural hazard 'offsetting' bank was raised – stakeholders were divided on whether it could work or not.

### **Stormwater and flood hazard risk**

- There was a discussion around structures in overland flow paths and it was mentioned that it's difficult to manage structures in an overland flow path if we have not identified/mapped the flow paths.
- It was also mentioned that it would therefore be difficult to enforce a permitted rule regarding no structures etc blocking overland flow paths.
- What could we put in regional plan to encourage people to not obstruct overland flow paths e.g. retaining walls, fences that don't necessarily require consent? Stuart - have a clear rule with enforceable standards/terms. FNDC has used consent notices.
- It was mentioned that the existing diversion of water in a floodplain rule is a bit hidden – 24.3.3 of RWSP – and council needs to draft this better to make it more obvious and enforceable.
- It was mentioned that more permeable surfaces and less impermeable will reduce flood risk. Most district councils have impermeable surface rules but the regional council could promulgate rules. Would need to make sure that it didn't clash/conflict with district council rules.
- Some stakeholders thought the regional centres need more permeable surfaces, former north shore city rules cited as a good example.

### **Gravel in rivers**

- In rawene, there are places where gravel has been accreting and there is a local use for that gravel on farm raceways. Fed Farmers supports an increased quantity for gravel extraction as a permitted activity (subject to standards/terms)
- There is a view that this should be subject to terms and conditions for water quality and for flow, speed etc.
- Commercial vs private use extraction? Would there be a maximum? Current permitted rule is for private use. Yes there would be a new maximum but unsure what that would be.

### **Views on the regional council managing materially damaged/destroyed buildings**

- Stakeholders thought that it could be a good idea but there were some concerns about potential overlaps with the Building Act and affordability issues (regarding insurance).
- It was mentioned that the ability to rebuild, elevate or move buildings will be an issue in some lower socioeconomic areas. Toby mentioned that in the past, there has been central government support to improve and retire buildings (in high hazard areas) and that this still happens occasionally (such as Kaeo).
- There was a view that materially damaged buildings should not be allowed to rebuild because flood risk etc will continue to get worse (as a result of climate change).
- There were also concerns about the impact on farm buildings like milking sheds and barns etc.
- There was a discussion about the applicability of the potential rule, discussion on Kaeo example, past floods and re-builds. Questions around how would this rule change the

issue. Staff response was that this would get around any existing use rights issues (as they do not apply to regional plans) and the regional council could require specific conditions of consent to reduce hazard risk.

- Staff mentioned that the processing of consents could be transferred back to district councils (the key factor would be ensuring that relevant rules are in the regional planning document).
- In some instances, Building Act does not apply, this rule would still apply because it is promulgated under the RMA.
- Would the rule apply to planned retreat? In theory yes - this could be used to promote retreat either horizontal or vertical (this would likely be a 'condition' of consent or something similar).
- Abandonment should also be an issue where there is nowhere to retreat to. It is easier to avoid subdivision and development than deal with mitigation strategies.
- There is some responsibility attributed to the subdivider, and damages have been sought in some cases.
- It was mentioned that property owners have expectations that councils have undertaken due diligence when it comes to subdivision and flood hazard risk.
- Margaret - courts have indicated that where councils have been negligent in approving subdivision they will see financial recompense for claims.
- It was mentioned that most subdivision applications come with engineers reports assessing hazard risk. However, in a lot of cases, they do not take a whole of catchment/cumulative effects approach (they only look at the site in isolation).
- It was mentioned that TA's have powers under RMA s106, which allow them to decline subdivision applications because of hazard risk.
- Changing climate and sea level rise could leave councils vulnerable to costs of abandonment and material damage.
- Difference between planned retreat and abandoning site. Lot easier to manage retreat if the site is undeveloped. Comes down to cost, buyer beware or cost for community to bear.
- Ohiwa spit erosion in eighties. Land and survey took responsibility for this, finding a new location following coastal erosion. But twenty years later the problem has begun to emerge.
- Assumption when SD issued with certificate of title, local government has done due diligence. Can understand why landowners might be upset.

## **Session 2: Coastal hazard risk**

*Key questions for the discussion:*

- 1) *Thoughts/views on RWSP more actively managing coastal hazards - coastal 'influence' zone?*
- 2) *Thoughts/views on RWSP managing hard protection structures?*
- 3) *Have we overlooked any aspect of regional coastal hazard management*

### **Soft protection structures:**

- Could mangroves be used as soft protection structures - yes.
- There is a view that salt marsh is better at controlling erosion than mangroves, it spreads quite quickly and is effective.
- There was a view from stakeholders that hard structures should be the last resort. Staff outlined that the NZ Coastal Policy Statement now requires councils to 'discourage' hard protection structures and prioritise other protection measures.
- Registering soft works so they get a benefit? Possibly, what are the adverse effects of what we are promoting though...would depend on scale and context. E.g. Beach renourishment vs wetlands restoration. The former maybe should require a consent because it would normally involve dredging from the CMA.
- Staff mentioned that the RPS policy on soft v hard protection structures applies region wide (not just in the coastal marine area) and will need to be translated into regionally applicable rules
- It was mentioned that it could/should possibly be a 'permitted' activity to create or enhance wetlands or undertake earthworks to create wetlands for hazard mitigation purposes.

### **Coastal influence zone:**

- Some stakeholders agreed with this concept as the coastal plan doesn't cover area inland of MHWS, but areas of coastal hazard risk extends inland.
- What is the relationship between mapped coastal environment and the potential coastal margin zone? A CMZ would probably only be the area of 'active' coastal influence for coastal hazards – maybe upto 100m inland but yet to be scoped out. The CMZ could be a different length (inland) depending on whether the coast was an eastuary, rocky cliff coast or open coast etc.

### **Coastal hazards and climate change:**

- There is a view that methane from the arctic (if the permafrost melts) is likely to have big impact on climate - sea level rise is a given.
- Staff mentioned that around the country, councils are generally using 0.7 to 1m as a base figure for sea level rise. The question is whether we adjust the sea level rise projections gradually or in big steps. Indications so far from our infrastructure providers are that they would prefer an incremental rise.
- There is a view that we should be looking at infrastructure that is vulnerable and planning to relocate that infrastructure where it is threatened. This is happening now but there are some physical restrictions in some cases (such as when roads are against cliffs) but it is possible in other areas and planning for that is happening now. NZTA and councils across the country are thinking about this right now.
- A lot of the climate change projections are long time scales and some of the assets will need replacing between now and then (because assets/infrastructure only have a certain

life), which gives us time to relocate and re design some infrastrucutre in the future (when it comes time to replace them).

- Toby outlined that Northland's climate change projections for the coastal hazard mapping is based on 'latest' MfE national guidance on climate change.
- Margaret H mentioned that Michael Schlesinger? of Victoria University has bee quite critical of NZ's recent response to climate change - Margaret questioned how relevant MfE's guidance is now.
- Toby outlined that NRC's latest coastal hazard mapping exercise has taken into account the 'lessons learnt' from other councils around the country who have recently undertakin coastal hazard mapping exercises.
- It was stressed to staff that accurate mapping of CH 1&2 zones is important to avoid unnecessary development costs – staff responded that the new (2014) coastal hazard mapping is more accurate than previous assessments. The methodology uses best national and international guidelines and the assessments are based on lidar and onsite surveying where lidar is not available.
- Is sea level rise a hazard? No - it is a 'driver' for hazards and can lead to an increase in risk rather than being a hazard in its own right.
- It was commented that if we use the area currently experiencing coastal hazards it would be a lot smaller than if we factor in sea level rise.

#### **Views on single regional planning document:**

- General support amongst the room for this concept
- Stakeholders would like to see RWSP and RCP combined. Examples were given of issues with the artificial boundary between the two plans.
- Stakeholders stressed that layout is important. Horizons style plan is to be avoided - Auckland plan concept is good but it can be a bit hard to find what you need (especially in a hurry).
- Would it be set up by activity? Staff replied that no decision has yet to be made whether council will move towards a single regional planning document but if we did then grouping chapters by 'activity' could definitely be one way to approach it.
- Stakeholders mentioned that having good cross references would be useful.
- There was a view that 'traditional' style paper plans are on the way out and that council would need to design it primarily as an E book as that's how it would be used the most. It would require good search functions and hyperlinks.
- Staff mentioned that whatever format the future plan(s) take, lots of the administrative detail and duplication between plans will be removed so we are likely to see more streamlines plans in the future.
- It was mentioned that linking maps and rules is really useful and that the Proposed Auckland unitary plan is a good example of this.

**General comments:**

- There was a view that councils should be protecting buildings through design (such as by allowing buildings to 'build in' protections measures) rather than focusing on land use restrictions – this would allow innovation.
- Question - when identifying the coastal environment can councils use coastal vegetation types as a guide to identify it? Answer - that is one component council has used – see Policy 1 of the NZCPS for factors that determine the coastal environment.