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Sea Level Rise and Local Government
policy gaps and opportunities

Abstract

Local authorities in New Zealand have a significant responsibility to their communities for managing the effects of sea level rise due to climate change. However, while most local authorities are well engaged and have a clear understanding of issues arising from sea level rise, 73% report that their organisations do not receive enough direction from central government on how to respond. Territorial authorities in particular are seeking a stronger lead, such as legislative reform, clearer and more directive policy, clarification of responsibilities, or a national environmental standard on coastal hazard management. Central government direction is seen as critical to achieve a nationally consistent and equitable approach for coastal communities. This article summarises how this could be addressed, and identifies key challenges facing local government in adapting to sea level rise and climate change.

Keywords sea level rise, local authorities, New Zealand, policy challenges

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New Zealand is already the third-most vulnerable country to natural disasters as a percentage of GDP (Earthquake Commission, 2017, p.16) before climate change impacts are taken into account. Sea level rise due to climate change will increase this vulnerability: even a small amount of sea level rise will substantially increase damage from flooding, storm surges and landslips (Parliamentary Commissioner for the Environment, 2015). Some locations have already become uninhabitable, due to either sudden-onset disasters, or a series of smaller events that accumulate to large losses, with coastal residents forced to relocate.

Responding to climate change is a new and evolving area for local government. Our work has demonstrated that managing the broad range of complex issues required to respond to the effects of sea level rise can be incredibly challenging, and high-level direction on key issues would support local authorities to make the significant decisions they face.

Work undertaken to inform this article includes research, engagement and policy analysis commissioned by the Deep South National Science Challenge Impacts and Implications research programme which was undertaken over a two-year period, with findings tested in a survey of local authorities with coastal interface (territorial authorities) or whose authority included coastal marine area (regional and unitary councils).[1] The survey identified differing

levels of preparedness between regional and unitary councils and territorial authorities, with the former generally having more targeted resourcing and specific expertise.[2] While regional and unitary councils have a primarily regional planning and environmental role, territorial authorities own most of the assets that will be affected, manage building and development at the coast, and are generally more closely connected to their communities of interest.

Central government direction

The most prominent message from our work is the desire of local authorities for more direction and leadership from central government to support local government to respond to the effects of climate change and sea level rise, and in particular:

- clear directives from central government to improve national consistency and legal certainty; and
- regularly updated and authoritative scientific information to inform development of appropriate coastal zoning policies and plans.

Guidance provided by the Ministry for the Environment (Ministry for the Environment, 2018) and by the Department of Conservation (Department of Conservation, 2017) is utilised and valued by local government; the perceived gap is in relation to clearer and more directive policy to improve national consistency and clarify responsibilities, potentially through legislative reform, a national environmental standard on coastal hazard management, and/or other policy levers. Most of our survey respondents considered that central government intervention should be already happening and should at least begin immediately. One said:[3]

> [T]he apparent absence, to date, of central government in leading a vital discussion around the cost shares – or in this context, the broader issue of how responsibility for addressing the issue should be shared – associated with [how] climate change will play out, in practice, is a critical failure on the part of the government.

While rights of appeal are a fundamental check and balance on local authorities in the exercise of decision-making powers, in Australia it has been found that fear of liability is a principal reason for local authorities avoiding action on climate change (see Peel and Osofsky, 2015; Australian Productivity Commission, 2012, pp.166–9; Iorns and Watts, 2019, pp.37–40). National direction in key areas would address this, if only by clarifying best practice and thus the standards that councils should be upholding, thereby leaving less room for uncertainty and challenge.

The most common adaptation mechanisms identified in our research were those which seek to reduce future risk by avoiding further development in areas of coastal hazard risk.

Community engagement

Sea level rise and its impacts create a significant additional engagement burden for councils. One council commented:

> Staff and elected members [are in the] process of deciding how to have courageous conversations about retreat options with vulnerable communities once appropriate risk assessments and mapping has been completed.

Determining how to respond to sea level rise and working alongside communities that are directly affected requires more, and different, engagement than local authorities may be used to undertaking; it is resource intensive and requires a different skill set from a local authority's 'business as usual' consultation and information dissemination. Territorial authorities are not currently resourced or equipped to undertake this engagement.

Local authorities reported undertaking active consultation (rather than engagement) through public meetings, submissions and education, along with passive consultation (social media, newspapers, mail drops, online databases, mapping and public reports). Only a small number reported being in the process of designing and implementing strategic community adaptation/management plans, which will involve targeted consultation with stakeholders (James, Gerard and Iorns, 2019).

Local authorities reported that the most common requests from their communities were for hard protection structures and provision of hazard information (ibid., p.22). The expectation for hard protection structures puts local authorities in a difficult position. On the one hand, the New Zealand Coastal Policy Statement directs local authorities to avoid hard protection structures. On the other, public expectations are defensive of private property rights and uses.

Although many local authorities are operating on a reactive basis, some have strategies or plan provisions in place which assist with responding to community demands, such as policies to only protect public assets and not private land. The most common adaptation mechanisms identified in our research were those which seek to reduce future risk by avoiding further development in areas of coastal hazard risk (ibid., p.23).

Funding for increased costs

All local authorities involved in our research had coastal land within their boundaries, and it is anticipated that all will face increased infrastructure costs due to sea level rise. However, only 73% reported that their organisations were facing increased costs (ibid., p.25). While some participants considered they could meet these costs through general and/or targeted rates, and others had disaster relief funds or had already budgeted for increased infrastructure costs, many participants were unsure of what the costs

would be and how they would be met, and a significant proportion called for a national climate change adaptation fund that they could draw on to meet these costs (ibid., p.8). A territorial authority responded to the question of how they would meet increased costs as follows:

> We currently have no idea … we are doing our best with current budgets, and … working closely with [the regional council] to help get the information we require to accurately assess risks to communities and large rural areas which are the economic backbone of this district … Unless there is a central government fund or subsidy we will have to prioritise projects and communities [and as] we are a district of mainly lower socio economic areas … we will be facing a mass exodus of low-lying at-risk communities to other locations which the council cannot afford to help financially.

Clearer cost apportionment

There are significant differences as to what local authorities consider to be the most effective and equitable methods of allocating costs relating to the effects of sea level rise. While most agreed that the owner/operator should take responsibility for infrastructure costs, a third of the organisations we surveyed considered that central government should assist with infrastructure funding (James, Gerard and Iorns, 2019, p.25); for example:

> New Zealand's cities and towns have traditionally been built on government subsidies for infrastructure. It is unlikely that local government and local communities will have the financial capacity to fund future infrastructure changes required because of sea-level rise and other climate change-related factors and continue to provide current levels of service.

Similar views were held for the costs of coastal protection works, which were seen as primarily the responsibility of the beneficiaries of the works, but with assistance from local and central government depending on the level of public benefit (ibid., p.26). Managed retreat was more divisive, with some local authorities considering that the entire cost should be met by property owners and insurance companies, and others suggesting the costs should be shared between owners and local and central government (ibid.).

> … legal barriers make it more difficult for [councils] to respond to the effects of sea level rise …

Lack of a consistent approach to cost allocation could lead to inconsistencies between districts, lack of clarity for communities, and an inability to plan ahead effectively due to the need to assess each situation as it arises. At a national level, this could also lead to inequities for communities, and increased risk of opposition and legal pressure. National direction on the options and responses available in different situations, and preferably on the most suitable for particular situations, would assist local government adaptation by decreasing challenges that are due to uncertainty.

Consistent processes for climate adaptation decision making for Māori land

There are significant differences in approach to climate adaptation decision making for Māori land. While 55% of respondents to our survey were aware of specific loss or damage to Māori coastal land occurring in their district (ibid., p.9), they did not identify any targeted guidelines, processes or policies for climate adaptation measures appropriate for that land either in place or under development. For example:

> We focus on the risk and options to manage/mitigate in a particular area, and Iwi are part of those conversations.

This is consistent with a lack of awareness of wider Treaty of Waitangi duties, as discussed in another of our reports (Iorns, 2019).

Specialist knowledge

A high level of specialist knowledge and scientific expertise is required to manage the effects of sea level rise. At least some of this may be employed or contained within larger councils, but the level of specialisation more often requires outside consultants. For example:

> We have in-house flood modelling expertise and have engaged external consultant support for sea water inundation, coastal erosion and ground water changes in relation to sea level rise. We have also recently engaged some external planning support with a special interest in natural hazards management. We are currently seeking a more detailed level of analysis for sea water inundation to provide a better basis for planning provisions.

Territorial authorities are not all readily able to access the level of specialist knowledge and advice required. Resourcing emerged as a significant issue from different perspectives: staffing structures in smaller local authorities do not support specialised resourcing; and while access to scientific knowledge and expertise can be addressed through partnerships between territorial authorities and regional councils (as the latter often provide specialised support and advice to the former), the expertise required by territorial authorities with significant coastline to appropriately manage the effects of sea level rise warrants more targeted resourcing (James, Gerard and Iorns, 2019, p.9).

Preventing new development

Councils have a range of tools to prevent and control new development in coastal hazard zones. These exist under both the Resource Management Act 1991 (RMA) (in relation to planning and to subdivision and resource consents) and the Building Act 2004 (in relation to the issuance of building consents).[4]

There is a need for better guidance for councils to enable them to justify restrictions being adopted in their areas:

> Planning tools are considered by officers to be a core mechanism for responding to climate change by limiting new risks from new developments, and starting to provide the basis for managing staged retreat over the longer period. The district planning process (and other similar mechanisms) needs to be able to carefully consider what areas are suitable for development through the lens of what science is suggesting is likely to happen in the long term. We are some way away from this and as a result our current planning strategies … arguably don't give enough consideration for climate change.

Such guidance could be by way of national environmental standards and/or the type of non-binding guidance currently provided by the Ministry for the Environment (2018) and the Department of Conservation (2017).

Some law reform could also help, such as by making it easier to adopt prohibited activity status for certain developments on the coast (e.g., section 32 of the RMA). A national policy statement on hazards and risk could help by providing higher-level rules and standards for decision making. There should also be law reform work done on compensation provisions, including section 85 of the RMA. This would help local authorities to avoid being subject to compensation litigation.

There is room for national guidance on specific topics, such as how local authorities should best identify relevant risks to be placed on LIMs and/or PIMs (land/project information memorandums), and how to better utilise particular tools, such as consent conditions and liability covenants. Local authorities are currently left to figure it out on their own, which is a more expensive and time-consuming process than if they were provided with more comprehensive decision-making guidance. Mandatory spatial planning for the future has been suggested, but this would also be unfair to impose without more guidance on how to implement it (i.e. more than the Ministry for the Environment DAPP guidance that already exists).

There is currently no legal mechanism specifically designed to allow managed retreat from coastal hazards

Managed retreat and existing use rights

The option of managed retreat requires a more coordinated approach, ideally supported by legislation, to enable this to be utilised by local authorities where appropriate. There is currently no legal mechanism specifically designed to allow managed retreat from coastal hazards (Iorns and Watts, 2019, p.182).

> [I]n the long term there are likely to be few viable adaptation responses in some areas other than managed retreat – this will be extremely disturbing to many in these areas and funding such responses will be beyond the community's ability to pay. Local government will be in the invidious position of having to present such scenarios to their constituents without necessarily having a palatable or even practicable solution.

The lack of ability for local authorities to effectively extinguish existing use rights is a key barrier to implementing managed retreat. At a territorial level, the general rule is that lawfully established land uses continue to be lawful, even if the activities contravene subsequently modified plan rules (Resource Management Act 1991, s10).[5] This rule also allows the land users to re-establish activities that have been discontinued for 12 months or less if they do not increase the degree to which they offend the plan rules (consistent with the classic conception of real property rights) (Resource Management Act 1991, s10(2)). The starting point, therefore, is that a high threshold is required to justify an infringement of landowner rights.

In the context of proactive adaptation to sea level rise, 'perpetual' land use rights are problematic. Sea level rise is an inherently dynamic phenomenon. Retreating shorelines and associated coastal hazard risks are forcing local authorities to reconsider the appropriateness of in situ development.

Although territorial authorities cannot extinguish existing use rights, section 10(4)(a) of the RMA appears to allow a regional council to do so through changing regional plan rules. This may be a possible mechanism to facilitate managed retreat. However, it is noted that this may not be a valid interpretation of the law, and legal clarity on how councils may better undertake this is essential (Iorns and Watts, 2019, pp.185–91).

Section 128 of the RMA allows a consent authority to review conditions of an existing consent in a variety of circumstances. We considered if this could be used to support managed retreat, and while this may be possible in theory, it is unlikely to be available in practice (ibid., pp.191–3).

We therefore suggest that legal methods to achieve managed retreat be given more attention by central government. Our other reports provide more information on the existing legal methods, gaps and barriers in relation to adaptation, and possible law reform needed (see Iorns and Watts, 2019; Iorns, 2018, 2019; James, Gerard and Iorns, 2019).

Adaptive response ability

Two-thirds of local authorities in our survey considered that legal barriers make it more difficult for their organisation to respond to the effects of sea level rise (James, Gerard and Iorns, 2019, p.30). This included the issues of preventing new development, facilitating managed retreat and dealing with existing use rights, as discussed above. Local authorities also consider that the Building Act 2004 and the RMA create two sets of inconsistent standards, with the Building Act allowing

landowners to develop in high-risk areas of existing titles with minimal deterrence, and the RMA creating overly litigious processes by conferring rights of appeal (ibid., p.31). The Local Government Act 2002 was also cited as making service withdrawal difficult, even when it is required for the purposes of adaptation to sea level rise (ibid., p.32).

These issues led to a call for stronger decision-making powers for local authorities, such as the ability to establish red zones and make non-contestable decisions in certain circumstances (ibid., p.29).

These legal barriers add to the political barriers and result in desires to leave the hard decisions to someone else, later:

> Our political cycle makes it very easy for decision makers to kick the can down the road. Although the trend (climate change) seems apparent, the likelihood of something cataclysmic occurring in the next three years remains small, so [they] can avoid and ignore the need for a tough decision.

Conclusion

While local government responsiveness to the effects of sea level rise is improving, there is still considerable variability between organisations, particularly in assessment of risk exposure, level of expertise and maturity of thinking within organisations, and practical responses.

> We recognise the ongoing effects of climate change will vary considerably across New Zealand, as will different communities' levels of understanding, attitudes towards the climate change and preferred courses of action. … For any traction to be achieved central government must provide guidance, incentives, and tangible resources for local government to start implementing climate change adaptation.

A key finding in our larger paper, *Adaptation to Sea-level Rise: local government liability issues*, is that central government ought to cover a greater share of the costs of information creation and dissemination because of the clear resource constraints upon local government (Iorns and Watts, 2019, p.9). We also propose specific solutions for additional guidance on precise mechanisms for adaptation, such as the use of activity status, consent conditions and hazard information provision on LIMs. Our suggested amendments to better enable the adoption of adaptation policies are:

- amendment of section 32 of the RMA to provide an explicit direction to apply the precautionary principle, and to consider altering the 'most appropriate' standard for evaluating activity status;
- amendment of section 128 of the RMA to better enable review of consent conditions;
- greater clarity on potential council liability and/or on their obligations, whether in relation to the use of consent conditions, or via a liability shield akin to that in the Building Act 2004;
- clarification of compensation for the extinguishment of existing use rights in the adaptation context;
- a fundamental rethink of the protections given to existing use rights and compensation for their impairment and extinguishment.

Other amendments needed are to the Building Act 2004 and standards relating to natural hazards. And further research is needed on mechanisms for managed retreat, on the meaning of 'significant risks' in section 6(h) of the RMA, and on liability under the Building Act.

If the key issues of community engagement, funding, specialist resourcing, climate adaptation decision making for Māori land, cost apportionment and managed retreat are addressed at a national level, local authorities would be much better placed to manage the effects of sea level rise at a local level.

1 Sixty-three regional and unitary councils and territorial authorities with authority adjoining or including the coastal marine area were invited to be part of the survey. Eleven opted out or did not respond, and of the remaining 52, 33 responses were received, from seven regional and three unitary councils and 23 territorial authorities.
2 For a description of the survey and its findings, see James, Gerard and Iorns, 2019.
3 The quotes in this article are obtained from the survey responses. They are not attributed to individual councils for reasons of confidentiality.
4 These are discussed in detail in one of the other reports undertaken for this Deep South National Science Challenge work: see Iorns and Watts, 2019.
5 See Iorns and Watts, 2019, pp.182–93 for a discussion of the legal implications of this section.

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