

# “The Order is Rapidly Fading.”<sup>1</sup> Can Property Survive Climate Change?

Mick Strack

*National School of Surveying, University of Otago, Dunedin 9054, New Zealand*

**Abstract:** This paper considers the attitudinal and legal responses that must be faced when land is no longer suitable for occupation. Environmental changes (for example from climate change effects) will require a rethink about how we use and occupy land. Local and central governments have a large stake in hazard management; local government guides and approves development, identifies hazard zones, and significantly is usually pressured to provide compensation for property loss and damage. But proprietors are increasingly called upon to accept the impermanence of some land and therefore the corresponding vulnerability of their property rights. This paper primarily references New Zealand examples of land subject to climate hazard and various responses. It concludes that there is a disconnect between the expectations of permanence of property and the evidence of the impermanence of land.

**Key Words:** Property, managed retreat, climate change, compensation

## 1. Introduction

Access to land is essential to accommodate public and individual life: we all need land on which to live, work and play. The right to land can be provided for in many different ways: by allocating private freehold title, by providing lease and rental arrangements, by assigning public land for designated uses for occupation, production, trade and conservation. Land as property is always likely to be one of our major investments and indeed, the right to property is often claimed as being a fundamental human right. There is an expectation, partly because of the support that central governments provide (for example in the guarantee of title, support of a land register and economic support of the land market) for security of title, and that investment in land is a secure investment. But like any other ‘investment’, property cannot always be a one-way profit providing investment. Sometimes land values drop significantly; when local resources are depleted (production from a mine stops), when major employment opportunities collapse (a factory closes down), when the social

environment deteriorates (a gang moves in next door), when a natural disaster strikes (an earthquake makes the land too unstable for construction), or when land is lost by inundation or washed away by the sea. In all these situations land value drops and there may be requests for compensation. Recent evidence shows that compensation has often been offered for natural disaster effects. For example, subsequent to the Christchurch earthquakes and the instability caused by liquefaction, state compensation packages were arranged to allow for the re-settlement of affected residents. But normally no compensation is offered for socially or economically induced land value losses. Furthermore, private insurance compensation for natural hazards (floods, land slips) may be increasingly doubtful as land becomes increasingly vulnerable to certain hazards. Does this introduce concerns about equity?

Despite many denials, we are well into an era of climate change. The evidence includes the increased incidence of storm events, some regions becoming wetter, some dryer, and an increasingly dynamic coastline — mostly resulting in coastal land being eroded by the sea

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**Corresponding author:** Mick Strack, Dr., Senior lecturer, research fields: Māori land issues, sustainable land use, and water, river and sea rights and boundary issues.

(sea level rise and storm damage). Land is increasingly at risk of big changes in character — washing into the sea, being flooded, being denuded. Land is inherently unstable — that is why we have such remarkable and diverse landscapes. However, in the past the changes to the land happened in mostly slow increments — geological processes of uplift and erosion. This has lulled us into a false expectation that the land is stable and we can expect to be able to settle on it indefinitely. Now that we see more rapid changes, we are being confronted with the concept that land is impermanent and unstable and property rights are similarly impermanent.

Our current land laws have evolved since and during the industrial and capitalist era, providing for the concept of land as property; as a market commodity to be used, traded, held exclusively and securely. Property is so much the basis for the capitalist economy that any threat to property is a threat to economic security and stability. Indeed, it is often claimed that perhaps the major role of government is the protection of private property.<sup>1</sup> In spite of some expectation that we understand our history, we tend to be remarkably short-term thinkers. We are confident with the status quo, we expect things to stay as they are. And, significantly, with regard to property, we expect that property values will continue to rise. The old market analysis maxims of supply and demand are regularly trotted out — “they are not making any more of it’ and ‘the population is always growing” — to persuade us to expect that our “investment” in land is secure, and anyway, the government will always protect our property. Similarly, we expect that the rules about landownership are stable, that what we have been allowed to occupy and use in the past will continue to be what we can occupy and use in the future.

We are now in an era when we are experiencing

conflict between the stability of property rights against the instability of land. It is here that we must prepare for the changing of the established order of things. A series of recent natural hazard events in New Zealand and around the world have served to focus attention on the vulnerability of many of our settlements.

## 2. Vulnerable Land

A significant majority of the global population live in close proximity to the sea. Coastal property is highly desirable and demand for coastal land means that coastal property prices continue to rise (that, at least, is the case in New Zealand and many other western countries). But this defies logic. The evidence is clear and plain: coastal land is vulnerable to loss and inundation and purchase, use and occupation are at the buyer’s risk.

But it is not just on the coast that vulnerable land is settled on and occupied. Many cities are built on flood plains which often provide easy development areas and building sites. In the past, a common response to wetlands has been to look at that land as wasteland that could be used productively with appropriate intervention and management. It is also flat and often relatively easily drained, by channelling a waterway and perhaps building up some levees. In New Zealand, Christchurch is built on drained wetland. It has also, rather unexpectedly, suffered from a devastating earthquake which has resulted in many properties being red-zoned as inappropriate for continued occupation largely because of liquefaction of the ground surface.<sup>2</sup> Similarly South Dunedin is built on a coastal wetland where the existing water-table is within centimetres of the surface, and this land has been identified as the most at risk urban area in New Zealand (PCE 2015) [1]. It is worth noting that for Dunedin, because the city is constrained between harbour and the hills, the only

<sup>1</sup> Locke (1690) says: the purpose of government is to protect the life, liberty, and property of the people

<sup>2</sup> The Christchurch earthquakes resulted in significant liquefaction of land surface which further resulted in significant shallow land surface movements — buildings, fences and survey

reference marks often shifted in irregular ways. New legislation was required to recognize that boundaries there are not held by a geodetic coordinate, but by the remaining evidence on the ground. Sometimes significant distortions and shifts of boundaries occurred because of the ground movement.

vacant and easily developable land available for relocation and expansion of the urban area is the Taieri Plains which is similarly vulnerable to flooding.

More coastal areas subject to multiple frequent hazards including flooding and landslips are being identified and will need to respond. In the township of Matata, the local authority is applying for 34 properties’ land use rights to be revoked, because it says they are at risk of debris flows (RadioNZ 2017) [2]. The designation would force residents to abandon their homes and land. Although the local authority has no legal obligation, it is offering compensation, but reportedly at only around one half of what the properties were worth before the land was identified as at risk. As may be expected, residents are not happy: 1) they do not want to leave their community and their location by the sea; 2) they express outrage at the compensation package; and 3) they claim they were given consent to built by the council and it should be the council’s problem not the residents’.

It will be interesting to see how this policy will play out. It will probably need to be adjudicated by the Courts and the property laws will be well tested there. Otherwise central government will need to intervene with some nationally implemented and supported policy to deal with a multitude of similar examples around the country.

Large stretches of coastline are now significantly modified by development. Dunes, estuaries, wetlands and tidal lagoons have been displaced or their purpose has been disrupted to the extent that they no longer perform the ecosystem services that they were created for; to provide a natural catchment and barrier at the sea/land interface. From an environmental point of view, it makes sense to restore these natural coastal zones and defences. But it makes economic sense too; a recent report suggests that coastal wetlands provide very significant protection values quantified in millions of dollars (Narayan 2017).

If we were to prioritise ecosystems rather than the economy then we would be retreating from vulnerable coastal zones to restore natural defences and allow the coastal processes to take their course even though that may mean a long period of land erosion and shoreline retreat. But even from an economic point of view it must make sense to pay for a proactive response now, rather than wait for very significant repair bills.<sup>3</sup>

However the policy of managed retreat is, and is always likely to be, contentious. The assurances and protections that attach to a fee simple title in New Zealand suggest that title to land is forever. “Fee simple property tenure is probably the largest barrier to implementation of managed retreat. This is because it involves an expectation of permanent use of the titles. Unfortunately, the underlying physical land may not be permanent. This problem is compounded by the high and increasing value of coastal property” (Turbott, 2006;2).

### 3. Legal Protection of Property

Unsurprisingly, governments (including local governments which have a strong interest in property, land use and land values) are reluctant to act against the interests of personal investment in land. “Balancing the public interest against the realm of private property rights, ... is difficult terrain.” (O’Donnell & Gates 2013;228). When claims are brought to court for a resolution, an opportunity then exists for a further investigation about how much a property right can be defended. Diverging views are asserted and guidance can be provided about some uncertain legal interpretations. A significant case (*Falkner v GDC*) allowed for a discussion about the common law right to protect property, a Crown duty to protect property and the Crown’s legislative power to override the common law protections. In this case the court accepted that the statutory planning regime and district policies allowed for abandoning coastal defences in favour of the

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<sup>3</sup> At the time of writing, an estimate for the cost of Hurricane Harvey in Houston was around \$190bn.

legitimate planning policy of managed retreat. However, often the matter does not stop there. Well resourced coastal land proprietors continue to apply pressure on local councils to continue engineered protection works, and as development proceeds, demands for protection become more insistent.

Councils and planners are under pressure to consent to more development of the coastal land and current statutory and policy guidance and some rules in the district plans do little to restrict future development. Coastal property owners have a valuable investment to protect and they tend to defend their rights more assertively. Litigation to protect private property illustrates "deeper, intuitive and psychological sense of what private property means to those who hold it" (O'Donnell & Gates 2013;232). Proprietors have often been successful in the courts in overriding sensible and justifiable local authority planning based on enhancing the natural environment or supporting public rights. They assert their private property rights: their supposed freedom to do what they wish on their own land; the freedom from local authority intervention and regulation. On the other hand, the interests of the public and the environment often do not attract strong advocacy defenders. Public interest groups have to be very well resourced to fight court cases brought by well resourced, skilled and professional proprietors defending their high value private interests.

For example, an appeal to the Environment Court (*ORC v DCC* 2010) allowed consent for a dwelling house on coastal land that was on a flood plain and was occasionally inundated by the sea, and would likely be more so in the future. The grounds for the decision were that proprietors should be able to take responsibility for their own decisions about building in hazard zones. "There comes a point where a consent authority should not be paternalistic but leave people to be responsible for themselves, provided they do not place the moral hazard of things going wrong on other people" (para2).

A report to the Ministry for the Environment warns that "coastal development and global warming are on

an eventual collision course" and that "managed retreat and adaptation are the only reasonable long-term options" (Bell et al. 2001;viii). Regional councils have also prepared documentation (Turbott 2008) to assist the planning for coastal erosion and particularly the issues arising from implementing managed retreat. Many local authorities have implemented policies to abandon hard coastal defences and implement a policy of managed retreat — allowing land to be lost to the sea and requiring property owners to retreat from the coast. But such a policy is strongly objected to by private owners. It is unlikely that managed retreat will gain any headway if left to resistant private land owners, especially those who have considerable economic, professional and political clout. Central government would be reluctant to intervene in local matters and, as long as local government provides an alternative to the strict implementation of managed retreat, there is little pressure on government to become directly involved with coastal investment and management.

The policy of managed retreat must be made ubiquitous — expecting voluntary or forced relocation as the threat of coastal damage or inundation approaches. "[I]f society wants to retain its natural shorelines, then governments will have to induce property owners to yield their land to the sea" (Titus 1998;1308). However, from a political and pragmatic point of view, it will be difficult to require property owners to relinquish their rights. As Coutts has observed, "the result of planning is likely to be 'democratic' in that it imposes the limits that are acceptable to society at large rather than those that are necessary for wise management of the resources" (Coutts 1989;314).

#### 4. Responses

If coastal storm damage occurs as a result of unforeseen and chance events of long return period, then property damage can often be restored; the relatively high cleanup and repair costs can generally be funded by normal insurance cover. But it is clear that the future climate change scenario includes sea-level

rise, warmer seas and more frequent storm events of shorter return periods. Worst case scenarios of the past will be commonplace in the future. Insurance cover is bound to be less available. Inability to insure will provide perhaps the strongest motivation for coastal property owners to withdraw from hazard zones. The homes in these areas will probably first become uninsurable and then uninhabitable, Commissioner for the Environment says: “It will be a slowly unfolding red zone” (PCE 2015).

In New Zealand, the Earthquake Commission (EQC) was established as a public and compulsory insurance scheme (compulsory, in that it required a levy to be added to all private insurance premiums) to compensate private property owners for property loss arising from earthquakes and other natural disasters. This cover provides for damage due to the random events of natural disasters that are beyond the power of individuals to anticipate or plan for. Premiums are paid alongside private insurance premiums, so qualification for compensation depends on having adequate normal household insurance. This has allowed for a relatively orderly programme of payouts to proprietors affected by the 2010 Christchurch earthquakes, but it does not cover coastal erosion.

The Parliamentary Commissioner for the Environment (PCE 2015) reported that a similar scheme could be established and funded by government to cover the loss of coastal property. There is some logic to this, in that the natural consequences of all sorts of disaster are unforeseen. On the other hand, the consequences of sea level rise have been observed and warned about for several decades, and the slow progression of effects provides time for occupiers of the coastal zone to withdraw. Also, the protection of a state guarantee or compensation, contrary to policy purpose, is likely to encourage more speculative purchases, inappropriate development and a sense of economic security when land security is absent.

Financial incentives are sometimes the most immediate and effective tools to influence land

purchase decisions. If insurance cover and bank loans are not available on vulnerable land then it is unlikely that that land will be in high demand for settlement. Purchase prices may more effectively represent the short term occupation possibilities, control prices and reduce speculation. All these will reduce the demands for government compensation when property is lost to erosion, submerged under water, too unstable for housing and no longer habitable. The purpose of insurance is to provide cover for random, unpredictable, uncertain events, and the general philosophy is that risks to an individual can be spread over the whole population such that insurance companies accept the losses (or payouts) in one area by spreading the income from premiums across a wider community. So for example, a significant flood event may be compensated on the basis of existing insurance policies, but insurance companies will reassess risks after each event and then may reach a point when they will withdraw cover. So when a 500 year flood event repeats in successive years and all predictions suggest that the hazard will increase, then the market is surely signaling a need to retreat. Perhaps a prudent owner will retreat sooner rather than later and avoid the hazard rather than needing to be evacuated later. On the other hand, property ownership is not solely an economic proposition; property owners often have a strong emotional attachment to place and community. In other words, there are strong forces pulling in opposite directions. Property does not always lend itself to rational decisions.

Sea Level Rise and flooding are becoming predictable and certain (only the timing is uncertain). Even the recent flooding in Houston, Tx was, if not predicted, at least warned about. If people will not hear the environmental signals, perhaps it is up to the insurance companies to provide strong economic signals, including making premiums unaffordable or non-viable, increasing claims excesses, and eventually withdrawing cover for such certain events as sea level rise.

Banks also play a powerful role in the property market, often influenced by government policies which set the criteria for how banks decide who to lend to, what interest rates can be charged, and what deposits are required. But banks should be more aware of the (in)security of the interest they acquire in taking on a mortgage. Banks could choose to promote local policies of planned retreat by not lending on land that is identified as retreat land.

The policy of managed or planned retreat is becoming mainstream in the commentaries about how local councils should respond to the threat of coastal erosion. The alternatives: engineered protection works (sea walls, revetments, groynes and artificial reefs) are massively expensive, proving to be only short term solutions, and they disrupt coastal processes and degrade the natural character of the coastal environment. The main stumbling block to actual implementation of managed retreat is the demand for compensation that property owners call for and claim as a fair and equitable response to their dislocation and loss of their investment/asset – their home.

## 5. Compensation and Betterment

Calls for compensation for land that can no longer be occupied or used is a classic example of privatising the profits and socialising the costs: land owners claiming all the increases in land value (even though much of that added value is created by local government zoning decisions) but seek publically funded compensation for lost value. "The progress of society created these values, the owners of the land received them" (Wexler 1973).

Planning laws in New Zealand have never been able to effectively implement a way to capture the value of up-zoning for the benefit of the community or local authority.<sup>4</sup> The concept of betterment and detriment recognizes that the value of land is very significantly affected by planning decisions and land-zoning

changes; in other words, what you are allowed to do on your own land. In New Zealand the added value of up-zoning is exclusively captured by private land owners. This is illustrated very obviously in cities such as Auckland, which has been subject to strong bull market in property<sup>5</sup> where large areas of land both within the urban limit and on the periphery are held, unused and undeveloped, in anticipation of value increases from extreme demand and/or upzoning. Land adjoining urban growth areas is held for speculative purposes (land banking) — often without using the land for production, but waiting for the capital gains which accrue when that land is opened up for development by planning decisions. A more logical and equitable response would see that the added value of up-zoning is returned to the community/local authority (Adams 2015).

The equity of having the land value increases and decreases accounted for within local authority budgets is obvious. John Stuart Mill explains:

Suppose that there is a kind of income which constantly tends to increase, without any exertion or sacrifice on the part of the owners: ... In such a case it would be no violation of the principles on which private property is grounded, if the state should appropriate this increase of wealth, or part of it, as it arises. This would not properly be taking anything from anybody; it would merely be applying an accession of wealth, created by circumstances, to the benefit of society, instead of allowing it to become an unearned appendage to the riches of a particular class.

Now this is actually the case with rent. The ordinary progress of a society which increases in wealth, is at all times tending to augment the incomes of landlords; to give them both a greater amount and a greater proportion of the wealth of the community, independently of any trouble or outlay incurred by themselves. They grow richer, as it were in their sleep,

<sup>4</sup> We might speculate that the administrative costs of valuing land before and after land regulation decisions and then negotiating appropriate compensation or value recovery would be intimidatingly complex.

<sup>5</sup> Accompanied by rapidly increasing prices, shortages of housing, unaffordable housing and high levels of homelessness.

without working, risking, or economizing. What claim have they, on the general principle of social justice, to this accession of riches? (J S Mill, as cited in Walters 2012)

If a system of accounting for this unearned income could be implemented, some sort of economic balance (Wexler 1973;9) could then be achieved between the payments for down-zoning required for managed retreat with the income from upzoning. The necessary evictions could then be accompanied by compensation.

## 6. Managed Retreat

Managed retreat is a legitimate policy response to dealing with property vulnerable to sea level rise, storm surge damage, and other climate hazards. But it is certainly unpopular with coastal and lowland property owners, and is fiercely opposed when it is suggested. Without a change of law and attitude recognizing the impermanence of land and property, it is a brave local authority which can initiate forced retreat. But legal property will inevitably have to make way for physical land changes.

Such scenarios are likely to be played out in many more communities in the future. It would seem that central government guidance will be required to implement sensible retreat from the coast and to recognize the impermanence of property.

To return to Bob Dylan:

And admit that the waters Around you have grown;  
And accept it that soon You'll be drenched to the bone;

If your time to you is worth savin';

Then you better start swimmin' or you'll sink like a stone;

For the times they are a-changin'.

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