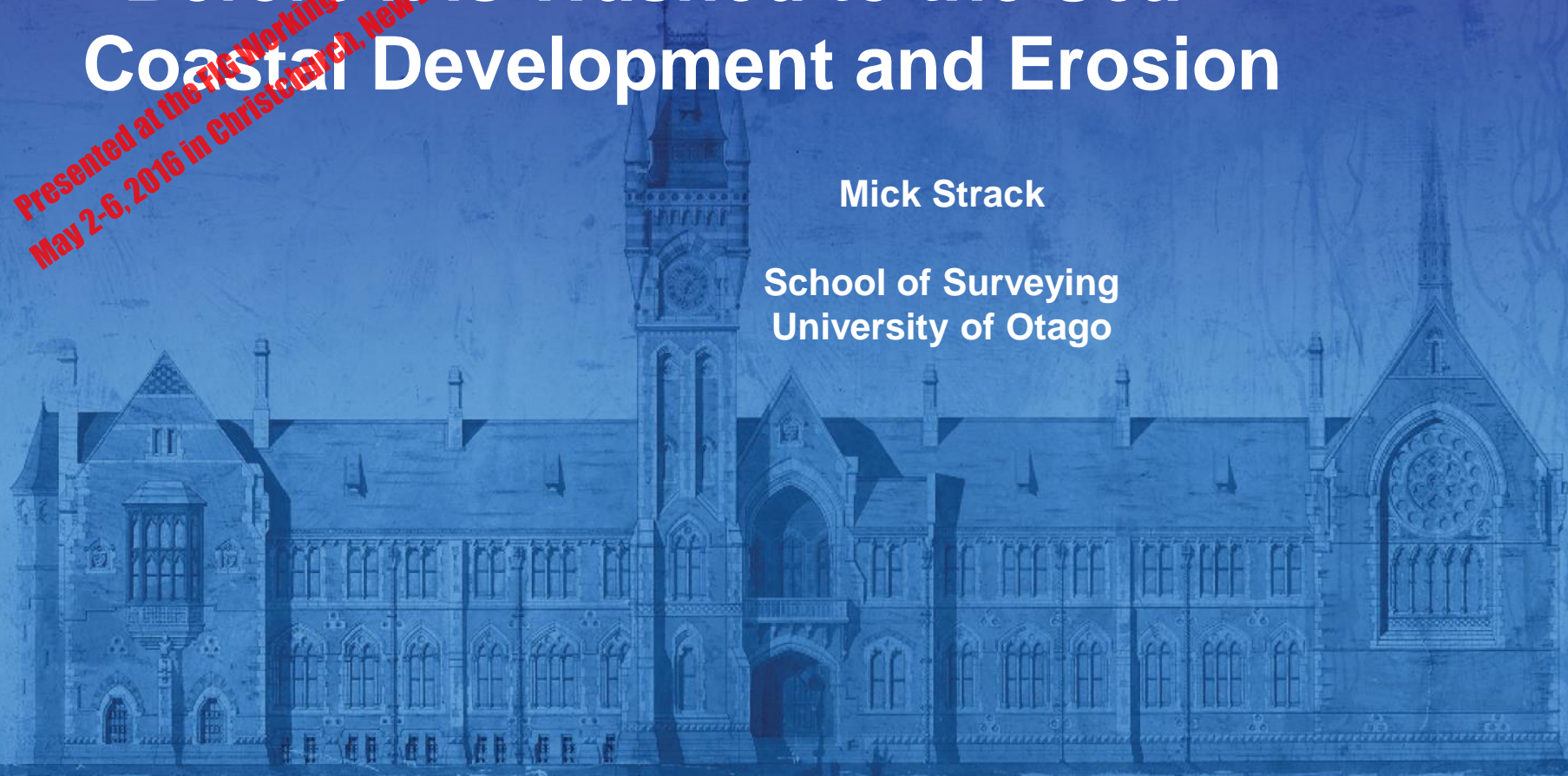


Before it is Washed to the Sea – Coastal Development and Erosion

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FIG Working Week Recovery from Disaster
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Erosion is a natural process

Erosion processes create beaches and coastal landscapes

- we can't stop it,
- we can't freeze coastal character,

But erosion takes property

- we must yield to the changes.



A flood of paper – recent reports

Ministry for the Environment 2008. Guidance Manual on Coastal Hazards and Climate Change

New Zealand Coastal Policy Statement 2010

Insurance Council of New Zealand ICNZ 2014. Protecting New Zealand from Natural Hazards

Parliamentary Commissioner for the Environment PCE 2014. Changing Climate and Rising Seas. Understanding the Science

Parliamentary Commissioner for the Environment PCE 2015. Preparing New Zealand for rising seas: Certainty and Uncertainty

Royal Society of New Zealand 2016. Climate Change Implications for New Zealand

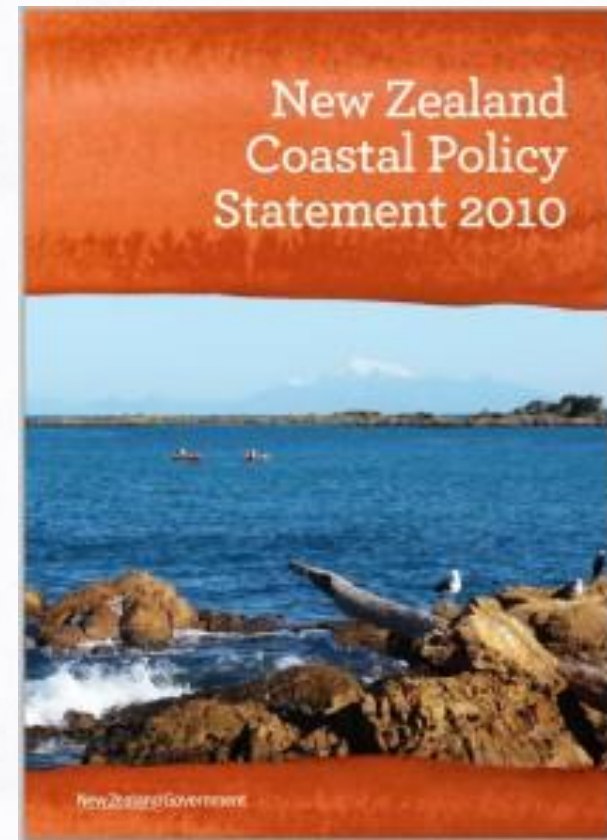
New Zealand Coastal Society 2016. Adapting to the Consequences of Climate Change

Local Authority Hazard reports ...



Statutory Guidance: NZ Coastal Policy Statement 2010

- Precautionary approach
- Preservation of natural character, features, landscapes from inappropriate subdivision and use
- Enhancing the public utility of coast for accessibility and public open space
- Local authorities shall **AVOID** redevelopment or land use change that would increase the risk of adverse effects
- Encourage managed retreat
- While – recognising the social, economic and cultural needs for development in coastal marine areas



Case Law

- Recent case law states that the term 'AVOID' suggests an environmental bottom line that must be adhered to.
- Other case law warns LAs to be cautious about imposing hazard notices on private property that will adversely affect property values
- Other case law instructs LAs not to be paternalistic in telling private proprietors what to do, when they can take responsibility for themselves.

Coastal Interventions

Signs to 'Save our Beach' are more likely to mean save our coastal property.

If nature is allowed to take its course, the beach will continue to evolve



Local Authority Responses

Adaptation:

- Affects the continuation of existing activities
- Unpopular – constraining
- Costs now – benefits later
- Local action

Mitigation:

- New activities – control carbon emissions
- Political targets
- Central government response



South Dunedin Response

Much of South Dunedin is built on what was once a marshland of lagoons, rushes, and tussock (PCE 2015)

New plans address mitigation for new development

- limits on new construction & infrastructure
- design guidelines – floor levels, etc

But that will have little impact in low growth area on existing residents, housing and infrastructure

- no plans for adaptation

How do we retrofit protection?

Encourage other stakeholders to act:

- Central government direction
 - Relocations, rehousing,
- Insurance restrictions
 - Withdrawal of cover
 - High premiums
 - High excesses
- Mortgage restrictions
 - Lower borrowing limit
 - Higher deposit requirements

Insurance:

Usually for random, uncertain risks

But Sea Level Rise and flooding are becoming predictable and certain (only the timing is uncertain)

The best message from Insurance companies:

- make premiums unaffordable non-viable,
- increase excesses,
- withdrawal of cover



Dealing with coastal property owners and developers:

Provide clear notice of hazard – on titles, property reports, planning maps

Impose no-development zones

Require coastal public reserves – rolling easements

Recommend short-term tenure – lease, occupation license

Buy and lease back

Require generous building and infrastructure set-backs

Building design guidelines - relocatable buildings, raised floor levels

Impose conditions for liability – deeds, no-complaint covenants

Facilitate adaptation methods – relax height restrictions for raised floor levels

Planning Responses

Recognising that engineering responses (walls, groynes, sand sausages) are expensive and short term.

- **Managed retreat**
 - abandoning coastal defences
 - relocating coastal structures
 - allowing the sea to encroach naturally
- **Setback lines**
 - prohibiting new development
- **Design restrictions**
 - relocateable housing
 - prescribed floor levels

Tenure Responses

Triggered during Resource Consent process

- Subdivision consent / land use consent / building consent
- Short term occupation licence
- Buy and lease back
- Lease - renewable depending of threat level
- Rolling easement in favour of public access
 - Gives advance warning to move
- Covenants
 - Commitment to provide coastal margin
- Promissory deed to retreat
 - triggered by specified event – e.g. sea within 10m of structure

Benefits of retreat

- Vulnerable land should be relatively cheap for council purchase (or take it or leave it offer)
- Benefits and opportunities in restoring wetland/open space.
- Restoring coastal ecosystems and processes
- Providing public access
- Opportunities for urban renewal and innovative environmental design:
 - New shorelines, canal development, elevated building platforms, harmony with ecological systems
- How do we make managed retreat acceptable?

Local authorities could use demonstration projects for coastal habitat and wetland extension and restoration, expansion of tidal zones to absorb wave and tidal energy





Vulnerability

Socio-economic characteristics will influence responses

The poor will be disproportionately affected

- South Dunedin – floods, failing infrastructure, deteriorating houses, damp unhealthy housing, vicious cycle of decline, residents feel disconnected by threat of re-housing.

Environmental justice

Protection:

- burdens future generations
 - Not just high capital cost but ongoing maintenance
- protects private property at public cost
- provides incentives for more development
- interferes with coastal ecosystems and natural character
- usually destroys public access

Retreat:

- involves significant costs for present ratepayers
- restricts current property rights and values
- allows for natural coastal processes
- natural character and public access

The institution of private property is only valid when it serves the needs of society.

If we are serious about sustainability, private property rights will have to give way to coastal processes.



Conclusion

- Coastal land is vulnerable to SLR
- Local Authorities need to act
- Local Authorities are hesitant to interfere with property rights (some people will lose out)
- But coasts are public assets (even if held in private title) and must be managed for the public good.
- Society and the environment will benefit from withdrawal from the coastal margins

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THANK YOU

