Protection of coastal properties
Policies and actions

Nick Harvey
The University of Adelaide
Protection of ‘existing’ coastal properties

- Used when other strategies (eg ‘adapt’ or ’retreat’) not practical or too expensive
- Protection can be hard (eg rock armouring) or soft (eg sand nourishment)
- Action often triggered by storm events in coastal areas with history of poor planning
What are the problems?

- Protection policies vary around Australia
- Responsibilities depend on who owns land (private or government local/state)
- Funding usually linked to those who benefit but rarely straightforward
- Becomes complex with mixed land ownership and inconsistent decision-making
- Government inaction can lead to lobbying or residents taking their own action
Public pressure on government to protect coastal properties

QLD - Midge Point residents lobby Council to protect their beach

WA - Seabird residents lobby State minister to protect houses from further coastal erosion

TAS - Lewisham residents lobby State government for coast protection
Private residents taking their own action risk prosecution

SA - Point Turton resident faces prosecution over installing protective rock walling

Queensland - Midge Point residents face prosecution over installing geotextile material

New South Wales - Belongil Spit resident involved in legal action for installing sand bags
QLD policy on protection of existing coastal development

- Protection structures considered if threat to buildings/infrastructure and no other feasible option
- Cost of erosion control structures should be less than buildings/infrastructure being protected
- Gold Coast policy requires privately funded protection for all new strata developments
QLD – Clifton Beach protection works

- Funded by Cairns Council
  $1.6 M in 2014

- Additional funding from State Government $0.65 M

- Protecting houses from coastal flooding (also road access)
QLD - Toogoom protection works

- Fraser Coast Council policy to build protection and apply special rates levy
- 2014 Council completed 370m seawall protecting 15 properties
- Council funded $1.1 M and levied owners over 10 yrs
- $73,000 per property (values $0.5-0.65 M)

Source: Google
QLD - Bushland Beach protection works

- Property built too close to the coast
- Inconsistent with erosion area regulations
- ‘ad hoc’ private protective walling
QLD - Midge Point protection works

• Mackay Council refused funding for repairs to beach following Cyclone Ului damage in 2010

• Frustrated residents installed $30k of geotextile fabric covered by sand

• Cyclone Debbie 2017 created further erosion

• Residents threatened with fine of <$1.7M but Mackay Council intervened to remove fabric

• Council now assessing management options
One such event was Tropical Cyclone Dina. The picture above (Figure 5) shows the difference in erosion between areas with and without seawall, and where a seawall has failed between two seawalls. The increased erosion shown in the figure between two seawalls highlights the consequences of uncoordinated construction of coastal protection. Clearly, such individual attempts at coastal protection were unsustainable over the long term and a coordinated approach was necessary. The Gold Coast City Council responded by adopting a policy to construct a seawall along what was then the erosion scarp adjacent to public land (the A-line). By 1970 the seawall had a standard design that was endorsed by the Queensland State Government (Figure 6). Two years later all new foreshore strata developments required a privately funded seawall constructed to the standard endorsed by the state as a condition of approval.

The objective of the Gold Coast City Council A-line seawall policy is "to ensure that development occurring in the City's ocean beach areas is managed to ensure the protection of the property and the preservation of the beach environment." (GCCC, 2011)
SA policy on protection of existing coastal development

1) Metropolitan coast – government protection strategy (budget $5.75M p.a.)

2) Non-metropolitan coast

- Coast Protection Board (CPB) assists non-metro councils with coast protection
- Grants to councils of <80% of total cost of studies and protection works
- Grant applications exceed budget and many high risk sites remain vulnerable
SA – Southern Metropolitan coast protection works

Erosion at Kingston Park - protection for property deemed not feasible - purchased by Coast Protection Board 1990s and demolished

Subsequent extension of protective sea wall

(photos Coast Protection Board)
SA – Central Metropolitan coast protection works

Sand replenishment 1980s trucked and dumped in front of seawall at Henley Beach

Seawall constructed in front of access road and coastal properties
Erosion at West Lakes Shore.

replenishment sand dumped on beach in front of properties

Erosion at Tennyson property

(photos RAC 1993)
SA – non-metropolitan coast protection works

- Complicated by shack freeholding policy 1996
- Against CPB advice and policy 1992
- Left >1,500 unsustainable shacks

Unconventional private protection strategy

Private rock protection and illegal boatramp
SA – The Dipper and Port Julia shack protection works

Both shack sites had protection works incorporated into Community Titles & management agreements.
SA - Chinamans Well shack protection works

- CPB grants to develop shack group protection strategies
- Requires local Council to submit DA
- Privately funded protection works

(photos Coast Protection Board)
SA - Point Turton shack protection works (nb see presentation by Arron Broom)

- Many shack owners agreed to fund private protection
- Council borrowed money and levied shack owners
- Protection works built on Crown Land (leased to Council)

Cliff erosion and slumping

(photos Yorke Peninsula Council, Consultant Report, 2017)
WA policy on protection of existing coastal development

- State and local governments ‘not legally obliged to protect private property’ (WA Coast Strategy)
- Protection without considering other adaptation measures is inconsistent with SPP 2.6
- Approvals for protection works at State level (Department of Transport)
Residents commissioned engineering study & Council commissioned 2 further reports $22k

SSP does not recommend protection as a first step

Residents lobbied for state funds through Royalties for Regions

Public funds to protect private property?

Government advised against proceeding but funded it anyway as a temporary measure

Photos: WA Today
NSW policy on protection of existing coastal development

- Development for sea wall or beach nourishment may be carried out by any person with consent on the open coast.

- If coastal zone management plan does not apply to the relevant land the Coastal Panel *(under the former 1979 Act)* was determining authority.

- Consent authority must take into consideration: (a) provisions of any coastal zone management plan applying to the land, (b) matters set out in clause 8 of *(old)* State Environmental Planning Policy No 71 - Coastal Protection *(similar provisions in 2018 SEPP)*

Extended legal battles between Council and residents over protection works

Out of Court settlement reached

Court ruled that residents can retain ‘existing’ protection works

Complex issues still before the courts over nature of ‘existing' works c.f. ‘lawful protective structures’ as defined by Coastal legislation
NSW - rejects private coast protection works (old legislation)

Wamberal beach NSW central coast

- 6 owners commissioned engineering study for 100m, $2.5 million sea wall and lodged DA with Coastal Panel
- Coastal Panel rejected DA
- Court-ordered mediation with Panel failed
- Central Coast Council Management Plan endorsed – Council responsibility

(Photos: The Australian 15/8/17)
NSW – Narabeen/Collaroy coast protection works

- Long history of erosion and inadequate protection strategy
- 3000 residents link arms in protest against a $12M seawall proposal 2002
- More storm damage and erosion in 2016 storms
- Needs ‘whole of bay’ solution through Coastal Management Plan

Photos News.com

seawall protest 2002

Storm damage 2016
TAS policy on protection of existing coastal development

- Identify areas subject to significant risk from natural coastal processes and hazards
- Areas managed to minimise need for engineering or remediation works to protect land, property and human life
TAS - Roches Bay coast protection works

Southern Roches Beach

- Rock revetment wall ~500m long constructed at the southern end of Roches Beach in the late 1980s.

Northern Roches Beach revetment

- WRL study investigated beach nourishment from offshore sand ($5-10M), groyne structures (~$0.6M) and submerged breakwaters ($4-6M).

- Estimated 15 houses in the southern section are at current risk of erosion.

Source: WRL Report 2012

Source: Google
VIC policy on protection of existing coastal development

- Structures protecting private property should be on private land
- If private land unable, coastal Crown land considered only if major public benefit
- State funding for protection works prioritised must have significant demonstrable public value
- Protection works to be designed as part of “whole of coastal cell system”
VIC – Portland coast protection works

- Portland breakwater 1960 interrupted easterly movement of sand to Dutton Way beach
- Government funded seawall now stretches 4.5 km
- Dutton Way proposed subdivision lost to erosion (implicit liability of government)
VIC - Port Fairy coast protection works

- 2.4km of seawall progressively constructed since 1950s
- Some historically poor planning decisions for residences located too close to coast
- Seawall inadequate compared to modern engineering standards
- Erosion exposing old rubbish tips
- Council requested State funds 2018 to re-build seawall
Different types of action for coast protection

1) Private owners taking matters into their own hands
   • Belongil spit NSW, Point Turton SA, Midge Point QLD, Busselton WA

2) Private owners wanting to fund protection but inadequate plans rejected
   • Wamberal NSW, Collaroy/Narrabeen NSW

3) Private funding with approval from Council and/or State
   • Gold Coast QLD, Chinaman Wells SA, Simms Cove SA

4) Private/Council funding including rate levies on benefitting landowners
   • Point Turton SA, Toogoom QLD

5) State and/or Council funding:
   • Seabird WA; Clifton Beach QLD; Port Fairy VIC (public property fronted by public assets/amenity)
   • Roches Beach TAS, Dutton Way VIC (public property with direct seafront)
ISSUES

• Rights and responsibilities of land owners/government to protect private property

• Liabilities/causality for areas of increased erosion

• Implications of residential property development behind existing coast protection

• Location of protection structures on private or adjacent public land within ‘whole of bay’

• On-going maintenance funding responsibilities
CONCLUSIONS

- Governments not liable to protect private property but some legal challenges
- Government inaction can lead to lobbying or even illegal actions
- Policies vary from requiring private protection (Gold Coast) to strict conditions & rejections (NSW)
- Protection of private property by structures on public land has complex funding/planning issues
- Successful property owner agreements depend on government support and facilitation