USING HISTORICAL INFORMATION TO ASSIST FUTURE PLANNING AND DEVELOPMENT IN SENSITIVE COASTAL ZONES Julia Mayo-Ramsay

Keywords

Sea level rise, storm surge, planning law, planning policy, coastal development, sensitive coastal zone.

Abstract

Australia is a nation of coastal dwellers and with over 80% of the population living within 50 km of the coast, planning for future sea level rise and storm surge in sensitive coastal zones is imperative for future developments in low lying areas along the Australian coast.

The complexities and limitations of current planning laws for coastal developments in NSW in relation to climate change is evident with a myriad of different instruments, policies, legislation and case law depending on the location or shire.

This paper uses a case study of a proposed development in the Batemans Bay area on the New South Wales south coast to examine some of the planning issues in relation to inundation from sea level rise and storm surges as a result of climate change and how it might impact on future planning and development in sensitive coastal areas. The paper draws on existing literature and data available through previous studies, as well as current legislation and case law and provides some alternatives to current practice and procedure.

Introduction

With more than 80% of Australians living within 50 km of the coast (National Cooperative Approach to Integrated Coastal Zone Management, Framework and Implementation Plan, 2006) it is likely that our response to sea level rise and storm surge will play an important role in the future for coastal developments in low lying as areas as well as other established settlements along the Australian coast (McInnes). The township of Batemans Bay situated on the NSW south coast approximately 300 km south of Sydney, is one such area. Due to the low lying nature of the foreshore and frequent inundation from flooding, there have been numerous studies in relation to storm surge, inundation and sea level rise, with records relating to inundation in the Batemans Bay Clyde River region available from as far back as the 1800s.

Wharf Road - Historical

The Wharf Road area on the north shore of Batemans Bay was first surveyed as part of a 1030 acre grant to James Lord on the 18th February 1840 and approved as a subdivision on the 8th June 1883. The subdivision comprised 131 lots and an examination of the title shows the land with 30.48 metres of the high water mark to fixed boundaries bordering these lots adjacent to the river is a crown reserve (figure 1).

Although the land further to the east has been developed over time, the land on the eastern side of the subdivision has been left mostly vacant, with a large portion of the land of the original survey now under water. Since the late 1800's the area around the Wharf Road precinct has slowly eroded through a combination of wave action and many flood events. By the 1990s residents took to shoring up the sea wall using tyres, building waste or other rubble, in an attempt to try and slow down the rate of erosion.

In 1993 the New South Wales Environment Protection Authority (EPA) brought an action against the landholder, Eric Saunders and Leaghur Holdings Pty Limited, for pollution of the waters adjacent to Lots 13 -24 and Lots 41, 43, 50 of DP 1067, Wharf Road Batemans Bay (*EPA v Saunders*). The pollution was listed as tyres, bricks, concrete, building material, rock, timber, tree stumps, plastic, metal rods and other foreign matter on the premises and the waters adjacent to the premises on Wharf Road (*EPA v Saunders*). Although this case was related to pollution it brought to light significant information in relation to the title of the submerged lots.

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Figure 1: Plan of Wharf Road subdivision 08/06.1883 (Source: NSW Department of Lands).

During the course of the *EPA v Saunders* hearing, evidence of the erosion was used as a defence. Surveys carried out in 1988, showed that Lots 20 to 30 Section 3 and most of Lot 19 Section 3, together with part Lot 52, most of Lot 53 and all of Lots 54 to 58

Section 2 DP 1067 were all below high water mark. It was agreed that there was 'no evidence to establish that the lands lying below high water mark on the 1988 survey were ever more than paper lots, at least since the 1888 [SIC] subdivision. *Prima facie* such lands belonged to the Crown' (*EPA v Saunders*). By 1992 the survey showed parts of Lots 23, 24, 50, 51, 52, 53, 54, 25 to 30 and all of Lots 55 to 58 to be below the high water mark. Figure 3 shows the lots and can be compared to the aerial photo in figure 4 to show lots now under water.

From the combination of erosion over time, the high water mark as depicted in the surveys made at different times and the position of the lots from aerial photographs, it appears that the erosion of the lots was gradual with many lots now under water.

The judgment of Justice Bannon in *EPA v Saunders* found that once the parcels of land, as surveyed on the Certificate of Title become submerged over time and form part of the sea bed or river bed, they no longer exist as Torrens Title and therefore revert to Crown. The only exception is when the land has been lost by a sudden intrusion of waters or where the seabed is indicated on the title. In such an instance the owners may be entitled, subject to any environmental law, to attempt to reclaim their properties by building sea walls and groynes (*EPA v Saunders*).

This judgement is important as it demonstrates that while there may be a Certificate of Title to land, once it is submerged with no likelihood of accretion to its previous state, then the Torrens Title is no longer transferable.

Wharf Road Development Case Study

This case study follows the Wharf Road Precinct development proposals from 1994 to 2010, following *EPA v Saunders*, and provides an example as to the planning processes over sixteen years.

In February 1994 the Eurobodalla Shire Council (ESC) considered correspondence from the Department of Local Government concerning the protection and development of property and other lands adjacent to Wharf Road North Batemans Bay. At a Council Meeting on 22 February 1994 it was resolved that no further consideration would be given to development proposals on the Wharf Road land until a formal development application was submitted (ESC 1). There were responses from a number of public authorities including the Department of Public Works, stating 'a feasibility / concept study would provide sufficient preliminary assessment to permit consideration of development approval' (ESC 1).

Options at this time should Council wish to proceed with rezoning included;

 obtain quotes from a consultant to undertake sufficient studies to permit rezoning of the existing land above the High Water Mark;

- obtain quotes from a consultant to undertake sufficient studies to permit rezoning of the privately owned land;
- advise the affected landholders of the likely cost of study and it be their responsibility to carry out the necessary studies;
- zone the land based on current information: and
- acquire all privately owned land south of Wharf Road (McLeod Street).

It was also recommended that the State Government be approached to provide funds for the acquisition of Part Lots 25-30, Lots 55-58, Part Lots 13-24 Sec 3, Part Lots 41, 43, 45, 47, 49 and Lots 44, 46, 48, and 50 and Lots 51-54 DP 1067 (ESC 1).

In 2002 Batemans Bay Property Services applied to ESC for a Development Application (DA) to develop land in Wharf Road (Wharf Road Units DA No. 871/02). The submission was for a complex of multi storey apartments. At the time of the DA much of the proposed site was either underwater or part of the 30.48m reserve that runs with the land.

In 2004 a DA for 33 residential units in three structures up to 4 ½ stories above existing ground level was approved subject to certain conditions (ESC 2). The date of determination was 20 January 2004 with consent to lapse five years from the consent if not rendered operable. Under Section 80(3) of the *Environmental Planning Assessment Act* 1979 there was a *deferred commencement* and as such the consent would not be made operable until a number of conditions were met.

These conditions included that due to a unique set of storm water and coastal hazard impacts, management options recommended a full range of impacts be addressed including wave overtopping and inundation, sediment movement processes, wave impact and exposure to the beach along the foreshore. All these elements were to be considered and form part of a report prepared by a suitably qualified engineer to address; structural integrity of the building, shore erosion due to inundation, wave overtopping, specialised footing and building design, existing catchments runoff and effect to adjoining properties, location and access for visitor parking in McLeod Street, overflow runoff from the whole development, provision for existing storm water overflow onto existing properties and climate change effect and sea level rise (ESC 2).

The reason given for these conditions was to ensure the development would be secure from any ocean or local flooding event while not adversely impacting on ocean processes, flooding or local amenities. A second special condition required that 'part of McLeod Street road reserve depicted on the approved plans be acquired by the owners of the land subject to of the consent DA No. 871/02 and be consolidated with the

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residue of the lands held in private ownership' (ESC 2). The reason given for this condition was to ensure any construction was on private land.

The third special condition required that the titles for Lots 13-24 Sec 3, Part Lots 35, 36, and 37 Sec 1, and all the land south of the 100% line through Lots 42, 44, 46, 48, 50 and 5 Sec 2 be surrendered to the Crown prior to the issue of the occupation certificate for any unit. If such proved to be unacceptable to the Crown then those lands are to be dedicated to Council as a public reserve prior to the release of any occupation certificate. In the latter option all survey and legal costs will be borne by the Council (ESC 2).

The plan below (figure 2) is a diagram of the proposed development for Wharf Road East precinct showing how close the development would be to the 100% historical data line (Webb, McKeown & Associates). The plan shows some of the building below the 100% mark. The 100% line is referred to in the 2001 Batemans Bay Coastline Hazards Management Plan, (Draft for Public Exhibition) and is the high water mark based on historical data gleaned from eight aerial photographs and four hydrographic charts over a number of years. One of the conditions set by ESC was for the developers to acquire these public lands.

By 20 January 2006 the development at Wharf Road had not gone ahead and an extension was applied for and approved. No works had commenced and there was considerable objection to the development by the community.

In February 2009 the Draft Wharf Road Coastal Hazard Assessment and Hazard Management Plan was released for public comment.



Figure 2: The Plan for Development Wharf Road (Source: Coastwatchers)

Wharf Road Coastal 2009 Draft Plan

The Wharf Road Coastal Assessment and Hazard Management Plan was commission by ESC to consider the extent of coastal hazards in the Wharf Road area of Batemans Bay. The plan considers the previous work from the 1989 Batemans Bay Oceanic Inundation Study, the 1996 Batemans Bay Vulnerability Study, the Estuary Processes Study (WBM) 1999 and other studies on the coastal area around the Wharf Road precinct of Batemans Bay. There was some public consultation, with a public information meeting in Batemans Bay on 19 November 2008 and the draft plan placed on public exhibition from 19 November 2008 to 12 January 2009. Council stated the Draft Wharf Road Coastal Hazard Management Plan would provide a strategic link in Council's management of the Wharf Road East precinct of Batemans Bay and inform Council's future climate change adaptation strategies for the study site (ESC 3).

The study showed that by 1977 more than half of the lots were either under water at high tide or where the reserve would run. The road has been realigned to skirt round the eroded area as the original road was, by this time, under water. The aerial photograph below (figure 4) overlaid with the surveyed lots show the various changes over time of the Wharf Road area. The original plan dated 1883 shows all the surveyed lots of land above sea level (figure 1).

By 2009 Lot 42 was the only dry lot of the Wharf Road precinct with twelve of the lots being completely submerged, ten lots being subject to inundation and the rest of the lots subject to partial inundation.

At an Ordinary Council Meeting on 28 April 2009 it was recommended that Council adopt the Draft Plan and investigate voluntary resumption of the land. Council agreed to also adopt the recommendation to rezone the land in the Wharf Road area. In the Draft Eurobodalla Local Environmental Plan 2009 most of this area was rezoned E2 (Environmental Conservation). E 2 zoning is used for land with considerable environmental, cultural or scientific value that would not otherwise be suitable for development purposes.



Figure 3: Plan of Wharf Road 2006 Shows Lot Numbers. (NSW Land and Property Management Authority (Source: Ausearch Pty Ltd).



Figure 4: Wharf Road Precinct (2008) with overlay showing the position of the lots and the 100% line in red (Source: Draft Wharf Road Coastal Hazard Management Plan - BMT WBM Pty Ltd).

Climate litigation

Although climate litigation is a relatively new area of law there have been a number of cases in relating to planning and sea level rise in Australia over the past few years.

In the 2007 NSW Land and Environment Court decision of *Walker v Minister for Planning*, the applicant challenged the validity of a concept plan approval by the Minister for Planning, under s 75O(1) of the *Environmental Planning and Assessment Act 1979* (NSW) (EPA Act) and ancillary determinations under s 75P(1)(a) and (b).

The plan was for a residential subdivision and a retirement development on approximately 25 hectares at Sandon Point 14km north of Wollongong between Thiroul and Bulli. As the development at Sandon Point was State significant the Minister became the relevant approval authority and in December 2006 the Minister approved the concept plan for a residential subdivision and retirement village. A local resident, Jill Walker, challenged the Minister's determination on three grounds. Walker's arguments were unsuccessful on the first and third grounds, however, Biscoe J upheld the second ground, finding that the Minister had failed to consider whether flood risks associated with climate change were relevant and may impact the land at Sandon Point. Walker had successfully argued that the Minister failed to consider whether the impacts of the proposed project would be compounded by climate change, and in particular, whether changed weather patterns as a result of climate change would lead to an increased flood risk. In his judgment, Biscoe J agreed that flooding was a major constraint on the development of the site. He further noted that the Environmental Assessment Report did not refer to climate change or the principles of ecologically sustainable development (ESD) and as he found that climate change was relevant to the public interest, the Minister was obliged to consider this in the context of the proposed development. As the Minister had failed to do so, the approval of the concept plan was void. Therefore, the applicant succeeded on the ESD ground of challenge insofar as it concerns the climate change flood risk consideration (*Walker v Minister for Planning*).

In Queensland in 2007 the Queensland Planning and Environment Court dismissed an appeal against a decision by Redland Shire Council where the Council had granted the applicant a preliminary approval for filling to be used for a building slab on which a house was to be constructed (*Charles & Howard v Redland Shire Council*). The house site preferred by the applicant was below 2.4 metres Australian Height Datum (AHD) and was subject to inundation once in 100 years (the Q100 flood level). By contrast, the building envelope had an elevation of 2.5 metres AHD and was not subject to inundation by Q100 flood level. The approval included a condition requiring the applicant to situate the building on the western side of the land, instead of the eastern side. The Council took into account the impact of climate change on the flood prone land in imposing the condition.

The Court held that the impact of climate change on sea levels on flood prone land justified a condition that the dwelling be to be situated in an area less prone to tidal inundation was relevant and reasonable. This case demonstrates that the Court held it was proper for the Council to take into account the risk of higher frequency flooding and storm surges due to climate change.

In Victoria in 2008 the Victorian Civil and Administrative Tribunal set aside the decision of the Gippsland Shire Council and ordered that no permits should be granted in relation to the development of a number of four hectare blocks in the Grip Road area near Toora in Victoria (*Gippsland Coastal Board v South Gippsland Shire Council*).

The Gippsland Coastal Board identified two grounds of environmental concern in respect to the proposed development of the dwellings. First, that they pose an

unnecessary and unacceptable risk to the coastal environment and second that they are inappropriate in light of climate change studies undertaken by the CSIRO on behalf of the Board.

The Tribunal found;

'The specific consideration of sea level rise, coastal inundation and the effects of climate change are not set out within the Victorian Planning Provisions. This is to be compared to the situation in South Australia as set out in *Northcape Properties Pty Ltd v District Council of Yorke Peninsula*. In the *Northcape* case, development planning policy specifically calls for consideration of sea level rises in the first 100 years of a development's life. The Supreme Court of South Australia upheld the relevant planning authority's decision to refuse development permits on the grounds of failing to account for recession of the coastline under projected rising sea levels. This decision had the benefit of complex scientific evidence as to the effects sea level rise (*Gippsland Coastal Board v South Gippsland Shire Council*).

Although Victoria does not have specific planning instruments in relation to sea level rise and coastal inundation from storm surges, section 60(1)(e) of the *Planning and Environment Act 1987* (Vic) sets out that;

Before deciding on an application, the responsible authority must consider any significant effects which the responsible authority considers the use or development may have on the environment or which the responsible authority considers the environment may have on the use or development.

The tribunal found that that the requirement of section 60(1)(e) was sufficiently broad to include the influence that climate change and coastal processes may have on the proposed developments and that climate change would result in some level of extreme weather conditions beyond the historical record that planners and others had relied on in the past.

They also found that sea level rise and risk of coastal inundation are relevant matters to consider in appropriate circumstances and that there was also a likelihood of an increase in the severity of storm events, coupled with rising sea levels which created a *reasonably foreseeable risk* of inundation of the subject land and the proposed dwellings which was *unacceptable*. They decided that some level of climate change will result in extreme weather conditions beyond the historical record and the relevance of climate change to the planning decision making process is still in an evolutionary phase

and that each case concerning the possible impacts of climate change would turn on its own facts and circumstances (*Gippsland Coastal Board v South Gippsland Shire Council*).

In all of the above cases sea level rise was declared an important factor in the determination of a development.

Liability

Over the years there have been many claims against councils and other public authorities with potential claims in the context of climate change now highly probable. The main area of concern would be the appropriateness, or otherwise, of development approvals in flood prone areas or coastal zones of high risk to storm surges or sea level rise over time.

Other matters include the adequacy and consistency of building standards in the coastal zone to withstand extreme weather events, management of public lands in the coastal zone from erosion and landslides. The building of revetment structures also comes under the auspices of public authorities as does the preservation of public assets and the environment which are important factors in the management of the coastal zone.

Development applications vary considerable from state to state and council to council within Australia. Within NSW alone there are 152 Local Government areas or councils and there are considerable differences between councils in how they go about approving developments. The present state of affairs provides no consistency between the agencies in relation to planning or management of sea level rise and storm surges.

In 2002 the *Coastal Protection Act (1979)* (NSW) was amended in an attempt to better implement the intent of the NSW Coastal Policy 1997. The amendments, amongst other things, provide the Minister for Environment and Climate Change with the power to direct a Council, whose area falls within the coastal zone, to prepare a Coastal Zone Management Plan (*Coastal Protection Act (1979)* (NSW) s55B).

In NSW, s733 of the *Local Government Act* gives councils limited protection from liability for acts or omissions in good faith in relation to flood liable land and land in coastal zone. Section 733 (7) (a) applies to, and in respect of, 'the Crown, a statutory body representing the Crown and a public or local authority constituted by or under any Act,' and has been amended on several occasions since its introduction.

SEPP 71

The NSW State Environmental Planning Policy No 71 Coastal Protection (SEPP 71), is an important policy for making any planing decisions in coastal areas. The SEPP 71 is a coastal planning instrument made under the *Environmental Planning and Assessment Act* and covers the entire coastline of New South Wales. The coastal zone under SEPP 71 encompasses all land within 100 metres of the mean high water mark of the sea, a bay or estuary. In some areas it extends several kilometres from the coast. It also applies to land near coastal lakes, wetlands, heritage properties, marine parks, aquatic reserves and littoral rainforests.

One important intention of the policy is that the coastal zone is managed in accordance with the principles of ESD within the meaning of section 6 (2) of the *Protection of the Environment Administration Act 1991*, and that the type, bulk, scale and size of development is appropriate for the location and protects and improves the natural scenic quality of the surrounding area (SEPP 71, Reg. 2 (1) (e, f, g, h, i, j,). Certain developments which are designated by SEPP 71 as significant must be referred by the relevant council to the Director-General of the NSW Department of Planning. Significant development includes development on land within or partly within *sensitive coastal locations*, which may include land within 100 metres of a coastal lake or the mean high water mark of the sea.

The policy encourages a strategic approach to coastal management through the identification of State significant development in the coastal zone, master plan requirements for certain development in the coastal zone and the requirement of development in sensitive coastal locations to be referred to the Director-General for comment (SEPP 71, Reg. 2 (2). Buildings greater than 13m high, large tourist or recreational facilities, residential subdivisions, landfill, mining, marinas and other industries are some examples of developments within the coastal zone that may require the consent authority of the NSW Planning Minister.

Retreat Policy

In the northern NSW shire of Byron Bay, Council has developed a controversial "retreat policy" for all new coastal developments. The objectives of this policy are to ensure that the impact of coastal processes, such as erosion and storm surge damage, is minimized. This is done by ensuring any development in the coastal zone is only temporary and can be readily moved in case of coastal erosion (Byron Bay Development Control Plan). There are strict design rules for new dwellings which must be single storey and modular in construction to ensure easy removal in the case retreat is necessary. Under the policy no dwelling can be located within 20 metres of the erosion escarpment and the development application must include details of the

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removal procedure to ensure relocation is possible within 12 hours (Byron Bay Development Control Plan). There are also strict rules for extensions or alterations to existing dwellings, including where the existing dwelling is destroyed either totally or partially through accident or damage other than coastal processes. Whereas policy may seem extreme, it shifts the responsibility for liability from the public authority on to the developer or landholder. This ensures the "user" pays rather than the burden of compensation for damage due to storm surge and erosion, being born by the community as a whole.

Coastal development control

In August 2010 the NSW government released its NSW Coastal Planning Guideline: Adapting for Sea Level Rise. The document provides a good idea of the position the NSW Government holds on taking climate change into consideration when making decisions on future development in coastal risk areas in NSW.

The two main issues facing planning authorities in relation to sea level rise are protecting coastal land already developed and ensuring sea level rise is taken into account for all future coastal development. Where development is already established, further damage to the shoreline can be mitigated and protection of the development optimised through ensuring setbacks from the coastal hazards. Coastal engineering works may be used for hazard mitigation and beach nourishment and dune maintenance requirements should be adhered to. Inundation could also be minimised through building protection conditions such as minimum floor levels. However, where future development is planned there is the opportunity to reduce or eliminate inappropriate development before sea level rise and storm surge become a problem.

Conclusion

In Australia planning instruments and laws differ from state to state and within local government areas in the same state. There is little or no consistency between them and rather than there not being enough information there may well be too much information, resulting in confusion. With a few exceptions, this enables many developments to pass the standards of the planning authority even where the development is inappropriate for the conditions or site.

The example of the proposed development in the Wharf Road precinct shows that in NSW the current planning system is extremely unpredictable and inconsistent. While the original 1880s Wharf Road subdivision was poorly placed in a bay where the coastal processes are changing and with the entire subdivision very close to overtopping at the highest astronomical tide (HAT) may have been acceptable in the 19th century where there was limited local and scientific knowledge. However, the fact

that the site was even considered for development in 2002 with many scientific reports and other data showing the vulnerability of the areas to flooding and inundation is inconceivable.

While investment opportunities, amenity and lifestyle are all admirable reasons for coastal development, where there is danger of flooding, inundation and damage to the land from overtopping there is no real reason to build so close to the shoreline.

The only real solution is to legislate to limit where possible any future development on undeveloped sensitive coastal land, with such land being reserved for public amenity requiring little or no building infrastructure.

While such laws may appear severe and people, investors and public authorities will all be affected by such extreme decisions, this may well be far better than the alternative of losing land, property and possibly lives from allowing irresponsible developments in sensitive coastal areas.

Historical information such as the proposed Wharf Road development provide a good insight into the problems of developing in unpredictable coastal areas and should be used to ensure the same mistakes are avoided in the future.

References

(ESC 1) Reported in Environment and Community Services Report to Ordinary Meeting of Council held on Tuesday 14 June 1994.

(ESC 2) ESC Ref: 82.6547.D10.

(ESC 3) ESC, Strategic Report to Ordinary Meeting of Council held on Tuesday 28 April 2009.

Batemans Bay Oceanic Inundation Study 1989.

Batemans Bay Vulnerability Study 1996.

Byron Bay Shire Council, *Byron Bay Development Control Plan, Part J: Coastal Erosion Lands* (2002).

Charles & Howard v Redland Shire Council (2007) 159 LGERA 349.

Coastal Protection Act (1979) (NSW).

Environment Protection Authority v Eric Saunders [1994] NSWLEC 187.

Environmental Planning and Assessment Act 1979.

Environmental Planning Policy No 71 Coastal Protection.

Estuary Processes Study (WBM) 1999.

Eurobodalla Shire Council, Batemans Bay Vulnerability Study, Prepared for Eurobodalla Shire Council and the Commonwealth Dept of Environment, Sport and Territories (1996).

Eurobodalla Shire Council, Draft Wharf Road Coastal Hazard Management Plan, Prepared by Dr Ian Teakle and Malcolm Edwards of BMT WBM Pty Ltd, for Eurobodalla Shire Council, (February 2009).

Gippsland Coastal Board v South Gippsland Shire Council [2008] VCAT 187 at [35].

Gippsland Coastal Board v South Gippsland Shire Council [2008], VCAT 187.

McInnes, K L, K J E Walsh, D J Abbs, S E Oliver, 'A numerical modelling study of coastal flooding' (2002) 80 *Meteorology and Atmospheric Physics Special Issue*, 217.

'National Cooperative Approach to Integrated Coastal Zone Management, Framework and Implementation Plan' *National Resource Management Ministerial Council*, Commonwealth of Australia (2006).

New South Wales, Legislative Assembly, *Parliamentary Debates* (Hansard), 16 April 1985 at 6025.

Northcape Properties Pty Ltd v District Council of Yorke Peninsula [2008] SASC 57 (4 March 2008).

Northcape Properties Pty Ltd v District Council of Yorke Peninsula [2008] SASC 57.

NSW Land and Property Management Authority Plan of Wharf Road 2006.

Planning and Environment Act 1987 (Vic).

Protection of the Environment Administration Act 1991(NSW).

Walker v Minister for Planning [2007] NSWLEC 741.

Webb, McKeown & Associates, Eurobodalla Shire Council, Batemans Bay Coastline Hazards Management Plan, (Draft for Public Exhibition) (8 November 2001).