



Office of  
Environment  
& Heritage

# **Coastal zone management guide note**

Emergency action subplans

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# 1 Introduction

Adverse weather systems can produce storms that generate strong winds, large waves and elevated ocean water levels along the NSW coastline. These conditions are generally short-lived but can result in extensive erosion along sandy beaches, and seawater inundation where waves can overtop coastal dunes or sea defence barriers.

Extreme beach erosion can directly threaten assets and infrastructure on an active beach. Erosion can occur either through erosion of the dunal system as a result of undermining, or indirectly because the foundation of the remaining dune adjacent to the eroded area has been reduced. Erosion can also lower the beach berm (a nearly horizontal plateau on the beach face or backshore, formed by the deposition of beach material by wave action, or by means of a mechanical plant as part of a beach recharge scheme), often resulting in a tall, unstable, near-vertical back-beach erosion escarpment. Damaged berms can also present hazards for beach users.

Even without severe coastal storms, an erosion escarpment can erode and migrate landward. Relatively minor wave action coinciding with high spring tides can induce erosion and undercut an erosion escarpment.

A council's long-term strategy for managing these threatening processes should be documented in a coastal zone management plan (CZMP). The emergency action subplan forms an integral component of a CZMP. It outlines a council's intended response to a coastal erosion emergency and explains ways in which and where beachfront property owners can place emergency coastal protection works according to the *Coastal Protection Act 1979* (CPA).

## 2 Legislative and policy framework

The CPA objectives provide 'for the protection of the coastal environment of the State for the benefit of both present and future generations and, in particular, to ensure coordination of the policies and activities of the Government and public authorities relating to the coastal region and to facilitate the proper integration of their management activities.'

Within this context, the CPA provides the legislative framework for preparing and certifying CZMPs. Section 55C(1)(b) of the CPA states a CZMP must provide for 'emergency actions carried out during periods of beach erosion, including the carrying out of related works, such as works for the protection of property affected or likely to be affected by beach erosion, where beach erosion occurs through storm activity or an extreme or irregular event'. Section 4 of the Act states that the part of a CZMP that deals with the matters specified in Section 55C(1)(b) is an emergency action subplan.

The CPA (sections 55B and 55C) allow the Minister administering the Act to issue a direction to a council to prepare an emergency action subplan, i.e. a CZMP that only includes the requirements under Section 55C(i)(b).

While an emergency action subplan of a CZMP is required under these provisions, Section 55C(2)(a) of the CPA requires that CZMPs **must not** include matters dealt with in any plan made under the *State Emergency and Rescue Management Act 1989* (SERMA) in relation to emergency responses.

The roles and responsibilities of government agencies, councils and other relevant organisations during severe storm events (including events that cause erosion) are detailed in the *NSW State Storm Plan* (SES 2007).

### 3 Minimum requirements for emergency action subplans

The *Guidelines for preparing coastal zone management plans* (DECCW 2010) were gazetted on 31 December 2010 as a guideline under Section 55D of the CPA. This guideline provides the minimum requirements that must be addressed when preparing a CZMP and an emergency action subplan. These include:

- describing intended emergency actions to be carried out during periods of beach erosion, such as coastal protection works for property or asset protection, other than matters dealt with in any plan made under the *State Emergency and Rescue Management Act 1989* relating to emergency response (sections 55C(1)(b) and (g) of the *Coastal Protection Act 1979*)
- describing any site-specific requirements for landowner emergency coastal protection works
- describing the consultation carried out with the owners of land affected by a subplan.

These requirements are in addition to those in the CPA, particularly section 55C(1)(b) and the requirement for a minimum 21-day public consultation period under section 55E. Apart from the requirements in section 55E, councils should choose the most appropriate communication strategy for their local circumstances. These circumstances may include a high proportion of absentee landowners or high tourist use of local beaches.

### 4 Relationship to emergency management plans

The *NSW State Storm Plan* (SES 2007) covers arrangements for the emergency management of storms and was prepared under the *State Emergency and Rescue Management Act 1989* and the *State Emergency Service Act 1989*. This plan sets out actions to prevent, prepare for and, respond to storm damage; initial recovery actions; and the responsibilities of agencies and organisations with regard to these functions. The plan also covers arrangements for severe storm events which may consist of strong winds, hail, snow, heavy rain, and coastal flooding and erosion resulting from large waves and storm surges.

The plan (section 1.3.4) notes that the role of the State Emergency Service (SES) as the combat agency for storms does not include coastal erosion caused by astronomical high tides when severe weather is not actually developing or occurring, e.g. during a king tide period when erosion is occurring due to high ocean swells. In these circumstances, local councils are responsible for any actions to manage risks from coastal erosion.

A reference in the State Storm Plan to emergency actions in a CZMP is to be taken as a reference to an emergency action subplan of a CZMP. The plan (section 4.3.6) also notes that any actions in an emergency action subplan should only comprise arrangements for undertaking council functions such as possible emergency engineering works where they are considered appropriate.

An emergency action subplan should therefore describe actions that a council intends to carry out when erosion is occurring due to:

- conditions unrelated to severe weather, when the State Storm Plan does not apply
- severe weather, where a council's actions will be carried out in the context of the State Storm Plan and the local disaster plan (DISPLAN).

In relation to actions to be carried out under the State Storm Plan, the appendix of this guide note includes relevant extracts applicable to the preparation of emergency action subplans. In particular, emergency action subplans should describe any actions to be carried out under Section 2.13.5(j) of the plan, being any emergency physical mitigation

works to protect coastal property, or other structures to be constructed by council (see also sections 4.3 and 6.13 of the plan).

## **5 Area covered by emergency action subplan**

The minimum area to be covered by an emergency action subplan would be either:

- any area defined by a direction from the Minister according to Section 55B of the CPA, or
- all beachfront margins where erosion is likely to threaten public and private infrastructure or assets.

The subplan may also cover areas of the coastline accessed or utilised by the general public where there is an identified threat posed by erosion, e.g. walking tracks through coastal parkland.

## **6 Matters to consider in the emergency action subplan**

The following are considered key elements when preparing an emergency action subplan.

### **6.1 Context of the emergency action subplan**

The focus of the emergency action subplan is to clearly and concisely describe the emergency response actions a council will take when coastal erosion is imminent, occurring or has occurred. It should both complement and integrate with the local DISPLAN, but is not to cover other issues or responsibilities under the State Storm Plan (as discussed in section 4).

As the subplan is a component of a CZMP, it should be consistent with the CZMP (if prepared), and not hinder its preparation and implementation. The subplan should be revised if actions have been implemented under a CZMP that reduce risks from coastal erosion, e.g. construction of long-term coastal protection works.

The subplan should not include:

- contact details for relevant staff which may change frequently, to avoid the need to revise the plan should these contact details change. The subplan can refer to actions to be carried out by a person in a specific position, e.g. the works engineer or depot manager. The subplan can refer to a separate contacts sheet with names and contact details.
- design details or specifications for any works such as coastal protection works. These should be in a separate technical document which is cross-referenced in the subplan.
- any information in a council DISPLAN or State Storm Plan – the subplan should just cross-reference applicable information in these plans.

### **6.2 Defining a beach erosion emergency**

It is important to determine the criteria or threshold that would be used to initiate actions under the emergency action subplan. For example, criteria could be based on warnings or forecasts from the Bureau of Meteorology or other relevant sources that would indicate potential for a beach erosion event. Other actions in the emergency action subplan might be initiated through monitoring on-site conditions during an erosion event to determine when relevant 'trigger' conditions might be realised that would initiate action under the subplan. Different trigger conditions may apply for actions under the State Storm Plan related to severe weather conditions or related to other phenomena such as king tides and high swells.

## 6.3 Actions before, during and after erosion emergency

### 6.3.1 Actions before erosion emergency

There are several actions that can be initiated before an erosion event that will be critical to the success of the emergency management response. These could include:

- informing the community of the council's intended erosion emergency responses under its emergency action subplan.
- preparing a communication strategy to advise the community of the likelihood of an impending beach erosion emergency that would initiate actions under the subplan.
- identifying areas where landowners may install emergency coastal protection works (in accordance with Part 4C of the CPA) and any applicable site-specific requirements for those works.
- preparing for planned emergency actions. Where protection works are proposed, such preparation would include arranging access to areas where works are proposed, obtaining relevant approvals and permissions to access lands for emergency management purposes, stockpiling necessary materials, and ensuring appropriate plant, equipment and experienced personnel are readily available.
- undertaking necessary environmental assessments and any development approval processes, where necessary, to facilitate emergency works outlined in the subplan. Refer to the provisions of clause 129 of the *State environmental planning policy (Infrastructure) 2007*.
- preparing up-to-date personal contact details for key council staff involved in coordinating actions under the subplan (include responsibilities of staff who prepare for, manage and coordinate recovery from an erosion emergency event) and individuals the council may need advice from, such as OEH staff, or to integrate with from other emergency sectors.

Should a council decide to place coastal protection works in response to an imminent or current coastal erosion event, these works need to be carefully planned prior to the event (note: there is no requirement for a council to place any works). Key considerations in deciding on any coastal protection works include:

- the type of coastal protection works which a council considers it could practically place under the circumstances, particularly if erosion occurs at more than one location in the council area. While these works may involve geotextile bags filled with sand, there is no requirement for a council to follow the *Code of practice under the Coastal Protection Act 1979* (DECCW 2011a). The requirements in this code only apply to emergency coastal protection works placed by landowners.
- the potential benefits of and impacts from the works. Coastal protection works can cause erosion at other locations – see the *Draft guidelines for assessing the impacts of seawalls* (DECCW 2011b). The emergency works also need to be designed to present a low public safety risk.
- whether the works can be safely placed when an erosion event is imminent or occurring.
- when and how the works will be removed. Works placed during an emergency situation should not normally be long-term coastal protection works. Councils should consider the likely beachfront landowner response to removing emergency works when deciding on whether to place them.

### **6.3.2 Actions during erosion emergency**

Actions undertaken during an erosion emergency are the key focus of the emergency action subplan. They should be managed by council officers who clearly understand the subplan and know the roles and responsibilities of key personnel. No actions undertaken should impede, conflict with or overlap with those of response agencies under SERMA unless there is prior agreement between the relevant parties. Actions should focus on the safety of personnel who might be working under the extreme adverse weather conditions that gave rise to the emergency.

A communication strategy needs to be in place during an erosion emergency, keeping affected communities informed of the council's intended responses. It should include a process for issuing safety advice (issued through the SES during severe weather events) where relatively high, unstable, near-vertical erosion escarpments develop along beaches. Irrespective of the cause of the erosion, a council should provide regular information updates to the community where erosion is likely to sever public access. The public should also be informed of the dangers these conditions may present. The communications strategy may need to be complemented by the erection of temporary safety fencing and associated warning signage.

### **6.3.3 Actions after erosion emergency**

After an erosion emergency has ceased, the following tasks are recommended:

- restore services and public access, and remove any threats to public safety, such as debris deposited or exposed on beaches
- continue temporary safety fencing and associated warning signage, as necessary
- monitor the performance and impact of any coastal protection works, including any emergency coastal protection works installed according to part 4C of the CPA, and take remedial action where necessary
- assess the structural integrity of unprotected infrastructure, buildings and other assets affected by or damaged during the erosion event, and take appropriate action where necessary
- maintain a communication strategy warning of the dangers of any persisting high, unstable or near-vertical erosion escarpments drying out and collapsing without notice – in high-use public areas, the council may consider collapsing these escarpments with machinery
- replenish any emergency materials and supplies for future erosion events
- critically review the subplan to ensure it achieved its performance objectives and revise it to address any identified shortcomings.

## **6.4 Landowner emergency coastal protection works**

Part 4C of the CPA allows landowners to place emergency coastal protection works without development approval providing they follow the requirements under the CPA and the CPA's code of practice (DECCW 2011a), which was established under the Coastal Protection Regulation 2011. This code includes a schedule listing 'authorised locations' for placing works and any associated beach access. Landowners also need to obtain prior certification from their local council or OEH before placing works.

Any site-specific issues that might limit landowners placing emergency coastal protection works at 'authorised locations' should be clearly identified in the emergency action subplan. One example is additional limitations on access or areas allowed to be disturbed,

such as Aboriginal cultural heritage sites. In this respect, consult in depth with any landowners at authorised locations who might be affected by the subplan.

## **7 Review of the emergency action subplan**

Irrespective of any post-emergency reviews outlined in section 5.3.3, the emergency action subplan should ideally be reviewed at least annually. This makes sure the document and any associated key contact lists are current, along with up-to-date relevant legislation, government policies and changes to 'authorised locations' for emergency coastal protection works placed by landowners.

Revised subplans must be certified according to section 55G of the CPA.

## **8 References**

DECCW 2011a, *Code of practice under the Coastal Protection Act 1979*, Department of Environment, Climate Change and Water, NSW, see [www.environment.nsw.gov.au/resources/water/coasts/110223CodeofPracCoastProtAct1979.pdf](http://www.environment.nsw.gov.au/resources/water/coasts/110223CodeofPracCoastProtAct1979.pdf)

DECCW 2011b, *Draft guidelines for assessing the impacts of seawalls*, Department of Environment, Climate Change and Water, NSW, see [www.environment.nsw.gov.au/resources/coasts/101043draftgdlnsseawalls.pdf](http://www.environment.nsw.gov.au/resources/coasts/101043draftgdlnsseawalls.pdf)

DECCW 2010, *Guidelines for preparing coastal zone management plans*, Department of Environment, Climate Change and Water, NSW, see [www.environment.nsw.gov.au/coasts/101019guidelinesczmps.htm](http://www.environment.nsw.gov.au/coasts/101019guidelinesczmps.htm)

SES 2007, *NSW State Storm Plan*, State Emergency Service State Headquarters, NSW, see [www.emergency.nsw.gov.au/content.php/554.html](http://www.emergency.nsw.gov.au/content.php/554.html)

## **9 Links to relevant legislation**

*Coastal Protection Act 1979*

[www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N](http://www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N)

*Coastal Protection Regulation 2011*

[www.legislation.nsw.gov.au/viewtop/inforce/subordleg+127+2011+cd+0+N/?dq=Regulations%20under%20Coastal%20Protection%20Act%201979%20No%2013](http://www.legislation.nsw.gov.au/viewtop/inforce/subordleg+127+2011+cd+0+N/?dq=Regulations%20under%20Coastal%20Protection%20Act%201979%20No%2013)

*State Emergency and Rescue Management Act 1989*

[www.legislation.nsw.gov.au/maintop/view/inforce/act+165+1989+cd+0+N](http://www.legislation.nsw.gov.au/maintop/view/inforce/act+165+1989+cd+0+N)

*State environmental planning policy (Infrastructure) 2007*

[www.legislation.nsw.gov.au/viewtop/inforce/epi+641+2007+cd+0+N](http://www.legislation.nsw.gov.au/viewtop/inforce/epi+641+2007+cd+0+N)

## Appendix – Extracts from the NSW State Storm Plan (SES 2007)

### 2.13 Local Government Councils

2.13.5 In addition, in council areas subject to coastal erosion/inundation

- a. Carry out ecologically sustainable planning and management of the coastal zone;
- b. Prepare Coastal Zone Management Plans in accordance with the Coastal Protection Act, 1979 including arrangements for the emergency management of coastal erosion (see section 4.3 for more details);
- c. Establish and maintain Coastal Zone Management Committees to facilitate the development of Coastal Zone Management Plans and ensure that key agencies are represented on such committees;
- d. Consult with the SES and other relevant agencies when developing emergency management arrangements for inclusion in Coastal Zone Management Plans;
- e. Provide SES with copies of coastal hazard and management studies if available to assist with emergency planning and operational intelligence systems;
- f. Assist the SES with community awareness programs to ensure people in locations potentially threatened by coastal erosion understand the threat and its management;
- g. Assist the SES with reconnaissance of areas susceptible to coastal erosion / inundation;
- h. Where surf lifeguard services are operated by Local Government Councils distribute advice contained in weather warnings to people on beaches when dangerous surf conditions are predicted;
- i. Close beach water areas when dangerous conditions caused by storms occur and notify the SES and Surf Life Saving NSW;
- j. Where emergency physical mitigation works to protect coastal property or other structures have been identified as being required in a Coastal Zone Management Plan, construct works. Where no Coastal Zone Management Plan exists Councils should seek appropriate technical, legal and environmental advice before constructing or allowing the construction of physical mitigation works to protect coastal property or other structures. These works should ensure protection of beach environments and beach amenity and allow continuing and undiminished access to beaches, headlands and waterways;
- k. After the storm, remove and/or mitigate the impact of temporary physical protective measures on the beach; and
- l. Assist the SES with the protection of readily moveable household and business contents in areas where coastal storms (likely to result in coastal erosion / inundation) are forecast or occurring.

### **4.3 Planning for Coastal Erosion**

- 4.3.1 Preparation and implementation of Coastal Zone Management Plans to address coastal erosion hazard is the responsibility of local government councils.
- 4.3.2 Under section 55B of the Coastal Protection Act 1979, a council whose area, or part of whose area, is included within the coastal zone may, or must if directed by the Minister, make a Coastal Zone Management Plan.
- 4.3.3 Under Section 55D, a council is required to prepare a draft Coastal Zone Management Plan in accordance with the Minister's guidelines (a Manual) referred to in section 733 (5) (b) of the Local Government Act 1993.
- 4.3.4 Section 55C of the Coastal Protection Act 1979 requires a Coastal Zone Management Plan to make provision for: (a) protecting and preserving beach environments and beach amenity, and (b) emergency actions of the kind that may be carried out under the State Emergency and Rescue Management Act 1989, or otherwise, during periods of beach erosion, including the carrying out of related works, such as works for the protection of property affected or likely to be affected by beach erosion, where beach erosion occurs through storm activity or an extreme or irregular event, and (c) ensuring continuing and undiminished public access to beaches, headlands and waterways, particularly where public access is threatened or affected by accretion.
- 4.3.5 Emergency response planning for coastal erosion / inundation is the responsibility of the SES. Commonly SES Sub-plans will include detail on:
- a. The nature of the coastal erosion / inundation hazard in the specific council area;
  - b. Responsibilities of key agencies;
  - c. Arrangements for public education;
  - d. Arrangements for warning and evacuation; and
  - e. Arrangements for the protection of readily removable household and business contents.
- 4.3.6 Coastal Zone Management Plans should not replicate arrangements in SES Sub-plans, though may reference arrangements outlined in SES Sub-plans. Coastal Zone Management Plans should comprise arrangements for the undertaking of council functions only, such as possible emergency engineering works, where they are deemed appropriate.
- 4.3.7 Councils should consult with the SES when developing emergency arrangements to be included in the Coastal Zone Management Plan to ensure compatibility with SES Sub-plans.

### **6.13 Property Protection**

#### **Strategy**

- 6.13.1 Minimise property damage

#### **Actions**

- 6.13.2 Through BoM storm warnings and SES media releases, encourage at-risk residents to undertake actions to minimise damage.

- 6.13.3 The SES will coordinate the protection of readily moveable household and commercial contents when property is at-risk as a consequence of coastal erosion / inundation.
- 6.13.4 All coastal physical mitigation works should be planned and constructed in accordance with the Coastal Protection Act 1979.
- 6.13.5 The SES is not responsible for controlling or conducting any physical mitigation works to protect property or structures at risk of collapse or undermining from coastal erosion either during or outside the period of storm activity. This includes but is not limited to:
  - a. The placement of rocks or other materials on beaches or foreshore areas; and
  - b. The construction of temporary walls made of sandbags, geotechnical tubes or other materials
- 6.13.6 Local Government Councils are responsible for controlling or conducting physical mitigation works to prevent coastal erosion, either during or outside the period of storm activity, when the works have been deemed appropriate.
- 6.13.7 Where emergency physical mitigation works to protect coastal property or other structures have been identified as being required in a Coastal Zone Management Plan, Local Government Councils may construct works. Where no Coastal Zone Management Plan exists Councils should seek appropriate technical, legal and environmental advice before constructing or allowing the construction of physical mitigation works to protect coastal property or other structures. These works should ensure protection of beach environments and beach amenity and allow continuing and undiminished access to beaches, headlands and waterways;
- 6.13.8 SES will coordinate the sandbagging of facilities and properties where flooding from coastal inundation is occurring.