



BYRON SHIRE COUNCIL



Draft  
Coastal Zone Management Plan  
for the Eastern Precincts of the  
Byron Bay Embayment  
Emergency Action Sub Plan



*Byron Shire Council recognises the Bundjalung of Byron Bay Aboriginal - Arakwal People as traditional owners and custodians within this local Government area. Byron Shire Council and the Aboriginal community are committed to working together in the process of reconciliation.*

*Council recognises that the most enduring and relevant legacy the Indigenous people offer, is their understanding of the land and local and deep commitment to place.*

#### **Document History**

<b>Doc No.</b>	<b>Date Amended</b>	<b>Details Comments eg Resolution No.</b>
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Cover photo: Aerial photo of Cape Byron to Main Beach (Byron Shire Council)



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## Definitions

<b>Beach</b>	Has the same definition as the CP Act: <i>means the area of unconsolidated or other readily erodible material between the highest level reached by wave action and the place where tidal or lake waters reach a depth of 10 metres below Australian Height Datum.</i>
<b>Beach Erosion</b>	The offshore movement of sand from the sub-aerial beach during storms or an extreme or irregular event <sup>1</sup> .
<b>BSC</b>	Byron Shire Council
<b>BSC EASP Internal Support Procedure</b>	BSC EASP internal support procedure provides further detail that could frequently change, including staff contacts, roles and responsibilities, sources and supplies, monitoring procedures
<b>CERT</b>	Coastal Erosion Response Team (internal team – Byron Shire Council)
<b>Coastal Protection Works</b>	Activities or works to reduce the impact of coastal hazards on land adjacent to tidal waters and includes sea walls, revetment and beach nourishment
<b>Code of Practice</b>	Code of Practice under the <i>Coastal Protection Act 1979</i>
<b>Combat Agency</b>	The agency identified in the Tweed Byron Local Emergency Management Plan, September 2016 (EMPLAN) as the agency primarily responsible for responding to a particular emergency.
<b>CP Act</b>	<i>Coastal Protection Act 1979</i>
<b>CZMP</b>	Coastal Zone Management Plan for the Eastern Precincts of the Byron Bay Embayment (Cape Byron to Main Beach)
<b>DCP 2010</b>	Byron Shire Development Control Plan 2010
<b>EASP</b>	Emergency Action Sub Plan
<b>EMPLAN</b>	The Tweed and Byron Shire Council Local Emergency Plan, 2016 prepared by the Byron Shire Local Emergency Management Committee in compliance with the <i>State Emergency and Rescue Management Act, 1989</i> Section 29(1) NSW State Emergency Management Plan 2012, pursuant to the <i>State Emergency and Rescue Management Act 1989</i> .
<b>Emergency</b>	A situation in which Beach Erosion is imminent, occurring or has occurred, and the Beach Erosion endangers, or threatens to endanger the safety or health of people or destroys or damages, or threatens to destroy or damage any property and which requires a significant and coordinated response <sup>2</sup>
<b>Guidelines</b>	Guidelines for Preparing Coastal Zone Management Plans (OEH, July 2013) referred to in Section 55D CP Act
<b>Intended Emergency Actions</b>	Means the actions in Section 4 of this EASP subject to the provisions of this EASP.
<b>LEMC</b>	Local Emergency Management Committee (refer EMPLAN)
<b>LEMO</b>	Local Emergency Management Officer (refer EMPLAN)

<sup>1</sup> Source adapted from s55C(1)(b) CP Act and the Guidelines.

<sup>2</sup> Source adapted from definition in NSW State Emergency Management Plan, 2012.



<b>LEOCON</b>	Local Emergency Operations Controller (refer EMPLAN)
<b>Local Flood Plan</b>	Byron Shire Local Flood Plan, February 2006
<b>NSW SES</b>	New South Wales State Emergency Service
<b>OEH</b>	Office of Environment and Heritage
<b>SERM Act</b>	<i>State Emergency and Rescue Management Act 1989</i>
<b>State Storm Plan 2015</b>	New South Wales State Storm Emergency Sub Plan, September 2015 – A sub plan of the New South Wales Emergency Management Plan, 2012



# E1 Introduction

## E1.1 Scope of plan

This Emergency Action Sub Plan (EASP) details the Intended Emergency Actions to be carried out by Byron Shire Council (BSC), subject to the provisions of this EASP, in response to an Emergency.

This EASP is related to the draft Coastal Zone Management Plan for the Eastern Precincts of the Byron Bay Embayment (CZMP) detailing intended actions as they relate to Management Objective 7 of the plan, which is:

*To minimise and manage risks to beach access, recreational amenity and public safety by preparing for and responding to coastal erosion emergencies in a planned and coordinated manner.*

The Intended Emergency Actions in this EASP apply to the Eastern Precincts of the Byron Bay Embayment, being the beach precincts of Little Wategos/Wategos, The Pass, Clarkes and Main Beach. The Eastern Precincts of the Byron Bay Embayment is depicted at Figure 1.


In this EASP, Beach Erosion is defined as the offshore movement of sand from the sub-aerial beach during storms or an extreme or irregular event that may not involve a storm or severe weather, for example heavy ground swell, a low to moderate swell acting on a depleted beach profile, slumping of the erosion escarpment or erosion protection structures after an event has passed.

The EASP is triggered in an Emergency, which is defined as a situation in which Beach Erosion is imminent, occurring or has occurred, and the Beach Erosion endangers, or threatens to endanger the safety or health of people or destroys or damages, or threatens to destroy or damage any property and which requires a significant and coordinated response.

The purpose of this EASP is to outline BSC's Intended Emergency Actions, subject to the provisions of this EASP, before, during and after an Emergency. The Emergency may or may not have triggered the Tweed Byron Local Emergency Management Plan, September 2016 (EMPLAN) or the State Storm Plan 2015.

The focus of this EASP is the expenditure of public funds on public assets to achieve the best cost-effective public benefit. Nothing in this EASP requires the expenditure of public funds on or for the sole benefit of private assets.



 Eastern Precincts of the Byron Bay Embayment



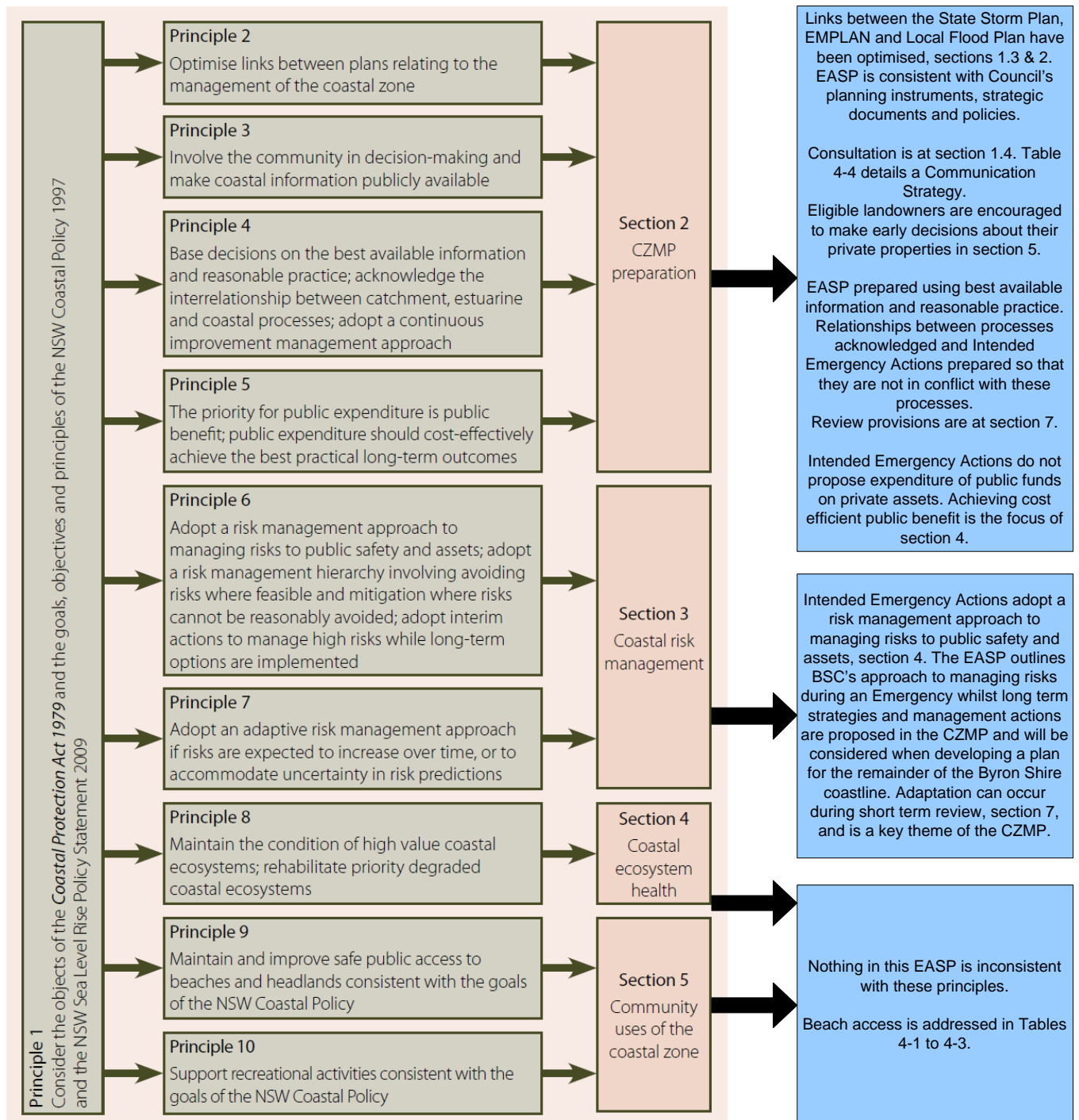
**Figure 1** Eastern Precincts of the Byron Bay Embayment





## E1.2 Coastal Management Principles

Relevant Coastal Management Principles of the Guidelines (refer Figure 2), including the objects of the *Coastal Protection Act 1979* (CP Act) goals, objectives and principles of the NSW Coastal Policy 1997 have been considered in development of the Intended Emergency Actions in this EASP, seen in Figure 2.



**Figure 2** Consideration of Coastal Management Principles  
(sourced from the Guidelines)

## E1.3 Legal Framework

This EASP details BSC's response to an Emergency within the locality of the Eastern Precincts of the Byron Bay Embayment. It addresses the CZMP's need to provide for the requirements under Section 55C(1)(b) of the CP Act. It also takes account of the requirements under 55C(2)(a) of the CP Act.

Council first prepared an EASP in response to a Direction issued by the then Minister for Environment and Heritage, the Hon Robyn Parker MP, under Section 55B of the CP Act. The EASP prepared at this time was for the entire Byron Shire coastline and adopted by Council on 15 December 2011.

The EASP was then updated in 2016 and re-submitted to the then Minister for Planning, the Hon. Rob Stokes in association with the development of the draft Coastal Zone Management Plan for the Byron Bay Embayment (Cape Byron to Tyagarah).

This EASP is a product of a review completed in March 2018 during development of the draft CZMP for the Eastern Precincts of the BBE (Cape Byron to Main Beach) and forms part of the CZMP.

There is a hierarchy of emergency plans and plans made under the *State Emergency and Rescue Management Act 1989* (SERM Act) which take precedence over this EASP. In accordance with the CP Act, this EASP is consistent with plans prepared under the SERM Act. The EASP does, however, provide additional detail not found in the EMPLAN and the Local Flood Plan regarding BSC's intended response. In addition this EASP details BSC's intended response to a non-EMPLAN event.

## E1.4 Consultation

Community and agency participation during the preparation of the EASP in 2011 exceeded the minimum requirements in the CP Act (Refer Table 1). Table 1 details the consultation carried out prior to the exhibition of the draft EASP in 2011.

**Table 1 Summary of consultation carried out prior to the exhibition of the draft EASP (July 2011 to September 2011)**

Who	How
Bundjalung of Byron Bay Aboriginal Corporation (Arakwal)	Information session – overview of proposals for EASP, feedback session
Belongil - Private landowners in immediate coastal hazard planning precinct (DCP 2010)	Community Information Workshop – overview of proposals for EASP, feedback session
South Golden Beach and New Brighton - Private landowners in immediate coastal hazard planning precinct (DCP 2010) and representatives from the South Golden Beach Community Association Inc.	Community Information Workshop – overview of proposals for EASP, feedback session
SES	Agency Workshop – review of working draft EASP, feedback session
Police	Agency Workshop – review of working draft EASP,



Who	How
	feedback session
Crown Lands	Emails, phone calls – review of working draft EASP, written feedback
Marine Parks Authority	Emails, phone calls – review of working draft EASP, written feedback
Office of Environment and Heritage	Meetings, Agency Workshop - review of working draft EASP, feedback session, written feedback

On 20 October 2011, Council endorsed the draft EASP for public exhibition in accordance with the CP Act and for a period of 21 days (res 11-851). Public exhibition took place from 24 October 2011 to 14 November 2011. A summary of the public exhibition process is at Table 2.

**Table 2 Summary of public exhibition of the draft EASP (2011)**

Activity	Details
Notice of public exhibition and invitation for submissions	Northern Star 29/10/ 2011 Byron Shire News 27/10/11 and 3/11/11
Exhibition of draft EASP	Council's Community Access Points: Mullumbimby Administration Building Federal Store, Federal, Bangalow Post Office, Summerland Credit Union Ocean Shores, Suffolk Park Holiday Park, Council libraries. Council's website: <a href="http://www.byron.nsw.gov.au/PublicExhibition/">www.byron.nsw.gov.au/PublicExhibition/</a>
Community Information Stands	New Brighton Beach 3/11/11 Brunswick Heads 3/11/11 Byron Bay 4/11/11 Suffolk Park 4/11/11

Ten submissions were received in response to the public exhibition of the draft EASP. These submissions were considered and reported to Council on the 15 December 2011.

Further consultation activities were then carried out in 2016 during the development of the CZMP for the BBE and in 2018 during the development of the draft CZMP for the Eastern Precincts of the BBE. Amendments to the EASP were primarily editorial due to updates to legislation and amending the EASP to encompass the Eastern Precincts of the BBE only.

## E1.5 Management Options Analysis

The process for evaluating the management options that underpin the Intended Emergency Actions in the draft EASP is at Appendix 1.



## E2 EMPLAN and NON-EMPLAN events

Different Combat Agencies are designated for different types of events. The NSW SES is the designated Combat Agency for damage control from storms, flood and tsunami. These are EMPLAN events.

However, the role of the NSW SES as the Combat Agency for storms does not include coastal erosion and inundation caused by astronomical high tides when severe weather is not actually developing or occurring. These are non-EMPLAN events.

**Note:** The role of the SES during a storm, including coastal erosion from storm activity is primarily restricted to the protection of life and property, such as evacuation of people from houses and movement of household items.

### E2.1 EMPLAN event

In most instances when the potential for local/regional scale beach erosion is identified, the Bureau of Meteorology (BOM) will issue a severe weather warning such as “Damaging Surf” (e.g. forecast on-shore waves > 5m). Issuing of a BOM severe weather warning triggers involvement of the Combat Agency in accordance with plans made under the SERM Act for example the EMPLAN, the Local Flood Plan and the *State Storm Plan 2015*. However, as stated above the role of the SES is primarily restricted to protecting life and property.

Table 3 lists the five hazards or sources of risk<sup>3</sup>, which are relevant to coastline management, and the designated Combat Agency.

**Table 3 Hazards identified in the EMPLAN**

Natural Hazards	Risk Rating		Responsible Agency/comments
	Likelihood	Consequence	
East Coast Low/Cyclone	Almost certain	Moderate	<b>NSW SES</b> – refer Byron Shire Local Flood Plan (Annex Q)
Flood	Almost certain	Major	<b>NSW SES</b> – refer Byron Shire Local Flood Plan and Tweed Byron Local EMPLAN
Severe Storm – wind, rain, hail, electricity	Almost certain	Moderate	<b>NSW SES</b> – refer Byron Shire Local Flood Plan (Annex Q) and Tweed Byron Local EMPLAN
Storm Surge/Heavy Swell	Likely	Major	<b>NSW SES</b> – refer Byron Shire Local Flood Plan (Annex Q)
Tsunami	Possible	Catastrophic	<b>NSW SES</b> – Refer Tweed Byron Local EMPLAN and NSW State Tsunami Sub-plan – available through the NSW State Emergency Service Website <a href="http://www.ses.nsw.gov.au/">www.ses.nsw.gov.au/</a>

<sup>3</sup> Source – EMPLAN

The full extent of various agencies' responsibilities after a severe weather warning has been issued by BOM is found in the Tweed Byron Local EMPLAN and the Local Flood Plan Annex Q – Emergency Management of Coastal Erosion/Oceanic Inundation.

## E2.2 NON-EMPLAN event

There are four possible scenarios under which an Emergency may occur in the absence of a severe weather warning being issued by BOM. In this situation there would be no designated Combat Agency to manage the Emergency.

The four identified beach erosion scenarios under which a severe weather warning may **not** be issued by BOM are described in Table 4.

**Table 4 Scenarios under which a severe weather warning may not be issued by BOM and where beach erosion may occur**

Scenario	Scenario Description	BOM Weather Warning likely?
<b>Heavy swell</b>	Ground swell formed at great distance from the coast, may impact on the coastline with little or no warning, and may result in damaging surf producing large-scale erosion and/or inundation. Long-range ground swell may erode the dune system resulting in landward recession of the erosion escarpment.	Possible
<b>Depleted beach profile</b>	Following beach erosion events the local beach profile may be severely depleted (lowered) such that even a low to moderate swell coinciding with a high tide may erode the dune system resulting in landward recession of the erosion escarpment.	Unlikely
<b>Slumping of the erosion escarpment</b>	Following erosion of the dune system a sheer and near vertical erosion escarpment may remain. As the sand dries out the escarpment will slump to a more stable slope of about 1V:1.5H. Natural processes may further flatten the escarpment. Slumping induced landward recession of the erosion escarpment may occur several weeks after a coastal erosion event.	Unlikely
<b>Slumping of coastal protection works</b>	Large coastal erosion events may undermine the structural stability of coastal protection works. Slumping of coastal protection works may occur some time after the event has passed and may result in landward recession of the erosion escarpment.	Unlikely

## E3 Roles and Responsibilities

In the event of an Emergency triggered by any of the scenarios listed at Table 3, and the associated declaration of a weather warning by BOM, the NSW SES is the designated Combat Agency for managing the event, with BSC implementing the Intended Emergency Actions of this EASP, and any relevant actions under the Tweed Byron Local EMPLAN and Local Flood Plan, under the direction of the Combat Agency.

In the event that an Emergency is triggered by any of the four scenarios listed at Table 4, and in the absence of a Combat Agency managing the response, it is BSC's responsibility to manage the response and implement the Intended Emergency Actions of this EASP, subject to the provisions of this EASP.

Figure 3 provides a simplified flow chart establishing the lead Combat Agency during an Emergency, with or without the issuing of a severe weather warning by BOM.

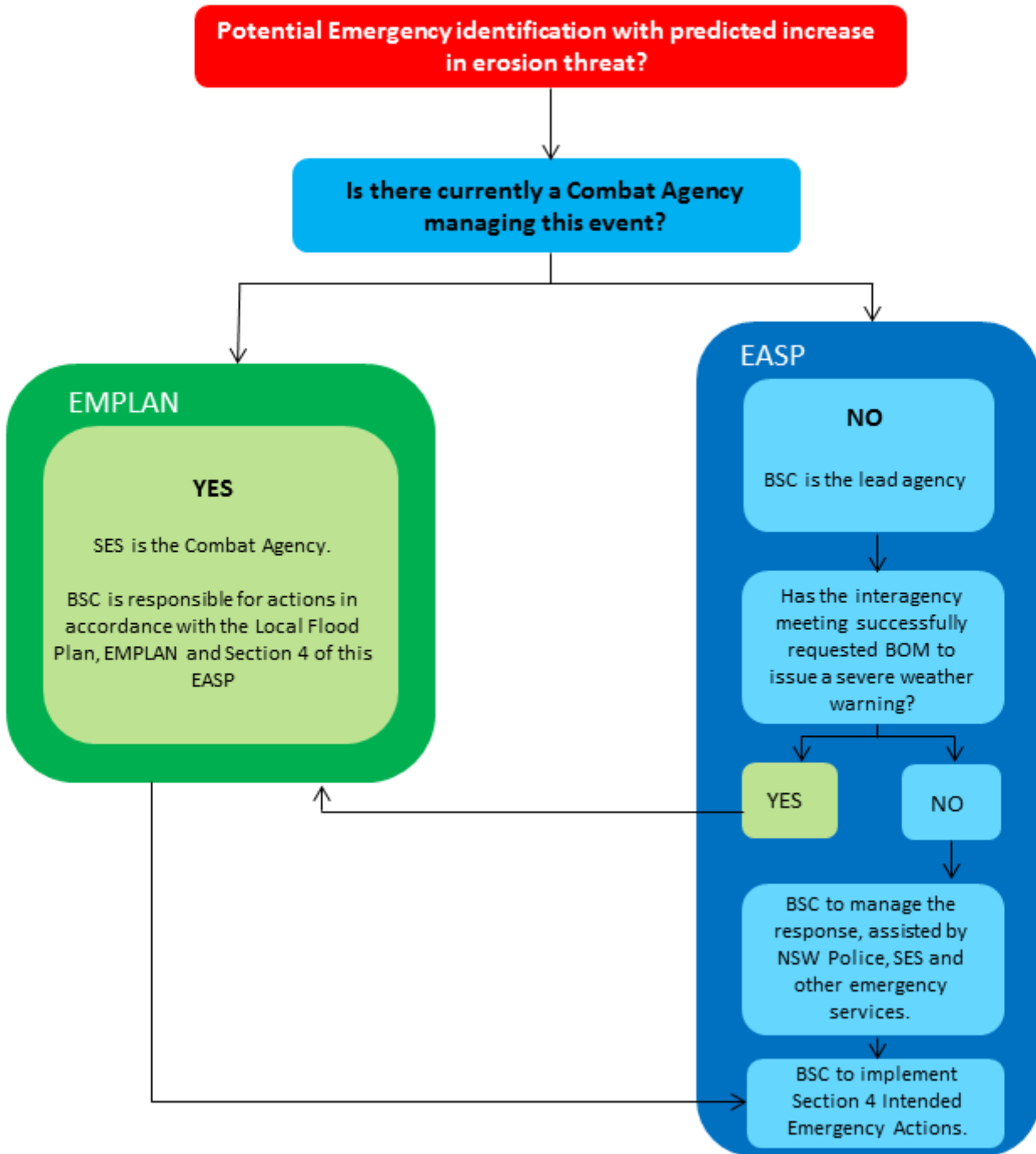
Seven major agencies may have roles and responsibilities during emergency events:

- Commonwealth Bureau of Meteorology (BOM)
- NSW State Emergency Service (NSW SES)
- NSW Police
- Office of Environment and Heritage (OEH)
- Byron Shire Council (BSC)
- NSW Ambulance Service
- Surf Life Saving NSW

Also refer to the State Storm Plan 2015 for additional supporting agencies.

Table 5 identifies roles for each of the major agencies during coastal erosion events prior to or in the absence of a Combat Agency managing the event.

Table 6 illustrates the phases that BSC goes through in implementing this EASP. This does not mean that BSC will always be the lead agency or be required to manage the response in all circumstances, refer to Section 2 (E2) and the provisions of this EASP.



**Figure 3** Flow chart of Emergency Roles

**Table 5 Roles during an Emergency before or in the absence of a Combat Agency managing the event**

Agency	Role	Trigger for action
Bureau of Meteorology (BOM)	<ul style="list-style-type: none"> <li>▪ Formulate weather forecasts.</li> <li>▪ Formulate, issue and disseminate information regarding a weather warning declaration, when applicable.</li> </ul>	Normal operations
Office of Environment and Heritage (OEH)	<ul style="list-style-type: none"> <li>▪ Assist in the monitoring and evaluation of the coastal erosion escarpment, sea and beach conditions as appropriate.</li> </ul>	Request for assistance from BSC
	<ul style="list-style-type: none"> <li>▪ Provide information and advice to BSC on hazard threat and potential mitigation measures.</li> </ul>	Request for assistance from BSC
Byron Shire Council (BSC)	<ul style="list-style-type: none"> <li>▪ Monitor coastal weather and processes and the beach erosion escarpment.</li> </ul>	Normal operations
	<ul style="list-style-type: none"> <li>▪ Advise LEOCON of Emergency.</li> <li>▪ Manage the response in cooperation from other agencies.</li> <li>▪ Implement Intended Emergency Actions in accordance with this EASP.</li> </ul>	Emergency
Local Emergency Operations Controller (LEOCON)	<ul style="list-style-type: none"> <li>▪ Advisory role only</li> </ul>	Emergency
NSW Police	<ul style="list-style-type: none"> <li>▪ Police have statutory powers to implement actions under Legislation.</li> <li>▪ The Police may consider providing assistance to BSC upon request</li> </ul>	As per SERM Act Request for assistance from BSC
NSW State Emergency Services (NSW SES)	<ul style="list-style-type: none"> <li>▪ The NSW SES may consider providing assistance to BSC upon request</li> </ul>	Request for assistance from BSC
NSW Ambulance Service	<ul style="list-style-type: none"> <li>▪ The NSW Ambulance Service may consider providing assistance to BSC upon request</li> </ul>	Request for assistance from BSC



**Table 6 Phases for the delivery of BSC's Intended Emergency Actions for Emergencies**

Phases		Phase Actions
Preparedness	<b>Phase 1</b> (pre-erosion, desk top analysis) Normal Operations	Undertake regular desktop monitoring of coastal weather and processes, including severe weather warnings. If severe weather warning issued or potential Emergency identified, determine if internal advice should be issued as per BSC EASP Internal Support Procedure. Where possible, implement relevant 'Preparedness' actions in Section 4 (E4) and Table 7 and Table 10.
	<b>Phase 2</b> (preliminary field monitoring) Has a severe weather warning or internal advice been issued? <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="background-color: green; color: white; padding: 5px; border: 1px solid black;">No – remain in Phase 1</div> <div style="background-color: orange; color: white; padding: 5px; border: 1px solid black;">Yes – Phase 2 initiated</div> </div>	Undertake field inspections, collect data and report on the extent of beach erosion. Note: If EMPLAN triggered, subject to the provisions of this EASP implementation of Phase 2 to Phase 6 and actions in Table 7 to Table 10 will be under the direction of the Combat Agency. Where possible, implement relevant 'Preparedness' actions in Section 4 (E4) and Table 7 and Table 10.
	<b>Phase 3</b> (detailed field monitoring) Has significant beach erosion occurred with a predicted increase in erosion threat? <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="background-color: green; color: white; padding: 5px; border: 1px solid black;">No – remain in Phase 2</div> <div style="background-color: orange; color: white; padding: 5px; border: 1px solid black;">Yes – Phase 3 initiated</div> </div>	Continue to undertake field inspections, collect data and report. Review extent of implementation of 'Preparedness' actions in Section 4 (E4) and Table 7 and Table 10, and where possible, implement any outstanding Preparedness actions. Call an internal emergency management meeting to assess data and determine if to move to standby.
	<b>Phase 4</b> (standby) Did the emergency meeting decide to proceed to standby for implementation of intended response actions? <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="background-color: green; color: white; padding: 5px; border: 1px solid black;">No – remain in Phase 3</div> <div style="background-color: orange; color: white; padding: 5px; border: 1px solid black;">Yes – Phase 4 initiated</div> </div>	Continue to undertake field inspections, collect data and report. Organise interagency emergency meeting (including NSW SES, Police, OEH) to determine appropriate response strategy. Has a severe weather warning been issued already or did the meeting decide to request a BOM severe weather warning? <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="background-color: green; color: white; padding: 5px; border: 1px solid black;">No – proceed to Phase 5</div> <div style="background-color: orange; color: white; padding: 5px; border: 1px solid black;">                         Yes –                         <ul style="list-style-type: none"> <li>NSW SES to manage response as Combat Agency</li> <li>BSC to proceed to Phase 5 under the direction of the Combat Agency</li> </ul> </div> </div>
Response	<b>Phase 5</b> Does beach erosion pose a risk to life and property and/or there is a predicted increase in erosion threat? <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="background-color: green; color: white; padding: 5px; border: 1px solid black;">No – remain in Phase 4</div> <div style="background-color: orange; color: white; padding: 5px; border: 1px solid black;">Yes – Phase 5 initiated</div> </div>	Where possible, coordinate the implementation of 'Response' actions in Section 4 (E4) and Table 8 and Table 10. Note: If EMPLAN triggered, subject to the provisions of this EASP, implementation of Phase 5 to Phase 6 and actions as per Section 4 (E4) and Table 8 and Table 10 will be under the direction of the Combat Agency.
Recovery	<b>Phase 6</b> Erosion threat has abated and it is safe to conduct post-erosion activities? <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="background-color: green; color: white; padding: 5px; border: 1px solid black;">No – remain in Phase 5</div> <div style="background-color: orange; color: white; padding: 5px; border: 1px solid black;">Yes – Phase 6 initiated</div> </div>	Where possible, coordinate implementation of 'Recovery' actions in Section 4 (E4) and Table 9 and Table 10. Coordinate the preparation of a de-brief report including review of the EASP.



## E4 Intended Emergency Actions

Intended Emergency Actions are detailed in Table 7, Table 8, Table 9 and Table 10.

If the EMPLAN is triggered, BSC's Intended Emergency Actions will be undertaken at the direction of the Combat Agency, subject to the provisions of this EASP.

The implementation of BSC's Intended Emergency Actions detailed in Table 7, Table 8, Table 9 and Table 10 will be dependent upon a number of factors including ensuring the occupational health and safety of personnel, competing priorities, available resources, obtaining necessary agreements and approvals from landowners such as Crown Lands or relevant State Government agencies, and Council budgetary and time constraints. All factors will be taken into account in determining whether Intended Emergency Actions can and will be feasible and reasonable to implement.



**Table 7 Preparedness - BSC Intended Emergency Actions**

Preparedness actions to be undertaken by BSC
<p><b>1. Regularly monitor:</b></p> <ul style="list-style-type: none"> <li>a) Coastal weather and processes</li> <li>b) Key locations</li> <li>c) Beach accesses</li> </ul> <p><b>Key locations:</b>                      Jonson Street Rock revetment Works                      Main Beach Surf Life Saving Club                      Beach access locations are shown at <b>Figure 3</b>.</p>
<p><b>2. Sources and supplies:</b></p> <ul style="list-style-type: none"> <li>a) Review the stockpiles of barricades, temporary fencing, geo-textile bags and ancillary equipment, geo-textile rolls and signage</li> <li>b) Review the list of suppliers for, and availability of, non-stockpiled materials which may be required for Intended Emergency Actions, such as sand or rock</li> </ul> <p>Note: refer to BSC EASP Internal Support Procedure for detailed information.</p>
<p><b>3. Development within immediate hazard area (BMT WBM, 2013):</b></p> <ul style="list-style-type: none"> <li>a) Monitor and assess the erosion escarpment in relation to development at key locations</li> </ul> <p><b>Key locations:</b>                      Refer <b>Figure 4</b>.</p>
<p><b>4. BSC owned caravan parks:</b></p> <ul style="list-style-type: none"> <li>a) Owners/operators to review evacuation plans and commence implementation of appropriate actions</li> <li>b) Monitor the position of the erosion escarpment</li> </ul> <p><b>Key locations:</b>                      First Sun Caravan Park</p>

**Table 8 Response - BSC Intended Emergency Actions**

Response actions to be undertaken by BSC
<p><b>1. Beach accesses:</b></p> <ul style="list-style-type: none"> <li>a) Monitor and assess</li> <li>b) Where accesses are considered unsafe: <ul style="list-style-type: none"> <li>(i) temporarily close and/or</li> <li>(ii) erect appropriate signage</li> </ul> </li> <li>c) where accesses are required to facilitate Intended Emergency Actions or actions under the direction of the Combat Agency, implement necessary temporary access works if required</li> </ul> <p><b>Key locations:</b></p> <p>Beach access locations are shown at <b>Figure 3</b>.</p>
<p><b>2. Roads:</b></p> <ul style="list-style-type: none"> <li>a) Monitor and assess</li> <li>b) Where roads are considered unsafe: <ul style="list-style-type: none"> <li>(i) temporarily close and/or</li> <li>(ii) erect appropriate signage</li> </ul> </li> <li>c) where accesses are required to facilitate Intended Emergency Actions or actions under the direction of the Combat Agency, implement necessary temporary access works if required where appropriate</li> </ul>
<p><b>3. BSC owned caravan parks:</b></p> <ul style="list-style-type: none"> <li>a) Liaise with caravan park managers</li> <li>b) Assist with barricading and fencing the caravan park's beach accesses</li> <li>c) Assist with traffic management</li> <li>d) Authorise closure and opening of caravan parks in coordination with caravan park managers</li> <li>e) Assist the NSW Police, if requested, in the evacuation of residents as required</li> </ul> <p><b>Key locations:</b></p> <p>First Sun Caravan Park</p>
<p><b>4. Services and associated infrastructure:</b></p> <ul style="list-style-type: none"> <li>a) If required, ensure all sewerage and water services are safely disconnected</li> <li>b) If required, contact utility service providers to request disconnection of electrical services to the affected area</li> </ul>
<p><b>5. Jonson St rock revetment works and interim beach access stabilisation works:</b></p> <ul style="list-style-type: none"> <li>a) Monitor works and any associated risks with beach erosion</li> <li>b) Restrict public access to mitigate any risks associated with failure/wave overtopping</li> <li>c) Repair as necessary and if appropriate</li> <li>d) Notify SES/Police if evacuation required as a result of failure/wave overtopping</li> </ul> <p><b>Key locations:</b></p> <p>Jonson Street car park Main Beach Surf Life Saving Club</p>
<p><b>6. Other BSC assets</b></p> <ul style="list-style-type: none"> <li>a) Monitor the integrity of BSC assets at risk and if necessary take appropriate action to repair assets and/or mitigate any associated risks</li> </ul> <p><b>High risk assets:</b></p>

## Response actions to be undertaken by BSC

Clarkes Beach stormwater outlet  
Wategos Beach stormwater outlet  
Wategos Beach revetment wall and Marine Parade

### 7. Temporary access works on public land:

- a) Implement temporary access works to facilitate BSC's Intended Emergency Actions or actions under the direction of the Combat Agency if required

#### Key locations:

Jonson Street car park  
Surf Life Saving Club beach access area

### 8. Development within immediate coastal hazard planning precinct on public lands:

- a) If required, engage a coastal/geotechnical engineer to conduct site inspections
- b) Initiate assessment of risk of collapse of structures
- c) If collapse likely, liaise with NSW Police or NSW SES to initiate evacuation procedures, provide assistance as required noting that BSC does not have the authority to mandate evacuation (refer *State Emergency and Rescue Management Act, 1989*)
- d) Mitigate risks to public safety e.g. erect barricades and warning signs
- e) Disseminate available information to members of the public as required

#### Key locations:

Refer Figure 4.

### 9. Development within immediate coastal hazard planning precinct on private lands:

- a) Encourage landowners to engage a coastal/geotechnical engineer to assess risk of collapse of structures
- b) Mitigate risks to public safety e.g. erect barricades and warning signs
- c) Disseminate relevant information to affected private landowners

#### Key locations:

Refer Figure 4.

## Supporting Information:

### 7. Temporary access works on public land

Certain temporary access works may be required before, during or after storm events on Council owned or controlled or occupied land (this may include Crown Land with appropriate permissions). Temporary access works may include placing sand filled geotextile bags or erecting temporary barriers. Emergency vehicle access may need to be maintained using machinery to regrade the dune and by laying a gravel base to provide a firm vehicle base for access through the dune. These works are not expected to become permanent and generally should be removed as soon as possible.

**Table 9 Recovery - BSC Intended Emergency Actions**

Recovery actions to be undertaken by BSC	
<b>1. Beach debris</b>	a) Assess beach debris priority and initiate clearing
<b>2. Beach access</b>	<p>a) Repair and rebuild beach access points in accordance with the Coastal Dune Management: A manual of Coastal Dune Management and Rehabilitation Techniques (Department of Land and Water Conservation, 2001) and the estimated medium-term beach alignment (it is not recommended to have the geo-bag structures protrude substantially onto the active beach - obtain specialist technical advice where appropriate)</p> <p>b) Reopening of beach accesses is not to occur until safe to do so</p> <p>c) Geotextile bags may need to be installed at key locations after the event to ensure public safety and access on and off the beach</p> <p><b>Key locations:</b> Main Beach Surf Life Saving Club Main Beach/Clarkes Beach</p>
<b>3. Roads</b>	<p>a) Assess roads</p> <p>b) Reopening of roads is not to occur until safe to do so</p> <p>c) Initiate reestablishment or relocation where appropriate</p>
<b>4. Services and associated infrastructure</b>	<p>a) Assess infrastructure and services</p> <p>b) Reopening of services and associated infrastructure not to occur until safe to do so</p> <p>c) Initiate reestablishment or relocation where appropriate</p>
<b>5. Jonson St rock revetment works and interim beach access stabilisation works:</b>	<p>a) Assess</p> <p>b) Repair as necessary</p>
<b>6. Other BSC assets</b>	<p>a) Assess</p> <p>b) Repair as necessary</p>
<b>7. Temporary access works on public land:</b>	<p>a) Continue temporary safety fencing and associated warning signage as necessary</p> <p>b) Where and when appropriate, remove any temporary works, restore beach or land</p>
<b>8. Sources and Supplies</b>	a) Replenish any emergency materials and supplies stockpiles
<b>9. Data Collection</b>	a) Collect data on beach profile to inform this EASP.

**Table 10 Communication - BSC Intended Emergency Actions**

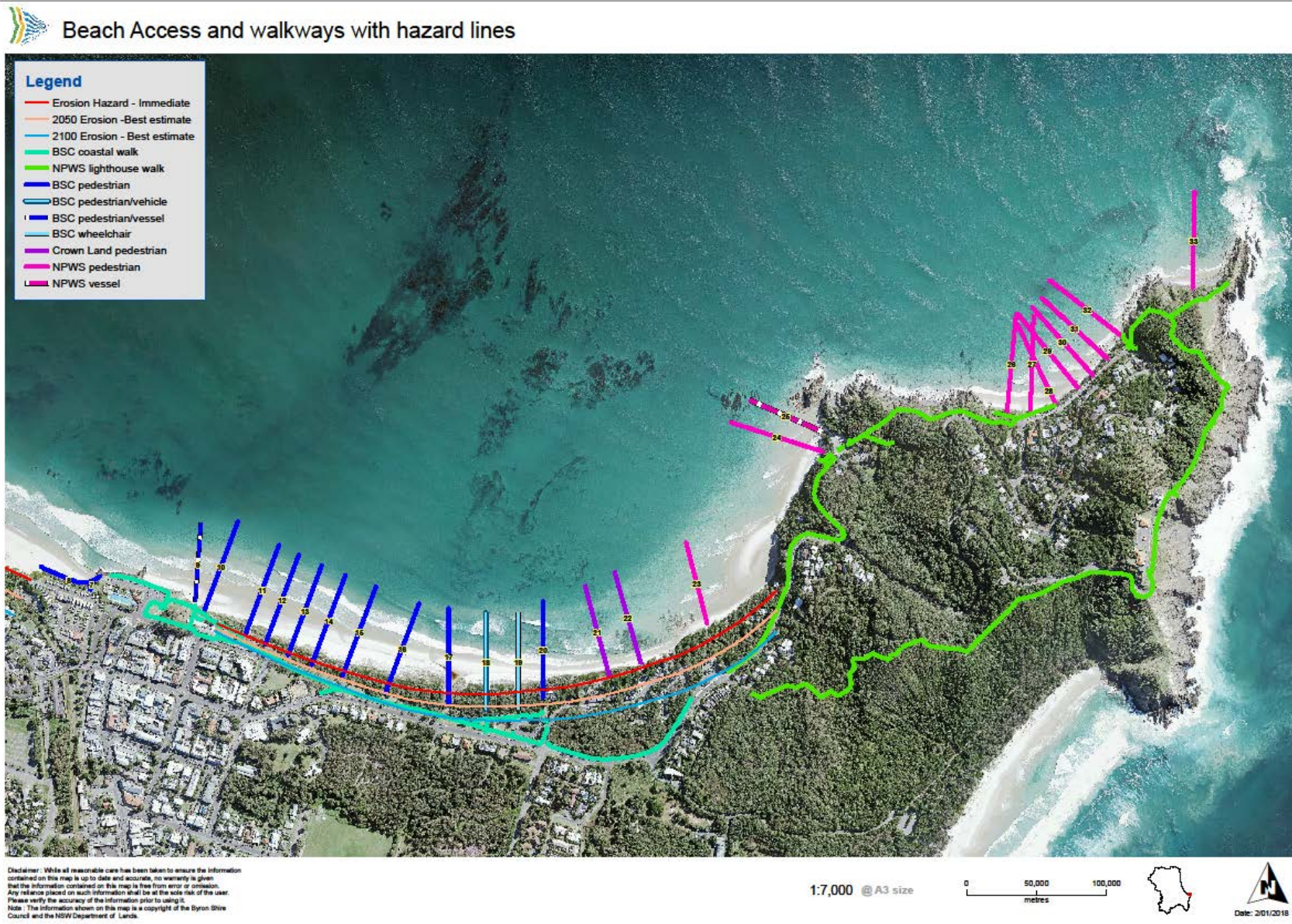
Phase	Intended Emergency Actions
<b>Preparedness</b>	<ol style="list-style-type: none"> <li>1. Liaise with the NSW SES and other emergency services to avoid confusion, duplication of messages and ensure consistency, noting that during a EMPLAN event, the role of the NSW SES includes: <ul style="list-style-type: none"> <li>• advising the community at risk of the problem and actions they should take</li> <li>• protection of life through the warning and evacuation of residents at risk</li> </ul> </li> <li>2. Provide information to the community, including community groups, visitors and tourists, on: <ul style="list-style-type: none"> <li>• risks associated with beach erosion</li> <li>• conditions that could bring about an Emergency</li> <li>• the contents of this EASP</li> </ul> </li> </ol>
<b>Response</b>	<ol style="list-style-type: none"> <li>1. Liaise with the NSW SES and other emergency services to avoid confusion, duplication of messages and ensure consistency, noting that during a EMPLAN event, the role of the NSW SES includes: <ul style="list-style-type: none"> <li>• advising the community at risk of the problem and actions they should take</li> <li>• protection of life through the warning and evacuation of residents at risk</li> </ul> </li> <li>2. Release information to the community, including community groups, visitors and tourists, regarding: <ol style="list-style-type: none"> <li>a) nature and extent of the Emergency</li> <li>b) BSC's Intended Emergency Actions and likely impacts e.g. closure/loss of beach access</li> <li>c) risks associated with the Emergency e.g. collapse of sand dunes, wave overtopping</li> <li>d) ways to minimise risk to personal and public safety e.g. avoid the hazard areas, heed safety warnings</li> </ol> </li> <li>3. Erect appropriate signage, including where temporary access works, barricades and fencing are in place</li> </ol>
<b>Recovery</b>	<ol style="list-style-type: none"> <li>1. Liaise with emergency services to avoid confusion, duplication of messages and ensure consistency</li> <li>2. Debrief the community on outcomes and actions to be undertaken</li> </ol>

**Supporting Information:**

**Media**

The specific media to be used in implementing the communication strategy have not been detailed in Table 10, however it is envisaged that the following media/outlets will be utilised, depending on their suitability at the time:

- BSC's website
- Local radio
- Local newspapers
- Signage
- Hard copy fact sheets/brochures
- Community group contacts



**Figure 3 Coastal erosion hazard impact (BMT WBM, 2013) on beach access and walkways of the Eastern Precincts of the BBE.**

*Draft Coastal Zone Management Plan for the Eastern Precincts of the Byron Bay Embayment Emergency Action Sub Plan*







- Legend**
- Land Parcel
  - Locally Named Road
  - Road Name
  - 1:10000 Erosion Hazard - Immediate
  - 1:2000 Erosion - Best estimate
  - 1:2100 Erosion - Best estimate

297  
Meters

1 : 4,332

(Scale @ A3 Size)

Notes



Disclaimer : While all reasonable care has been taken to ensure the information contained on this map is up to date, no warranty is given that the information contained on this map is free from error or omission. Any reliance placed on such information shall be at the sole risk of the user. Please verify the accuracy of the information prior to using it. Note : The information shown on this map is a copyright of the Byron Shire Council and the NSW Department of Lands.

**Figure 4 Erosion Hazard Zones – Eastern Precincts – Main, Clarkes Beach and The Pass, showing ‘best estimate’ lines only.**

*Draft Coastal Zone Management Plan for the Eastern Precincts of the Byron Bay Embayment Emergency Action Sub Plan*



## E5 Aboriginal Cultural Heritage considerations

It is acknowledged that Byron Shire contains a wealth of Aboriginal cultural sites; these include middens, stone arrangements, rock shelters and tool-making sites. Several of these sites, notably middens, are located in the Shire's beach and dune systems.

Protection and preservation of culturally significant areas is very important to the Bundjalung of Byron Bay and the wider Bundjalung people with some aspects of Aboriginal cultural heritage protected in New South Wales, under the *National Parks and Wildlife Act 1974* (NPW Act). Disturbance of Aboriginal cultural heritage should be avoided when implementing any of the Intended Emergency Actions in Section 4 (E4) and the correct protocols and processes observed if works or beach erosion reveals Aboriginal cultural heritage.

Further information is provided in the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, at: [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

## E6 EASP Implementation and Review

This EASP applies from the date of gazettal.

The EASP will be reviewed at least annually or following each Emergency.



## Appendix 1 Summary Management Options Analysis

**Table 1 Summary Management Options Analysis**

Council's Management Option	Council's Management Option Examples <sup>1</sup>	Affordability Criteria	Feasibility Criteria	Reasonableness Criteria	Evaluation Outcome
Framework of consideration		The scale of the management option proposed should be consistent with the amount of funding likely to be available over the CZMP's implementation period <sup>2</sup> .  Where the construction of coastal protection works are proposed, this criteria should also consider the adequate maintenance of these works, and the management of any associated impacts <sup>3</sup> .	Is the management option technically and physically possible to safely implement and maintain? <sup>2</sup>	Is the management option reasonable <sup>2</sup> with reference to: - coastal management principles <sup>4</sup> (CMPs) - social impacts - environmental impacts - economic impacts - cultural values - the views of the community/stakeholders  (P1 = Coastal Management Principle 1, P2 = Coastal Management Principle 2 etc)	
1) Avoid risks to public health and safety	(a) communication strategy (b) temporarily close beach access, roads, disconnect services (b) temporary access works on public land to facilitate emergency responses (c) mitigate risks to public safety e.g. barricades, signage	Consistent with the amount of funding available	Likely to be technically feasible	Reasonable - accords with CMPs (P5 and P6) - may have temporary social impacts - has minimal environmental impact - minimal economic impact - accords with cultural values - accords with the views of the majority of stakeholders (based on 2011 consultation for then draft EASP)	Include applicable Intended Emergency Actions in EASP
2) Maintain Council's current level of coastal protection	(a) Monitor and repair Jonson Street works (b) Monitor and repair interim beach access stabilisation works	Consistent with the amount of funding available	May be physically and technically feasible within the context of an emergency	Reasonable - accords with CMPs (P5, P6, P10) - provides social and economic benefit to Byron Bay CBD, net public benefit - no new impact on cultural values	Include applicable Intended Emergency Actions in EASP
3) Increase the level of protection afforded by existing Council protection works	(a) Increase the level of protection afforded by the Jonson St rock revetment works (b) Increase the level of protection afforded by Council's interim beach access stabilisation works	Inconsistent with the amount of funding available, especially as an emergency measure	Unlikely to be feasible within the context of an emergency (long term measures outside the scope of an EASP)	- may accord with CMPs (P5, P6) - may minimise social and economic costs in short term by providing additional protection - may have environmental costs - may impact on cultural values	Do not include applicable Intended Emergency Actions in EASP
4) Provide additional/new coastal protection works on public land	(a) The Esplanade (b) South Golden beach Community Centre (c) Belongil Beach public lots (d) Beach nourishment or beach scraping at New Brighton (e) To protect Council assets e.g. major access roads	Inconsistent with the amount of funding available, especially as an emergency measure	Unlikely to be feasible within the context of an emergency situation (long term measures outside the scope of an EASP)	- may accord with CMP - P6 - may impact on cultural values - accords with the views of the majority of stakeholders (based on 2011 consultation for then draft EASP, regarding non BBE coastline)	Do not include applicable Intended Emergency Actions in EASP
5) Provide protection works on private land	(a) Repair private protection works (b) Shore-up/increase the level of protection afforded by the private coastal protection works (c) Provide protection to areas not currently protected	Inconsistent with the amount of funding available, especially as an emergency measure	Unlikely to be feasible within the context of an emergency situation (long term measures outside the scope of an EASP)	- may accord with CMP - P6 - may not accord with cultural values	Do not include applicable Intended Emergency Actions in EASP

**Note:** This table reflects the Shire-wide options analysis undertaken in 2011.

<sup>1</sup> Derived in-house, through the preliminary consultation phase and through the public submission phase (2011)

<sup>2</sup> Guidelines, Section 2.2.3

<sup>3</sup> Refer Section 55C(1)(g) of the *Coastal Protection Act 1979* and Section 3.2.2 of the Guidelines for Preparing Coastal Zone Management Plans (OEH, 2013)

<sup>4</sup> Refer Figure 2 in Guidelines for Preparing Coastal Zone Management Plans (OEH, 2013) - note, the CMPs are also detailed at Figure 2 (EASP)

