

11.5 **Ballina Shire Coastline Emergency Action Subplan for Coastal Erosion.DOC**

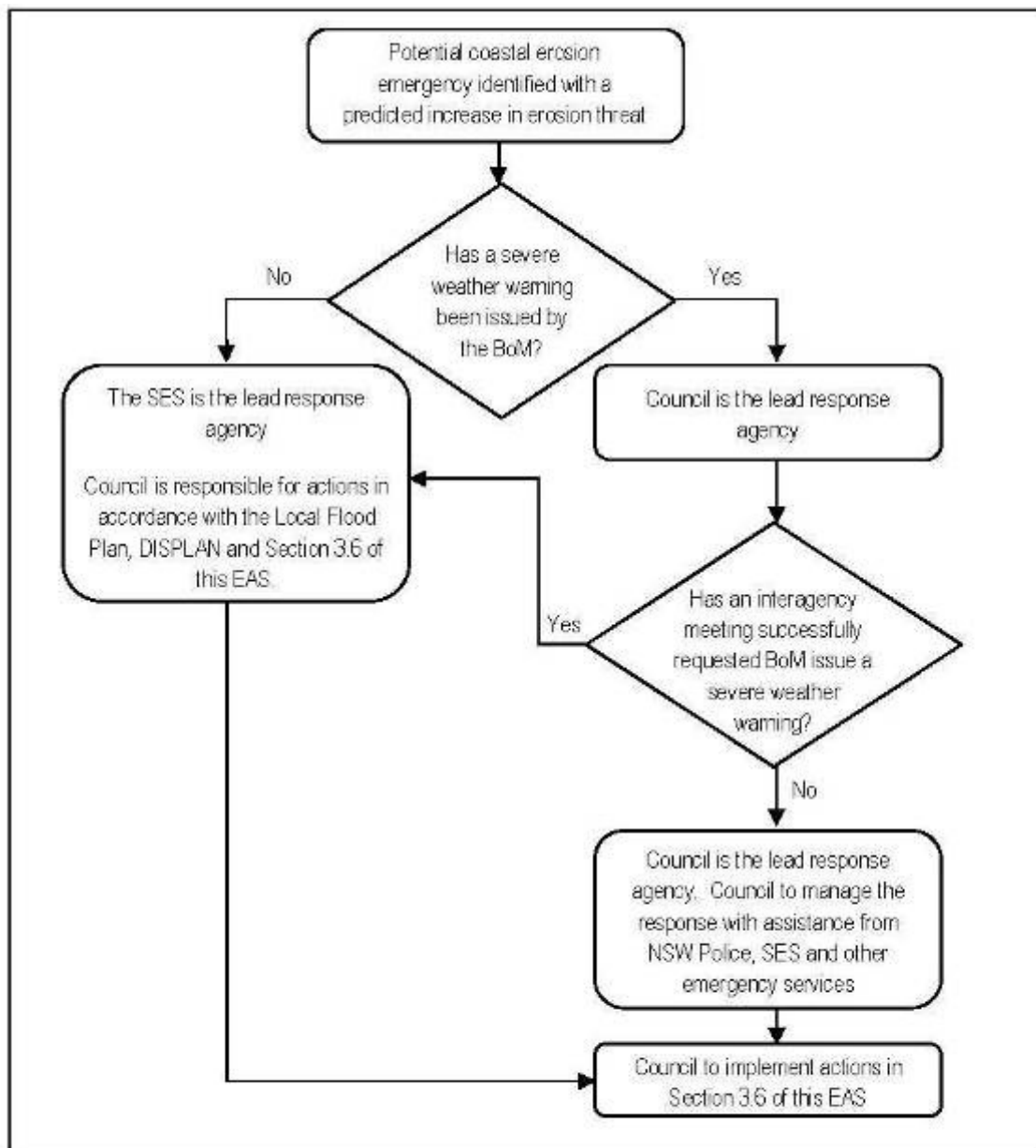


Illustration 1.1 Flowchart of establishment of lead response agency

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Table 1.1 Broad responsibilities in response to a coastal erosion emergency event with respect to the issuing of BoM severe weather warnings

<i>Responsibility</i>	<i>Severe weather warning issued</i>	<i>No severe weather warning issued</i>
Manage access to beaches, car parking areas and roads including closure if necessary	<u>Council</u> responsibility	<u>Council</u> responsibility <ul style="list-style-type: none"> ▪ Council, in cooperation with and supported by NSW Police, and possibly SES*, is the lead response agency ▪ Refer Error! Reference source not found. for detail
Implement coastal protection works		
Disseminate warnings locally	<u>SES</u> responsibility <ul style="list-style-type: none"> ▪ SES is the lead response agency and acts in accordance with Ballina Shire DISPLAN and the Ballina Local Flood Sub-Plan 	<u>Police, and possibly SES*</u> , as requested and assisted by Council
Prevent entry of water to buildings		
Evacuate residents and remove critical contents		

* Note: In the absence of a BoM warning, the SES, at their discretion, may assist Ballina Shire Council upon request.

Ballina Shire Coast Emergency Action Subplan for Coastal Erosion

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<i>Version History</i>				
<i>UPR</i>	<i>Description</i>	<i>Date Issued</i>	<i>Issued By</i>	<i>Reviewed By</i>
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Introduction

1.1 Scope

This Emergency Action Subplan for Coastal Erosion (EAS) details actions to be carried out by Ballina Shire Council (Council), in response to a coastal erosion emergency event (refer glossary). A coastal erosion emergency event is defined as a situation in which:

- beach erosion is imminent, is occurring, or has occurred; and
- this 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.

In addition to erosion, inundation of land and property due to wave overtopping dunes due to large swell conditions and/or diminished dune profiles may also be secondary effect of a coastal erosion emergency.

The purpose of this EAS is to outline Council's intended actions before, during and after a coastal erosion emergency. The emergency may or may not have triggered Ballina Shire Council's Disaster Management Plan (DISPLAN) or the State Storm Plan 2007.

Note that the term "coastal erosion emergency event" in the context of this EAS is limited to hazards associated with beach erosion, and does not include events such as Tsunamis or maritime emergencies.

1.2 Background

Coastal erosion emergency events are most likely to arise when severe storm conditions (cyclones or low pressure systems) generating strong onshore winds and large waves, coincide with high spring tides. Coastal erosion emergency events may also occur under relatively benign conditions where, due to the significant lowering of a beach profile as resulting from natural processes, waves are able to scour the back beach erosion escarpment resulting in landward recession of the escarpment. Coastal erosion and or inundation may exacerbate risk to development, infrastructure, and/or persons.

The key responsibilities of Council in managing coastal erosion emergencies are described with reference to the responsibilities of the other state emergency management authorities under the State Storm Plan (2007).

Once implemented, the long-term coastal hazards management actions outlined in the Coastal Zone Management Plan for the Ballina Shire Coastline (CZMP) (GeoLINK, 2012) will reduce the threat of beach erosion and coastal inundation hazards in the Lennox Head village area. However, even once all these works are in place, emergency management of public risk, coastal infrastructure, and beach access points will be an ongoing responsibility of council.

1.3 Planning and Legislative Framework

This EAS has been prepared in response to a Direction issued by the Minister for Environment and Heritage under Section 55B of the Coastal Protection Act, 1979 (the CP Act) and as an integral component of the NSW coastal zone management planning process. This direction covers the Lennox Head area only, however this EAS has been prepared for the entire Ballina Shire coastline as shown in **Illustration 1.1**. This EAS details Council's response to a coastal erosion emergency in Ballina Shire, with particular reference to Section 55C(1)(b) and 55C(2)(a) of the CP Act.

In accordance with the CP Act, this EAS is consistent with plans prepared under the State Emergency and Rescue Management Act 1989 (SERM Act). The EAS provides additional detail not found in the Ballina Shire Local DISPLAN and the Ballina Shire Local Flood Plan regarding Council's intended response to a coastal erosion emergency event. Also, this EAS details Council's intended response to an emergency which does not trigger the implementation of the DISPLAN under the State Storm Plan 2007.

1.4 DISPLAN and Non-DISPLAN Events

The broad responsibilities of Council in response to a coastal erosion emergency event are determined by the presence or absence of a "severe weather warning" issued by the Bureau of Meteorology (BoM). If a warning has been issued the event is referred to as a DISPLAN event, otherwise it is referred to as a non-DISPLAN event.

1.4.1 DISPLAN Events

Issuing of a BOM severe weather warning triggers involvement of a number of agencies in accordance with plans made under the SERM Act. In the Ballina Shire these plans include the Local DISPLAN and the Local Flood Plan. Under a DISPLAN event, the SES is the lead response agency with Council implementing the actions under this EAS (refer **Table 3.1** to **Table 3.3**), and any relevant actions under the DISPLAN and Local Flood Plan, under the direction of the lead response agency, the SES.

The full extent of various agencies' responsibilities after a severe weather warning has been issued by BOM is found in the Ballina Shire Council DISPLAN and the Local Flood Plan.

1.4.2 Non-DISPLAN Events

As described under **Section 1.2** above, coastal erosion emergency events are most likely to arise under severe storm conditions which would generally trigger the issuing of a BOM severe weather warning in turn triggering the involvement of the SES as the lead response agency.

However, remotely formed large swells can result in severe coastal hazards with little warning and under benign *local* conditions, especially if they are combined with high spring tides and imposed on beaches with temporarily diminished sediment profiles. Similarly, severe erosion may occur even on only a small to moderate swell where a beach or local beach area has a severely depleted sediment profile. In such circumstances it is possible for a coastal erosion emergency event to occur in the absence of a severe weather warning, in which case Council is the lead response agency.

This is legislated in the State Storm Plan which states under Section 1.3.4 that "*The role of the SES as the combat agency [lead response agency] for storms does not include coastal erosion and inundation caused by astronomical high tides when severe weather is not actually developing or occurring*".

In the absence of a severe weather warning the SES are not formally mobilised under the SERM Act. However, at their discretion, the SES may still be able to provide assistance if requested to do so by Council (refer **Section 1.4.2.1**).

1.4.2.1 *Specific severe weather warnings relevant to coastal erosion*

When a coastal erosion emergency is imminent or is occurring in the *absence* of a BoM severe weather warning, the preferred approach under this EAS is for the BoM to issue a severe weather warning relevant to coastal erosion, thereby triggering the SES as lead response agency. This process may be initiated by Council convening a meeting with the NSW Office of Environment and Heritage (OEH), the SES and BoM to request that the BoM issue a severe weather warning for the purposes of the SES adopting the role of lead response agency. If a severe weather warning is issued by BoM then the SES adopts the role of the lead response agency and Council is no longer responsible for managing the response, however Council is still responsible for implementation of this EAS (refer **Table 3.1** to **Table 3.3**).

Having the SES as the lead response agency is the preferred approach given Council's statutory limitations for the evacuation of people, and the capacity and expertise of the SES in conducting such actions.

Illustration 1.2 provides a flowchart of the process for establishing the lead response agency during an emergency.

Section 2 below describes the key roles and responsibilities during a coastal erosion emergency.

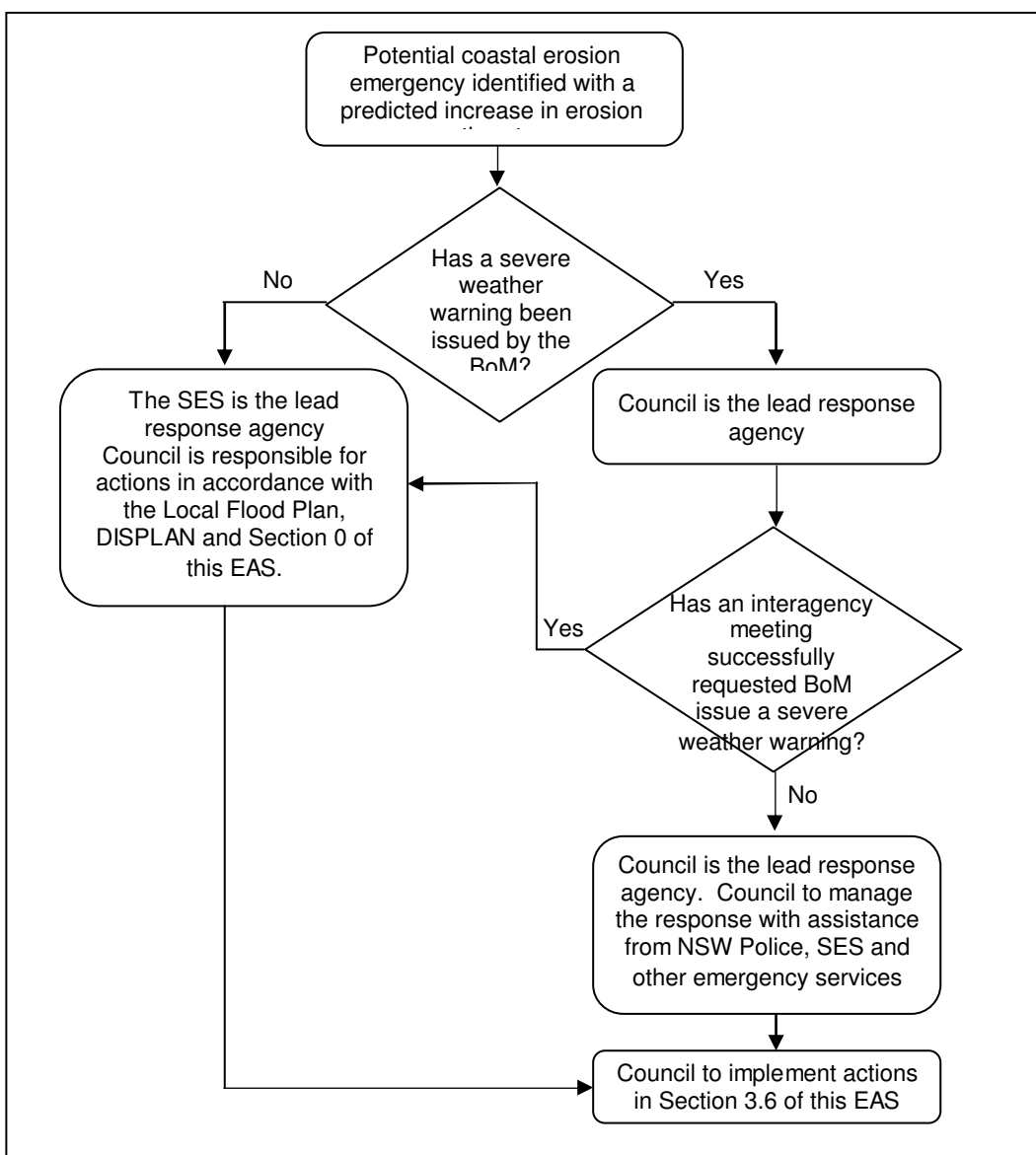


Illustration 1.1 Flowchart of establishment of lead response agency

1.5 Coastal Protection Works

Irrespective of whether Council or the SES is the lead response agency, Council has the prime responsibility and authority to implement coastal protection works subject to first gaining relevant approvals under the *Environmental Planning and Assessment Act, 1979*. Whilst the SES and Police have statutory powers to implement actions under the *State Emergency and Rescue Management Act 1989*, neither the SES nor the police is generally authorised to undertake coastal protection works, however they may respond to a Council request for assistance in this regard at their discretion.

Refer to **Section 3.3.2** for brief discussion on the limitations surrounding the extent and nature of coastal protection works that Council is able to install under this EAS, subject to first gaining relevant planning approvals.

Roles and Responsibilities

2.1 Roles and Responsibilities During Coastal Erosion Emergency Events

Six major agencies have roles and responsibilities during coastal erosion emergency events:

- Commonwealth Bureau of Meteorology (BoM);
- State Emergency Service (SES);
- Ballina Shire Council (Council);
- Office of Environment and Heritage (OEH);
- NSW Police Force; and
- NSW Ambulance Service.

Section 1.4 describes the process by which the SES or Council adopts the role of lead response agency, which is primarily influenced by the BoM issuing a severe weather.

The following tables outline the roles and responsibilities of agencies and Council in response to a coastal erosion emergency event. **Table 2.1** outlines the broad roles and responsibilities between Council and the State Emergency Service and how they are distributed in relation to the presence or absence of a BoM severe weather warning. **Table 2.2** outlines the roles and responsibilities of the six major agencies prior to or in the absence of a severe weather warning.

The roles of Council staff are presented in **Table 3.1** to **Table 3.3** in **Section 3.6**.

Table 2.1 Broad responsibilities in response to a coastal erosion emergency event with respect to the issuing of BoM severe weather warnings

Responsibility	Severe weather warning issued	No severe weather warning issued
Manage access to beaches, car parking areas and roads including closure if necessary	<u>Council</u> responsibility	<u>Council</u> responsibility <ul style="list-style-type: none"> ▪ Council, in cooperation with and supported by NSW Police, and possibly SES*, is the lead response agency ▪ Refer Table 2.3 for detail
Implement coastal protection works		
Disseminate warnings locally	<u>SES</u> responsibility <ul style="list-style-type: none"> ▪ SES is the lead response agency and acts in accordance with Ballina Shire DISPLAN and the Ballina Local Flood Sub-Plan 	<u>Police, and possibly SES*</u> , as requested and assisted by Council
Prevent entry of water to buildings		
Evacuate residents and remove critical contents		

* Note: In the absence of a BoM warning, the SES, at their discretion, may assist Ballina Shire Council upon request.

Table 2.2 Agency responsibilities during a coastal erosion emergency event before or in the absence of a BoM warning (Council is lead response agency).

Agency	Trigger for action	Responsibilities
Bureau of Meteorology	Identification of damaging waves	<ul style="list-style-type: none"> ▪ Monitor weather; and ▪ Issue warnings as appropriate.
Ballina Shire Council	Coastal Erosion Emergency event imminent or occurring	<p>Council is lead response agency.</p> <ul style="list-style-type: none"> ▪ Manage access to beaches, car parks and roads including authorisation and application of closures if necessary; ▪ Implement coastal protection works as required; ▪ Disseminate warnings; ▪ Prevent entry of water to buildings; and ▪ Request assistance from NSW Police and the SES if required (generally for evacuation or residents and enforcement of road closures, but may extend to other tasks).
NSW Police	Request for assistance from Council or SES*, or in response to emergency calls	<ul style="list-style-type: none"> ▪ Evacuate residents and remove critical contents; and ▪ Enforce closures of roads, car parking areas, beach accesses and reserves
Office of Environment and Heritage	Request for assistance from Council	<ul style="list-style-type: none"> ▪ Assist in the monitoring and evaluation of the coastal erosion escarpment, sea and beach conditions as appropriate ▪ Advise Council on implementation of hazard mitigation measures.
State Emergency Service	Request for assistance from Council	<ul style="list-style-type: none"> ▪ Assist with evacuation of residents and removal critical contents; ▪ Assist with closures of roads, car parking areas, beach accesses and reserves; and ▪ Monitor BoM for issuing of warnings.
NSW Ambulance Service	Emergency calls, Request for assistance from Council	<ul style="list-style-type: none"> ▪ Provide medical treatment

* Note: In the absence of a BoM warning, the SES, at their discretion, may assist Ballina Shire Council upon request.

Emergency Actions

3.1 Introduction

WBM (2003; 2011) identifies no significant built assets at risk in the immediate beach erosion hazard area (immediate hazard area) throughout the Ballina Shire except for some road infrastructure in the Lennox Head village compartment. Coastal erosion events may, however, result in damage to beach access tracks, walking paths and beach-access points for vehicles and present a risk to the general public and residents of the coastal fringe.

3.2 Implementation Safety and Other Constraints

The implementation of the actions detailed in **Table 3.1** to **Table 3.3** will be dependent upon a number of factors including:

- workplace health and safety of personnel;
- competing priorities and limited resources;
- obtaining necessary agreements and approvals from landowners such as Crown Lands or relevant State Government agencies; and
- Council budgetary and time constraints.

A key part of the role of the responsible staff members, refer **Table 3.1** to **Table 3.3**, will be to consider these factors in order to prioritise actions in response to the extent and nature of each specific event.

3.3 Lennox Head Village Coastal Erosion Emergency Actions

The potential threats to development in the Ballina Shire from coastal erosion emergency events are primarily located at Lennox Head village and the actions presented in this section relate primarily to this area.

3.3.1 Lennox Head Background

The adopted/intended long-term coastal hazards management response for the Lennox Head management area is one of protection via maintenance, repair and/or installation of coastal protection works. The long-term coastal hazards management strategy for Lennox Head Village are described in the CZMP.

In Lennox Head village, south of Byron Street, the 1993 Lennox Head Beach Management Plan has been implemented to provide protection to property and development in this area. This includes seawalls, a constructed dune and development controls. If they are maintained appropriately, these measures are expected to provide protection of assets in the case of large coastal erosion events.

North of Byron Street there is a buried seawall of which the design details are unknown. It is likely this buried seawall may mitigate against erosion to a certain degree, however the level of protection it offers and the risk of it failing in severe conditions cannot be confirmed.

In absence of design details WBM (2003) and BMT WBM (2011) adopted the conservative approach of estimating hazard areas based on a complete absence of any mitigating effects of the buried seawall. The immediate hazard area presented in BMT WBM (2011), a revision of that presented in WBM (2003), is seaward of the Pacific Parade roadway and all structures to the north including the Surf Club building and the Lake Ainsworth Sports and Recreation Centre. The carpark in the vicinity of the Ross Street / Pacific Parade intersection is however located partially inside the Immediate Hazard Area.

Thus, only limited built assets are identified as being under immediate hazard threat, however erosion *may* extend landward of the immediate hazard area under extreme conditions or prolonged erosive conditions. Under such circumstances Pacific Parade may be damaged with the likelihood damage greatest near Byron Street and decreasing to the north (due to end affects of the Lennox Beach Management Works).

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Limited oceanic inundation may occur as a result of waves running up and overtopping low dunes and seawalls (WBM 2003). This may result in episodic or infrequent overland flow of a limited depth and for a limited time (several hours) at high tide. Extensive inundation of the swale behind the constructed dune at the southern end of the beach could occur if that dune is breached.

3.3.2 Practical Planning for Coastal Erosion Emergency Actions

Coastal erosion emergencies are likely to be characterised by little warning, potentially large but unknown threats, adverse oceanic and weather conditions, and intense local and regional demand for materials, plant and expertise. Long-term coastal protection works proposed for Lennox Head under the CZMP comprise large-scale complex structures that are to be designed, approved and installed under a planning and approvals process. The duration of this process will not allow such works to be installed in direct response to a specific coastal erosion emergency. Thus, installation of temporary or permanent coastal protection works under this EAS are limited too:

- Facilitating emergency evacuation of persons
- Maintenance or repair of the Lennox Beach Management Plan coastal protection works (south of Byron Street) in accordance with the approved works designs and only under circumstances where the occupational health and safety of personnel is not compromised.

3.3.2.1 Lake Ainsworth Sport and Recreation Centre to Byron Street

The scale, location and structural integrity of the buried seawall believed to span some of this beach section is largely unknown. The results of investigations as to its hazard mitigation potential are not yet undertaken. In the event that the buried seawall is exposed due to beach erosion and damaged such that erosion proceeds landward of the wall, appropriate public risk management actions are to be undertaken in accordance with **Table 3.1** to **Table 3.3**. Long-term actions to limit the extent of coastal erosion in this precinct are to be implemented under the CZMP.

No coastal emergency works are proposed for installation in this precinct under this EAS except for any temporary works required to facilitate emergency evacuation.

3.3.2.2 Byron Street to Dress Circle Drive

In the event that the Lennox Head Beach Management Works south of Byron Street (comprising seawalls and constructed dune levee) are damaged during a coastal erosion emergency they may require repair during (should conditions and access arrangements permit), or immediately following the event.

Actions relating to ensuring readiness to deliver coastal emergency works are listed in **Table 3.1** to **Table 3.3**.

3.4 Communication Strategy

The role of the lead response agency includes:

- advising the community at risk of the problem and actions they should take
- protection of life through the warning and evacuation of residents at risk

Thus it is the responsibility of the Council, via the Local Emergency Management Officer, and the SES to work together, and with other emergency services, to avoid confusion, duplication and inconsistency with respect to messages and warnings. This is critical before any coastal erosion emergency event is even forecast, when one is imminent and during an event.

While local radio will be the most effective and relied-upon medium immediately prior to and during a coastal erosion emergency event, various other media will be useful to disseminate information before and after the event, including:

- This Emergency Action Subplan;
- Council's website;
- Signage and barricades relating to closures;
- Local newspapers;

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- Hard copy fact sheets/brochures; and
- Community group contacts.

3.4.1 Preparedness

Prior to a coastal erosion emergency event the main information to communicate will include:

- Conditions that could bring about a coastal erosion emergency event and the risks associated with beach erosion;
- The extent and location of potential threats as per those presented in WBM (2003), BMT WBM (2011) and summarised in the CZMP; and
- Council's proposed response to a coastal erosion emergency event, that is, to publicise this EAS.

3.4.2 Response

When a coastal erosion emergency event is imminent or occurring the main information to communicate will include:

- Contact details for Council, the SES and the Police to request help or further information;
- Weather and beach condition forecasts;
- Likely and current closures of beach access points, car parks, roads and reserves;
- Risks associated with the emergency e.g. collapse of sand dunes, wave overtopping; and
- Ways to minimise risk to personal and public safety e.g. avoid the hazard areas, heed safety warnings, do not interfere with or impede emergency response;

3.4.3 Recovery

Following a coastal erosion emergency event the main information to communicate will include:

- Extent of on-going closures and the likely timeframe for reopening; and
- Debriefing the community on the impacts of the event, the response during the event and further clean-up and repair actions to be undertaken.

3.5 Critical Beach Access Points and Locations

Table 3.1 to Table 3.3 outline a number of actions requiring the monitoring and inspection, and possible closure and repair, of beach access points and key locations. In Lennox Head alone there are 24 formal beach access points, with a further 28 in the remainder of the shire, including two at Robins and Patches beaches. Furthermore, there are a number of key locations across the shire that are more likely to be threatened than other areas in general.

It is quite possible that a significant number of these beach access points and key locations will be threatened and possibly damaged. Thus, a system of prioritising them for inspection and repair may be necessary in response to the resourcing pressures and time constraints associated with a coastal erosion emergency event.

Allocation of resources will be up to the Local Emergency Management Officer, Engineering Works Manager and the Manager Open Spaces and Reserves based on their professional judgement in light of the nature and extent of each coastal emergency event. However key beach access points and locations requiring particular attention are likely to include the following (with reference to Council's numbering system of beach and bushland access tracks):

- Vehicle beach access point north of the Lake Ainsworth Sport and Recreation Centre (2);
- Vehicle beach access point at the Lennox Head SLSC (7);
- Car park near Ross Street in Lennox Head (8);
- Beach and dune near Byron Street in Lennox Head (16 to 18);
- Vehicle beach access point at the constructed levee south of Byron Street (near 22);
- Path at the southern end of Boulder Beach (38);

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- Sharpes Beach car park (41 and 42);
- Shelley Beach SLSC (63); and
- Lighthouse Beach car park (66)

3.6 Coastal Erosion Emergency Actions Tables

Table 3.1 Emergency response actions BEFORE coastal erosion emergency event

Shire Wide actions	Lennox Head North of Byron Street	Lennox Head South of Byron Street
<p>General Manager</p> <ul style="list-style-type: none"> ▪ Appoint Local Emergency Management Officer (LEMO) ▪ Appoint Coastal Response Team comprising: <ul style="list-style-type: none"> - General Manager; - LEMO; - Legal Officer; - Engineering Works Manager; - Manager Open Spaces and Reserves; and - any other staff members considered necessary to develop effective responses to coastal erosion emergency events <p>Local Emergency Management Officer</p> <ul style="list-style-type: none"> ▪ Implement coastal erosion emergency communication strategy (refer Section 3.4). ▪ Regularly monitor coastal weather conditions and forecasts. ▪ Regularly monitor beach conditions. <p>Engineering Works Manager</p> <ul style="list-style-type: none"> ▪ Maintain supplies (or access to supplies via stockists) of barricades, temporary fencing and signage as necessary for road and beach access closures, and general management of response to 	<p>Manager Open Spaces and Reserves</p> <ul style="list-style-type: none"> ▪ Regularly monitor beach conditions and access points for public risk. 	<p>Manager Open Spaces and Reserves</p> <ul style="list-style-type: none"> ▪ Regularly monitor beach conditions and access points for public risk. <p>Engineering Works Manager</p> <ul style="list-style-type: none"> ▪ Regularly monitor condition of seawalls and levee south of Byron Street for structural adequacy and public risk. ▪ Establish and maintain arrangements with land owners to maximise access over private property to repair seawalls and levee south of Byron Street. ▪ Ensure planning approvals are in place to allow for the repair of the seawalls and levee south of Byron Street.

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<p>events.</p> <ul style="list-style-type: none">▪ Maintain plant and staff necessary to implement closures.▪ Identify and engage as necessary an experienced coastal/geotechnical engineer to provide timely advice during coastal erosion emergency event.		
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Table 3.2 Emergency response actions DURING coastal erosion emergency event

Shire Wide actions	Lennox Head North of Byron Street	Lennox Head South of Byron Street
<p>Local Emergency Management Officer</p> <ul style="list-style-type: none"> ▪ Notify Coastal Response Team of event coordinate Coastal Response Team and interagency meetings as required. ▪ Control and authorise closure of roads, car parking areas, beach access points and reserves under advice from Engineering Works Manager and Manager Open Spaces and Reserves as appropriate. ▪ Liaise with managers of Surf Life Saving Club and Lake Ainsworth Sport and Recreation Camp to monitor threats to their assets. ▪ <u>When Council is lead response agency</u>, coordinate Council staff, police and SES* to <ul style="list-style-type: none"> – disseminate warnings and implement communication strategy, – close beach access points, car parks, roads and reserves, and – evacuate residents and remove critical contents. <p>Engineering Works Manager</p> <ul style="list-style-type: none"> ▪ Monitor and assess where roads and car parking areas may be unsafe and implement closures as necessary. ▪ Assist Manager Open Spaces and Reserves with closures of beach access points and reserves if necessary. ▪ Manage the safe disconnection of water and sewer services where necessary, and liaise with electricity service providers regarding disconnection where necessary. ▪ Where access is required to facilitate emergency actions or actions under the direction of the lead response agency, implement necessary temporary access works. <p>Manager Open Spaces and Reserves</p> <ul style="list-style-type: none"> ▪ Monitor and assess where beach access points and reserves may be unsafe and implement closures as necessary. 	<p>Engineering Works Manager</p> <ul style="list-style-type: none"> ▪ Monitor potential dangers associated with exposure of buried seawall of limited design north of Byron Street and assess for public risk. ▪ <u>When Council is lead response agency</u>, coordinate Council staff, police and SES* to sandbag to prevent entry of water to buildings. 	<p>Engineering Works Manager</p> <ul style="list-style-type: none"> ▪ Monitor condition of seawalls and levee south of Byron Street for structural adequacy and public risk. ▪ Coordinate repair of seawalls and levee south of Byron Street in accordance with planning approvals and within the constraints of Workplace Health and Safety and access over private land ▪ <u>When Council is lead response agency</u>, coordinate Council staff, police and SES* to sandbag to prevent entry of water to buildings.

* Note: In the absence of a BoM warning, the SES, at their discretion, may assist Ballina Shire Council upon request

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Table 3.3 Emergency response actions AFTER coastal erosion emergency event

Shire Wide actions	Lennox Head North of Byron Street	Lennox Head South of Byron Street
<p>Local Emergency Management Officer</p> <ul style="list-style-type: none"> ▪ Control and authorise reopening of roads, car parking areas, beach access points and reserves under advice from Engineering Works Manager and Manager Open Spaces and Reserves as appropriate. ▪ Formally document and record coastal erosion and response measures. ▪ <u>When Council is lead response agency</u>, coordinate Council staff, police and SES* to disseminate end of warnings, and return residents and critical contents. ▪ <u>Implement Communication Strategy</u> <p>Engineering Works Manager</p> <ul style="list-style-type: none"> ▪ In conjunction with Local Emergency Management Officer, inspect and assess roads and car parking areas for damage and public risk. ▪ Manage prioritised repair and reinstatement of damaged roads and car parking areas. ▪ Manage prioritised repair and reinstatement of damaged services. ▪ Provide documentary evidence of coastal erosion escarpment and response measures to Local Emergency Management Officer. ▪ Assist Manager Open Spaces and Reserves with clean-up and reinstatement of beach access points and reserves (e.g. removal of large items with plant). <p>Manager Open Spaces and Reserves</p> <ul style="list-style-type: none"> ▪ Assess public risk associated with erosion scarps on beaches and provide and maintain warning signage and bunting as necessary. ▪ Manage prioritised repair and reinstatement of reserves and beach access points in line with long term beach access strategy. 	<p>Engineering Works Manager</p> <ul style="list-style-type: none"> ▪ Inspect for exposure of buried seawall of limited design north of Byron Street and assess for public risk. Manage restriction of public access and restorative works as necessary. ▪ <u>When Council is lead response agency</u>, coordinate Council staff and SES* to remove sandbags. 	<p>Engineering Works Manager</p> <ul style="list-style-type: none"> ▪ Inspect seawalls and levee south of Byron Street for structural adequacy and public risk. ▪ Coordinate repair of seawalls and levee south of Byron Street in accordance with planning approvals. ▪ <u>When Council is lead response agency</u>, coordinate Council staff, police and SES* to sandbag to prevent entry of water to buildings.

* Note: In the absence of a BoM warning, the SES, at their discretion, may assist Ballina Shire Council upon request.

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Beach	Has the same definition as the CP Act: <i>means the area of unconsolidated or other readily erodable 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>
Beach erosion	The offshore movement of sand from the sub-aerial beach during storms or an extreme or irregular event.
Coastal protection works	Activities or works to reduce the impact of coastal hazards on land adjacent to tidal waters and includes sea walls, revetment and beach nourishment.
Lead response agency	The agency identified in the State Disaster Plan as the agency primarily responsible for responding to a particular emergency.
CP Act	<i>Coastal Protection Act 1979</i>
DISPLAN	The Ballina Shire Council Local Disaster Plan prepared by the Ballina Shire Local Emergency Management Committee in compliance with the <i>State Emergency and Rescue Management Act, 1989</i> Section 29(1).
EASP	Emergency Action Sub Plan
Coastal erosion emergency event	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.
Emergency Coastal Protection Works	Emergency coastal protection works are defined under section 4C of the Coastal Protection Act 1979 and that may be placed by or on behalf of a landowner to reduce the impact of beach erosion in compliance with the requirements of that section. Such works are <u>not</u> permitted in Ballina Shire as of 06/06/2012.
LEMO Local Flood Plan	Local Emergency Management Officer (refer DISPLAN) Ballina Shire Local Flood Plan – A Sub-Plan of the Ballina Shire Local Disaster Plan
OEH	Office of Environment and Heritage (formerly DECCW – Department of Environment, Climate Change and Water)
SERM Act	<i>State Emergency and Rescue Management Act 1989</i>
SES	State Emergency Service
State Storm Plan 2007	New South Wales State Storm Sub Plan – A sub plan of the New South Wales Disaster Plan, June 2007

11.5 Ballina Shire Coastline Emergency Action Subplan for Coastal Erosion.DOC

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