

Bellingen Shire Coastal Zone Emergency Action Subplan

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1 Abbreviations

BOM	Bureau of Meteorology
CM Act	Coastal Management Act 2016
CZEAS	Coastal Zone Emergency Action Subplan
CMP	Coastal Management Program
EMPLAN	Emergency Management Plan
BSC	Bellingen Shire Council
LEMC	Local Emergency Management Committee
LEOCON	Local Emergency Operations Controller
REOCON	Regional Emergency Operations Controller
RH SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
SERM Act	State Emergency and Rescue Management Act 1989
SES	State Emergency Service

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2 Introduction

The Coastal Management Act 2016 (CM Act) (section 15(1)(e)) outlines that a coastal zone emergency action subplan (CZEAS) must be included in a coastal management program (CMP) if the local council's local government area contains land within the coastal vulnerability area (CVA), and beach erosion, coastal inundation or cliff instability is occurring on that land.

Clause 15(3) of the CM Act states that a CZEAS is:

"A plan that outlines the roles and responsibilities of all public authorities (including the local council) in response to emergencies immediately preceding or during periods of beach erosion, coastal inundation or cliff instability, where the beach erosion, coastal inundation or cliff instability occurs through storm activity or an extreme or irregular event."

Bellingen Shire Council (BSC) is yet to formalise a CVA as defined in the CM Act and the State Environmental Planning Policy (Resilience and Hazards) 2021 (RH SEPP). This may be done by way of a planning proposal in future. Whilst a CZEAS is not currently compulsory, Council has decided to prepare this subplan as part of the Bellingen CMP.

The purpose of a CZEAS is to identify and facilitate the implementation of appropriate responses to emergencies related to certain coastal hazards that will protect human life and public safety, minimise damage to property and assets, minimise impacts on social, environmental and economic values, and not create additional hazards or risks.

A CZEAS should:

- Provide a definition of coastal emergencies and criteria/thresholds/triggers for when a coastal emergency is occurring.
- Identify by way of a map and/or register of land and assets that are, or may be, affected by beach erosion, coastal inundation or cliff instability.
- Outline the roles and responsibilities of all public authorities (including the local council) in response to emergencies immediately preceding or during periods of beach erosion, coastal inundation or cliff instability.
- Outline any works for the protection of property affected or likely to be affected by beach erosion, coastal inundation or cliff instability triggers for emergency response actions.
- Identify any requirements for how emergency coastal protection works, within the meaning of the RH SEPP, are to be conducted.

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- Outline consultation that has taken place with other public authorities in preparing the CZEAS.
 - Define coastal emergency actions for the four phases of emergency management: prevention, preparation, response and recovery.
 - Define a protocol for communication and engagement before, during and after an emergency event.

A CZEAS must not include:

- Matters dealt with in any plan made under the State Emergency and Rescue Management Act 1989 (SERM Act) in relation to the response to emergencies.

A CZEAS must be consistent with:

- The objects of the CM Act (s. 3).
- The relevant management objectives for the CVA (s. 7 of the CM Act) which are to:
 - Prioritise actions that support the continued functionality of essential infrastructure during and immediately after a coastal hazard emergency.
 - Improve the resilience of coastal development and communities by improving adaptive capacity and reducing reliance on emergency responses.
- The strategic direction of the CMP, specifically how the CMP proposes to manage coastal hazard risks in the CVA.

3 Extent of the CZEAS

This CZEAS applies to land mapped as being impacted by beach erosion, coastal inundation or cliff instability within the Bellingen Shire. BSC currently¹ does not have cliff instability mapped and therefore the CZEAS is limited to areas impacted by beach erosion and coastal inundation only.

The Bellingen Coastline stretches approximately 10km. The open coastline is characterised by an uninterrupted beach, where sand is freely transported past headlands such as Wenonah Head and Hungry Head. The coastline features three estuaries being the Bellinger / Kalang River system, as well as the smaller Dalhousie and Oyster Creeks. The area to which the CZEAS applies, comprising the combined Beach Erosion and Coastal Inundation Areas are shown in Figure 1.

¹ As of March 2023

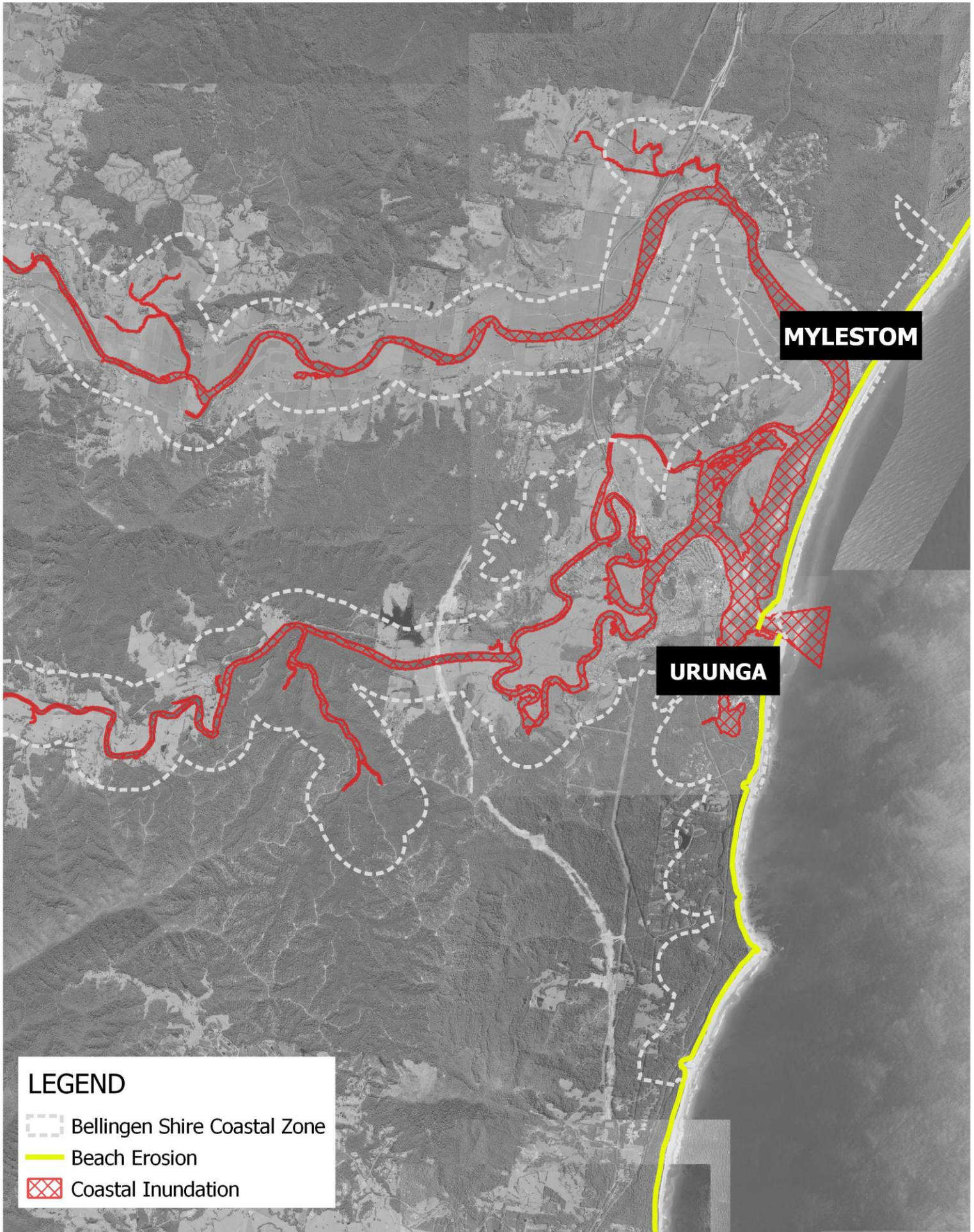


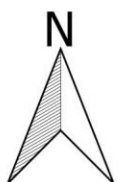
Figure 1 **Extent of CZEAS**

Belling Coastal Zone Emergency Action Subplan

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4 Definition of a coastal emergency

For this CZEAS, a coastal emergency is defined as ‘beach erosion, coastal inundation and (if mapped in future, cliff instability) occurring through storm activity or extreme or irregular events that:

- Endangers, or threatens to endanger, the safety or health of persons or animals.
- Destroys or damages, or threatens to destroy or damage property.
- Causes a failure of, or a significant disruption to, an essential service or infrastructure.

This definition of ‘emergency’ is consistent with that within the Section 4 of the SERM Act 1989.

Council does not have a quantitative trigger for a coastal emergency. Instead, Council’s judgment for initiating the CZEAS will be based on:

- Monitoring of key risk locations (scheduled and/or in response to information received from emergency services, state agencies or the public).
- Discussion between agencies represented on the Local Emergency Management Committee (LEMC).
- Severity of coastal erosion warnings received from NSW State Emergency Service (SES) or the Australian Bureau of Meteorology (BoM).

5 Overview of hazards and risks at key locations

5.1 Beach Erosion

Beach erosion occurs when wind, waves, currents or elevated ocean water levels remove the sediment that comprises the beach, berm, and frontal dune system, landward of the fully accreted condition. Beach erosion may result in:

- High, unstable, near-vertical back-beach erosion escarpments.
- Damage to public and private property.
- Damage to coastal assets such as accessways, viewing platforms and surf clubs.
- Damage to poorly designed or maintained coastal protection works.

Areas identified as being at high or extreme immediate risk from beach erosion are:

- 1 Schnapper Beach Road
- 2 Hungry Head Road
- 3 Hungry Head Watch Tower
- 4 Dalhousie Creek and Urunga SLSC Beach access
- 5 North Hungry Head Beach 4WD access
- 6 North Beach (Holiday Park, 4WD and SLSC) access

See Figure 2.

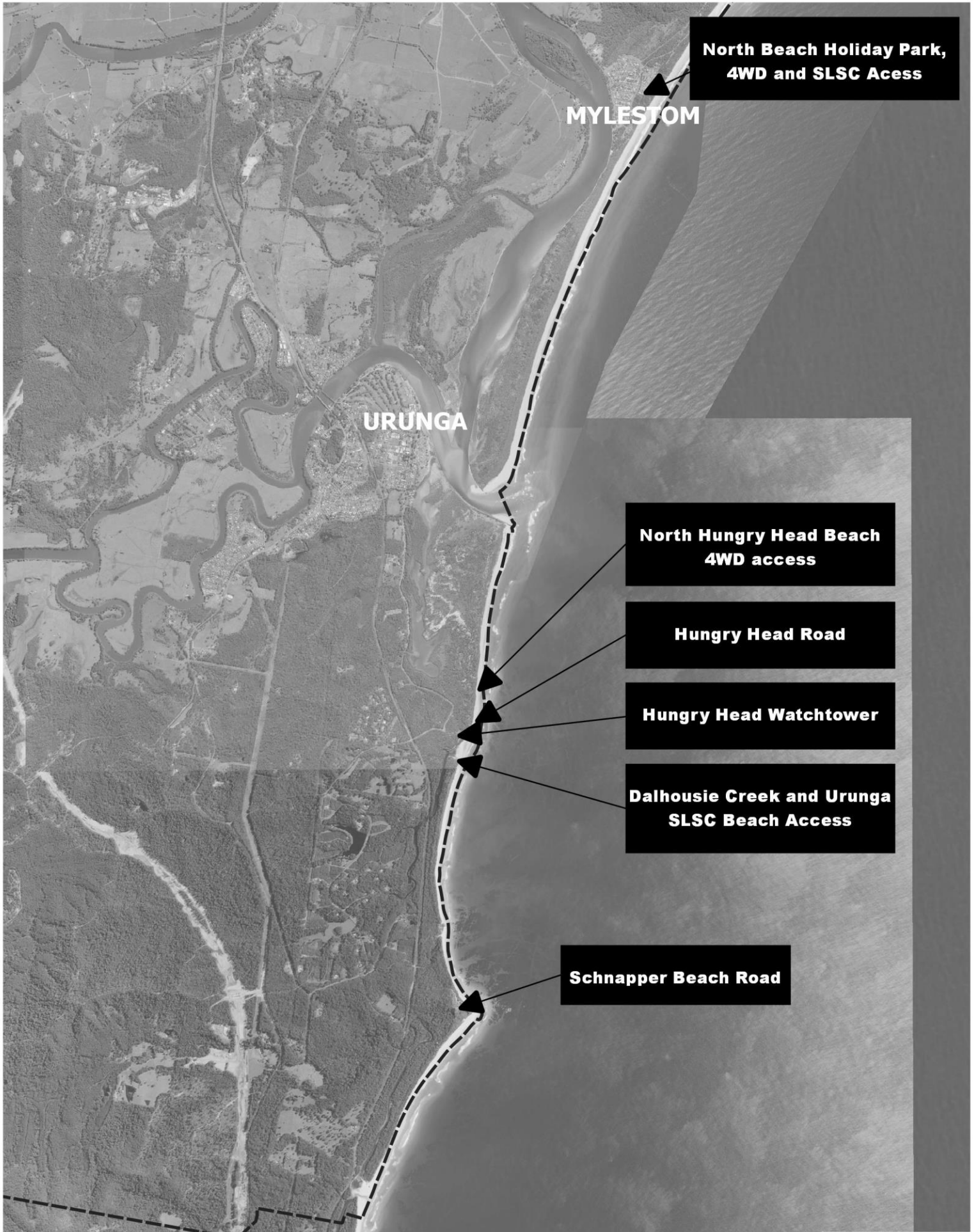


Figure 2 Sites at high or extreme risk of beach erosion

Bellingen Coastal Zone Emergency Action Subplan

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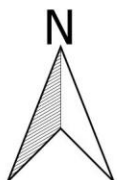




Figure 3 Mylestom Surf Life Saving Club



Figure 4 Hungry Head watch tower (Photo credit: The Age December 15, 2020)

5.2 Coastal Inundation

Coastal inundation occurs when a combination of marine and atmospheric processes raises water levels at the coast above normal elevations, causing land that is usually 'dry' to be inundated by seawater. This may result in inundation of roads and low-lying land adjacent to estuaries.

Areas identified as being at immediate risk from coastal inundation are:

- 1 North Valla Beach Oyster Creek North Coast Railway (High immediate inundation risk)
- 2 Urunga Dalhousie Creek North Coast Railway (Extreme immediate inundation risk)

See Figure 5 for a mapped view of these assets.

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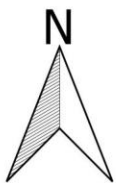
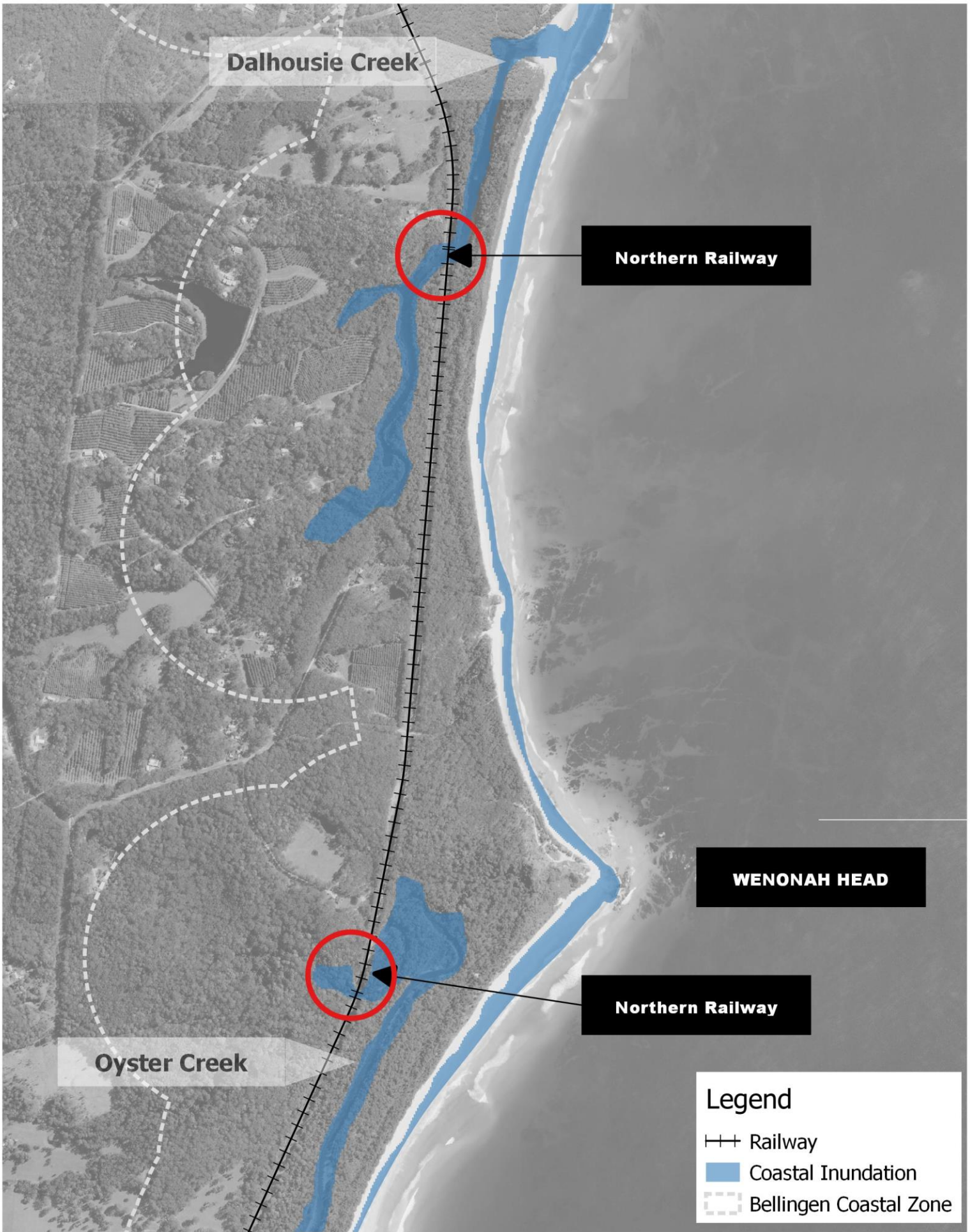


Figure 5 Sites at immediate risk of coastal inundation

Bellingham Coastal Zone Emergency Action Subplan

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Legend

- +—+— Railway
- Coastal Inundation
- - - - - Bellingham Coastal Zone

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5.3 Cliff Instability

Cliff instability refers to a variety of geotechnical processes on coastal cliffs and bluffs, including rock fall, slumps and landslides. These events may occur without warning. A cliff instability hazard assessment has not been completed for the Bellingen coastline at this time. However, where known to occur, Section 6 of this plan may apply.

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6 Roles and Responsibilities

6.1 Coastal emergency caused by storm activity

The SES is the combat agency and therefore designated lead agency in a storm emergency response. Roles and responsibilities for managing a coastal emergency caused by storm, are detailed within the:

- NSW Emergency Management Plan (EMPLAN) (State Emergency Management Committee, 2018a)
- NSW State Storm Emergency Sub Plan (State Emergency Management Committee, 2018b)
- NSW State Flood Emergency Sub Plan (State Emergency Services, 2018)
- North Coast Regional EMPLAN (North Coast Regional Emergency Management Committee, 2018)
- Bellingen Shire Flood Emergency Sub Plan (Bellingen Local Emergency Management Committee, 2023)

Whilst the SES might be the designated lead agency in a storm response, they are not a public authority and cannot implement emergency coastal protection works. One function of the NSW EMPLAN and Storm Sub-Plan is to delegate the emergency management responses relating to coastal management to the CZEAS within the CMP.

Council's responsibilities under the Storm Sub-Plan include:

- Assisting the NSW SES with reconnaissance of areas susceptible to coastal erosion and/or inundation.
- Installing temporary fencing and/or signage in areas affected by erosion where erosion has resulted in unsafe conditions (e.g., damaged beach access unsafe dune escarpments)
- Removing fencing/signage after storm following restoration of safe access conditions
- Coordinating coastal protection works on beaches in accordance with SEPP (Resilience and Hazards) 2021 and Coastal Zone Emergency Action Subplans prepared under Coastal Management Programs.
- After a storm, removing and/or mitigating the impact of temporary physical protective measures on the beach.

- Assisting the NSW SES with the protection of readily moveable household and business contents in areas where coastal storms (likely to result in coastal erosion and/or inundation) are forecast or occurring.

6.2 Coastal erosion not caused by storm activity

Where coastal erosion is not caused by storm activity, then emergency management will be controlled and coordinated by the Local Emergency Operations Controller (LEOCON). The LEOCON is a Police Officer appointed by the District Emergency Operations Controller as the Local Emergency Operations Controller for the Local Government Area. An example may be a large swell and high tide overtopping a coastal protection structure such as a breakwall. The LEOCON in consultation with relevant agencies may elect to activate the Response Phase of the CZEAS based on monitoring of the coastal zone impacted by coastal hazards. A CZEAS can be implemented without enactment of a Local, Regional or State EMPLAN. Should the coastal emergency go beyond the capabilities of local emergency services, then the LEOCON may request implementation of the local or regional EMPLANs to assist. This should only occur following agreement of the appropriate combat agency or Regional Emergency Operations Controller (REOCON). The REOCON is the Region Commander of Police appointed by the Commissioner of Police, as the Regional Emergency Operations Controller for the emergency management region.

A Council may also choose to activate their CZEAS independently based on the triggers previously described in Section 4.

7 Coastal Emergency Actions

The four recognised phases of emergency management are prevention, preparation, response and recovery. Prevention aims to decrease or eliminate the impact of the coastal hazard. Preparation is about having plans in place to ‘ready’ the community and agencies should a coastal emergency eventuate. Response refers to the implementation of actions to protect life and property. Finally, recovery is the steps taken post emergency to repair any residual damage. Recovery should always involve a debrief and review of the CZEAS to ensure implementation of the plan was both achievable and effective. outlines the responsibilities of involved agencies throughout each phase of a coastal emergency.

Table 1 Responsible agencies and actions

Phase	Agency	Responsibility
Prevention	BSC	<ul style="list-style-type: none"> Implement the CMP and asset management plans to maintain and if required improve protection measures (e.g., maintenance of breakwalls). Updating coastal hazard studies, as necessary. Provide NSW SES with copies of coastal hazard studies and management plans to assist with emergency planning and intelligence development. Monitor the potential progress of erosion, inundation and cliff instability, including exacerbation by ongoing sea level rise. Monitor the effects of coastal hazards on assets and development potentially at threat. Undertake community education initiatives and assist the NSW SES with community awareness programs to ensure people in locations potentially threatened by coastal hazards understand the threat and its management. Implement land-use planning tools to prevent new development in locations subject to coastal hazards.
	DPE	<ul style="list-style-type: none"> Oversee the delivery of the NSW Coastal management framework including the CM Act, RH SEPP, CMPs (includes CZEAS) and provide funding support for projects identified within a CMP. Provide technical assistance and any research findings / data to Council and other agencies to assist in identifying and managing coastal hazards.
	SES	<ul style="list-style-type: none"> Undertake community awareness programs to ensure people in locations potentially threatened by coastal hazards understand the threat and its management.

Phase	Agency	Responsibility
	LEMC	<ul style="list-style-type: none"> Review and approve the CZEAS ensuring consistency with the Local EMPLAN.
Preparation	BSC	<ul style="list-style-type: none"> Develop and review the CZEAS. Develop, review and maintain the CMP in accordance with the CM Act and RH SEPP. Consult with the NSW SES in development of the CZEAS to ensure compatibility with local emergency plans and state sub plans. Provide information to the community regarding the expected event and areas likely to be impacted. Internally, Council staff with relevant responsibilities should be placed on standby when relevant weather warnings are issued and commence monitoring the impacts. Close accessways that could be potentially impacted by coastal hazards, in locations identified as immediate risk when dangerous conditions are expected to occur. Identify emergency works that may be required, materials to implement and storage arrangements for items such as sand, sandbags, signage and fencing. Identify means of transporting emergency works materials to areas that could be threatened. Detail any procedures or approvals to make access ways available such as landowners' consent or obtaining keys for locked gates.
	SES	<ul style="list-style-type: none"> Provide information to the community regarding the expected event and areas likely to be impacted. Local Surf Life Saving Clubs (SLSC) should be contacted with a view to distribute advice contained in the BoM's weather warnings to people on Surf Life Saving patrolled beaches when dangerous surf conditions are predicted and to close patrolled beach water areas when dangerous conditions caused by storms occur.
	BoM	<ul style="list-style-type: none"> Provide severe weather warnings for flood, hazardous surf, abnormally high tides and severe thunderstorm.

Phase	Agency	Responsibility
Response	BSC	<ul style="list-style-type: none"> • Distribute advice contained in weather warnings when dangerous surf conditions are predicted, via social media and traditional media outlets. • Continue to monitor beach erosion and inundation hazards as required. • Where the coast has been affected by erosion, inundation or cliff instability, access points will be closed by setting up barricades, warning signs and/or flags as appropriate. • Close council managed roads affected by beach erosion, coastal inundation or cliff instability hazards. Temporary fencing and signage should be used where practical and safe. • Where possible, Council will arrange for isolation/closure of water, electrical and/or sewer infrastructure affected by beach erosion, coastal inundation or cliff instability hazards (or consult with asset owners to enable shut down). • Where damage to access ways or walkways is identified and/ or reported to Council, take appropriate action to close off these pathways and/or advise the local community of the hazard(s). Temporary fencing and signage should be used where practical and safe. • Where damage to assets is identified, Council will assess the damage and any opportunities for limiting further damage that may be appropriate during the event. • Where repairs are required to public infrastructure and land for which Council is the owner or otherwise responsible for management; Undertake those repairs as soon as practicable, providing they are permissible, and may be completed readily and safely. • Install emergency coastal protection works to address beach erosion, coastal inundation or cliff instability, in compliance with the CM Act and RH SEPP. These works include the placement of sand or sandbags (which must be removed within 90 days) on a beach or sand dune adjacent to a beach. Council is the lead agency for this work, the SES may assist with coordination. Works must only be implemented when it is safe to do so. See section 5 for sites that are or may be affected by coastal hazards. • The installation of emergency works including sand bags, fencing or signage and the closure/isolation of any beaches, roads, water or sewer infrastructure or access ways must be recorded to ensure appropriate post-emergency management.

Phase	Agency	Responsibility
	LEOCON	<ul style="list-style-type: none"> • Monitor emergency operations. • Control and coordinate the emergency management of coastal erosion that is not caused by storm activity, as per action 1.4.3 of the NSW State Storm Plan. Request a combat agency to assume control if the emergency is beyond the capacity of local resources. This should only be done following consultation with the REOCON. • Communicate with other agencies and issue information to the community throughout the event. • Provide appropriate liaison with and coordination of media. • If requested by the combat agency, coordinate resources and support. • At the appropriate time, determine that the emergency has passed and that the 'Recover' stage of the plan should commence.
	SES	<ul style="list-style-type: none"> • Is the Combat Agency as per the Bellingen EMPLAN for storms and flooding. • Coordinate the evacuation of people at risk. • Provide an information service to the community regarding the impact of the coastal emergency and actions for people impacted or expected to be impacted. • Not authorised to undertake coastal protection works (such as geotextile sand containers).
	Marine Rescue NSW	<ul style="list-style-type: none"> • Assist the NSW SES with evacuation warnings, orders and conducting evacuations.
	NSW Police	<ul style="list-style-type: none"> • Where requested by the SES, assist with evacuations, property protection such as sandbagging and monitoring. • Conduct road and traffic control if required in conjunction with Council.
	DPE	<ul style="list-style-type: none"> • Provide storm damage response teams to assist the NSW SES and National Parks and Wildlife Service.
	Surf Life Saving NSW	<ul style="list-style-type: none"> • Close affected beaches and communicate closures and warnings to the community.

Phase	Agency	Responsibility
Recovery	BSC	<ul style="list-style-type: none"> • In areas of high public use and/or where erosion or beach/slope instability has been reported, inspect accessways, beaches, foreshores and dunes to establish any damage to the access or dangers to the public in accessing and using the beach and dune areas. • Remove any threats to public safety, such as debris deposited or exposed on beaches. • Advise the community of any ongoing dangers. • Where an accessway is considered unsafe, action will be taken to close the access (top and/or bottom) and to place appropriate signage warning the access is unsafe for use. • Prioritise the work required to repair and reopen any damaged or unsafe beach accessways in accordance with the Council maintenance works schedule. • In areas of high public use or points of public access and/or where erosion or beach/slope instability has been reported or otherwise identified at the back of the beach (height greater than 1.5 m), document the extent of the escarpment and at the earliest opportunity. Undertake a risk assessment of the likely hazard to beach users (both to persons on the beach and to persons on the dune above the scarp) from collapse of the erosion scarp (for example, onto children digging into the scarp base). Where the risk is deemed unacceptable, at the earliest opportunity undertake appropriate mitigation works which may include: <ul style="list-style-type: none"> ○ Re-grading to a stable slope. ○ Fencing and signposting escarpments, to discourage public access (top and/or bottom) until such time as the beach recovers naturally. ○ Maintaining warning signs, fencing, and barricades at nearby beach accesses until such time as the risk has reduced to an acceptable level. • Monitor the condition, performance and impact of any coastal protection works. • Remove any sandbags within 90 days. • Geotechnical, structural and/or coastal engineering investigations may be required to understand residual risk following an emergency event. These should be overseen by a chartered engineer of Engineers Australia, who specialises in coastal engineering. • Replenish any emergency materials and supplies for future emergency events. • Critically review the CZEAS, communications plan and operational procedures to ensure they achieved their performance objectives. Update/Revise as necessary.
	LEMC	<ul style="list-style-type: none"> • Participate in the critical review of the CZEAS, communications plan and operational procedures following the event.

8 CZEAS Consultation

This CZEAS was issued to Council for Review in April 2023, with comments received in June and addressed.

The CZEAS was then provided to the NSW State Emergency Service for review.

At the time of Exhibition, Council is awaiting the review results from the SES

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9 Plan Review

This CZEAS shall be reviewed within 5 years of adoption, however earlier review may be required if new coastal hazard studies are undertaken, or new scientific information becomes available. The CZEAS should also be reviewed should a change to a Local, Regional or State EMPLAN or sub-plan affect the plan requirements, particularly if this change results in an inconsistency between plans. Finally, following any coastal emergency requiring enactment of the CZEAS, a critical review should be undertaken to assess the ability of the plan to meet the performance objectives.

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10 References

Bellingen Local Emergency Management Committee, 2017a. Bellingen Shire Local Emergency Management Plan.

Bellingen Local Emergency Management Committee, 2023. Bellingen Shire Flood Emergency Sub Plan.

North Coast Regional Emergency Management Committee, 2018. North Coast Regional Emergency Management Plan.

State Emergency Management Committee, 2018a. New South Wales State Emergency Management Plan (NSW EMPLAN).

State Emergency Management Committee, 2018b. New South Wales Storm Plan.

State Emergency Services, 2018. New South Wales State Flood Plan.

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