

## Northern Coastal Management Program Advisory Committee

**Meeting Date:** Monday, 17 March, 2025

**Location:** Jervis Bay Room, City Administrative Centre, Bridge Road, Nowra

## Attachments (Under Separate Cover)

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# Lower Shoalhaven River Coastal Management Program

Final CMP

NC25.1 - Attachment 1

Shoalhaven City Council

Final

March 2025



Lower Shoalhaven River Coastal Management Program

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Lower Shoalhaven River Coastal Management Program

### **Acknowledgement of Country**

Walawaani (welcome),

Shoalhaven City Council recognises the First Peoples of the Shoalhaven and their ongoing connection to culture and country. We acknowledge Aboriginal people as the Traditional Owners, Custodians and Lore Keepers of the world's oldest living culture and pay respects to their Elders past, present and emerging.

Walawaani njindiwan (safe journey to you all)

*This acknowledgement includes Dhurga language. We recognise and understand that there are many diverse languages spoken within the Shoalhaven.*



Lower Shoalhaven River Coastal Management Program

**Acknowledgement of Financial Assistance**

Shoalhaven City Council has prepared this document with financial assistance from the NSW Government through its Coastal and Estuary Grants Program. This document does not necessarily represent the opinions of the NSW Government or the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW).

## Executive Summary

Shoalhaven City Council (hereafter 'Council') has, with the assistance of the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW), prepared a Coastal Management Program (CMP) to provide strategic direction and specific actions to address threats to the estuary and maintain the ecological, social and economic values of the Lower Shoalhaven River coastal zone.

The CMP is a plan of action for Council, public authorities and land managers responsible for management of the Lower Shoalhaven River coastal zone to:

- Address coastal hazard risks, such as tidal and coastal inundation and estuary foreshore bank erosion;
- Preserve and enhance critical habitats, cultural values, and uses within the estuary and along its foreshore (including riparian vegetation, intertidal wetlands, and water quality monitoring and management);
- Encourage sustainable and adaptive agricultural, economic and built development in the coastal zone;
- Maintain or improve recreational amenity and resilience (including boating facilities and foreshore access); and
- Adapt to emerging issues such as population growth and climate change (e.g. in particular sea level rise impacts on low-lying areas).

The NSW Coastal Management Manual (OEH, 2018b) specifies five stages in preparing a CMP (Figure ES-1).

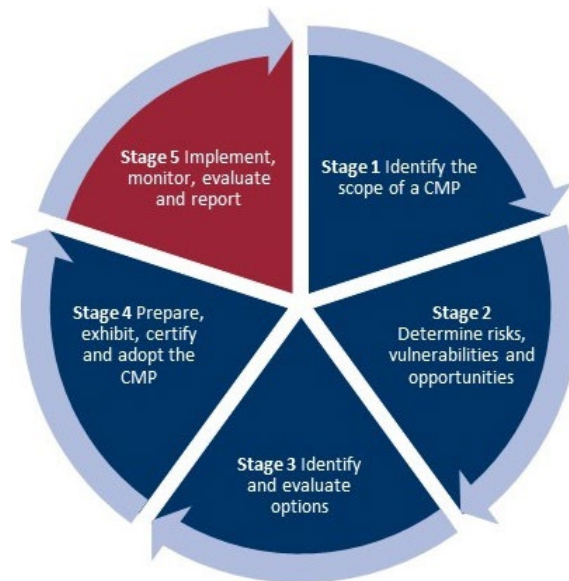


Figure ES-1 Stages in preparing and implementing a CMP (after: OEH, 2018b)



Lower Shoalhaven River Coastal Management Program

### The CMP Study Area

The area covered by the Lower Shoalhaven River CMP comprises the coastal zone within the lower catchment of the Shoalhaven and Crookhaven Rivers. It also includes the intermittently open entrance area at Shoalhaven Heads. The landward extent of the study area is defined by the coastal management areas within the catchment of the Shoalhaven River estuary, as mapped in the *State Environmental Planning Policy (Resilience and Hazards) 2021* (the Resilience and Hazards SEPP). The coastal boundary of the study area has been defined to align with the adjacent Shoalhaven Open Coast and Jervis Bay CMP.

A map of the study area is provided in **Figure ES-2**.

R h e i m

Lower Shoalhaven River Coastal Management Program



Figure ES-2 Lower Shoalhaven River CMP Study Area

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#### Purpose, Vision, Objectives and Strategic Direction

The purpose of the CMP, as defined in the NSW *Coastal Management Act 2016* (CM Act), is to set the long-term strategy for the coordinated management of land within the coastal zone, with a focus on the objects of the CM Act.

The CMP provides a strategic and collaborative approach for relevant land managers to implement a range of credible, evidence-based actions to address current and future risks, not only from coastal hazards, but for a broad range of community, stakeholder, economic, climate change, catchment processes and environmental issues and values. Certification of the CMP will enable Council to apply for State Government funding to implement coastal management actions on a priorities basis for the coastline, estuaries and lower catchments of the study area. A certified CMP also streamlines approvals for certain types of works such as environmental protection works, and coastal protection works.

The long-term strategic direction for the study area is encapsulated in the following vision statement:

*We care for and protect the Lower Shoalhaven River and its catchment so that current & future generations continue to be refreshed & inspired by their coastal experience.*

The following purpose statement further refines the vision of the Lower Shoalhaven River CMP:

*To develop a plan for the future of the Lower Shoalhaven River in a manner consistent with the principles of ecologically sustainable development for the social, cultural, and economic wellbeing and safety of the people of the Shoalhaven.*

Supporting the vision and purpose of the CMP are a series of local coastal management objectives that have been developed to align with the objects of the CM Act, as further detailed in **Section 1.4**.

#### Snapshot of Issues and Key Values

The coastal zone supports a broad diversity of activities and uses, spanning residential, passive and active recreation, industrial and commercial, agriculture, fisheries, oyster farming, tourism and biodiversity conservation.

A synthesis of the key coastal values is presented in **Table ES-1**.

A risk-based approach was utilised to identify key threats to the values of Lower Shoalhaven River coastal zone, following legislation and guidelines. Risks were initially identified in the Stage 1 Scoping Study (Advisian, 2020) and further refined through Stage 2 Hazard and Vulnerability Assessments (Rhelm, 2023a).

The risks identified within the Lower Shoalhaven River, relevant to this CMP, are summarised in **Table ES-2**.



Lower Shoalhaven River Coastal Management Program

Table ES-1 Key Values of the CMP Study Area








Theme	Values
 <b>Environmental Values</b>	<ul style="list-style-type: none"> <li>The Shoalhaven River estuarine ecosystem, including seagrass, mangroves, saltmarsh, and oyster reefs provides multiple benefits to the community and economy.</li> <li>Healthy habitats for key species and biodiversity, especially in areas like Comerong Island and Coomonderry Swamp.</li> <li>Biological diversity and ecological resilience to a changing climate.</li> <li>Good water quality and ecosystem health for oyster and fishing industries as well as recreation.</li> <li>Manage impacts of acid sulfate soils and blackwater events to maintain ecological balance.</li> </ul>
 <b>Social and Cultural Values</b>	<ul style="list-style-type: none"> <li>Safe and easy access to the estuary's natural and scenic amenity.</li> <li>Recreational activities like boating, fishing, and community events in safe, accessible public spaces.</li> <li>Extensive Aboriginal cultural heritage sites and continued connection to Country along the estuary.</li> <li>Visual amenity and unique character of the estuary landscape, valued by residents and visitors.</li> </ul>
 <b>Economic Values</b>	<ul style="list-style-type: none"> <li>A thriving local economy based on sustainable tourism, agriculture, and waterfront activities.</li> <li>Sustainable development that respects the local character and values.</li> <li>Infrastructure that supports the coastal zone's development, use, and enjoyment.</li> <li>Well managed resources that sustainably support a diverse range of economic activities like agriculture, oyster farming, recreational and commercial fishing.</li> </ul>
 <b>Coastal Processes, Hazards and Resilience</b>	<ul style="list-style-type: none"> <li>The dynamic nature of shoreline and estuarine processes and their importance to estuary health and function.</li> <li>Natural and built resilience to coastal and natural hazards, including climate change and extreme weather events.</li> <li>Timely and flexible responses to coastal flooding and erosion.</li> <li>Effective and sustainable management strategies to mitigate erosion and maintain navigable waterways.</li> <li>Well managed impacts of human activities such as boating and dredging on coastal processes.</li> </ul>
 <b>Land Use Planning</b>	<ul style="list-style-type: none"> <li>Ecologically sustainable development with appropriate planning and regulatory measures.</li> <li>Integrated coastal management objectives with local and State planning frameworks.</li> <li>Coordinated and durable bank restoration solutions.</li> </ul>
 <b>Equity and Access</b>	<ul style="list-style-type: none"> <li>Equitable access to the coastal zone for all, including historically underrepresented groups.</li> <li>Inclusive planning to maintain and enhance public spaces for community use.</li> </ul>
 <b>Integrated and Collaborative Management</b>	<ul style="list-style-type: none"> <li>Coordinated and cohesive coastal management between various levels of government and community groups.</li> <li>Aligned management activities with public authority policies to ensure integrated coastal zone management.</li> <li>Active, informed and engaged community input in coastal management decisions.</li> <li>Widespread public awareness about coastal values, processes, and the importance of sustainable management.</li> </ul>



Table ES-2 Summary of Risks Associated with Threats to the Coastal Zone

Threat Theme	Risk Rating			
	Present Day	2040	2070	2120
Bank Erosion and Berry's Canal Adjustment	High	High	Extreme	Extreme
Changes in Tidal Inundation as a Result of Sea Level Rise	Low	Low	Medium	High
Coastal Inundation (from coastal storms and extreme tides)	High	High	High	Extreme
Changes in Catchment Hydrology <sup>12</sup>	Medium	High	High	Extreme
Land Clearing and Development (urban and rural)	Medium	Medium	High	High
Acid Sulfate Soils and Drainage Structures	High	High	High	High
Boating and Associated Waterway and Foreshore Usage	High	High	High	High
Commercial and Recreational Fishing	High	High	High	Extreme

### Recommended Coastal Management Actions

The CMP provides a suite of coastal planning and management actions that have been developed and prioritised based on the assessment of threats and risk to the values associated with the study area, and with respect to how well the proposed actions addressed the CMP management objectives.

In Stage 3, a total of 215 potential management options spread across the entire Lower Shoalhaven River coastal zone were compiled via an audit of previous management plans and studies, engagement with the community and agency stakeholders, and the outcomes of the Stage 2 CMP Vulnerability Assessments. Potential options were assessed in terms of feasibility, viability, and acceptability as per the requirements of the NSW Coastal Management Manual (CM Manual; OEH, 2018b) as discussed in **Section 3.1**. Additional options were identified during public exhibition via submissions (details provided in **Appendix B**). These options were considered against the options assessment framework, and two additional options were recommended as an outcome of this process.

<sup>1</sup> All flood risk mitigation is assessed in the Lower Shoalhaven River Floodplain Risk Management Study and Plan. Entrance management as a flood risk mitigation measure is supported by the CMP.

<sup>2</sup> Referred to in the Stage 2 Risk Assessment as 'Changes in Catchment Flooding and Freshwater Flows'



Based on the options assessment (both pre and post public exhibition), 60 management options are recommended for inclusion as actions in the CMP. Actions consist of a range of knowledge building activities, investigations and engineering designs, on-ground works, and monitoring programs.

The management actions for Council and those to be led by other stakeholders are identified in **Section 3.2**. Detailed descriptions of select complex actions are discussed in **Section 3.2.4** and provided in **Appendix C**. All recommended actions that have a specific location associated with them are shown on map series **RG-01-10A-G**. Key location overviews for areas where several management actions are designed to address management issues in an integrated manner are discussed in **Section 3.2.5** and provided in **Appendix D**.

#### **The Business Plan**

A Business Plan has been developed for the CMP which outlines the key components of the funding strategy for the CMP, including the cost of proposed actions (estimated at the time of writing), proposed cost-sharing arrangements and other potential funding mechanisms (**Section 5**). Once the program is certified, Council will be responsible for facilitating the implementation of the program through its governance and budgetary processes.

Management actions have been developed for a 10-year period and have been aligned with Council's four-year Delivery Programs under the NSW IP&R Framework.

Delivery of the Lower Shoalhaven River CMP is estimated to cost \$24.64 million (2024 dollars) over 10 years. The CMP actions are expected to be funded through Shoalhaven City Council and State Government contributions, monetary grants and volunteer works by community members and organisations.

#### **Implementation and Review**

A monitoring, evaluation, and reporting (MER) program has been designed to ensure the actions remain relevant and the implementation of the program is being achieved. The program is structured into three components:

- monitoring the implementation of actions,
- monitoring relevant environmental parameters, and
- evaluating the CMP's performance against the objects of the CM Act.

As this CMP is considered a 'living document', this systematic approach ensures the CMP's progress is continually measured and adjusted as needed. A strategic review of the CMP should occur at least once every 10 years to assess the effectiveness of the CMP in achieving its objectives and to incorporate changes in light of new information, legislative and policy changes, and improved understanding of the local coastal and estuarine processes.



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## 1 Introduction

This Coastal Management Program (CMP) has been prepared by Shoalhaven City Council (Council) with the assistance of NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) to provide strategic direction and specific actions to address threats to the coastal zone and to maintain the ecological, social and economic values of the Lower Shoalhaven River estuary.

The Lower Shoalhaven River CMP has been prepared in accordance with the mandatory requirements for CMPs specified in the *Coastal Management Act 2016* (the CM Act) and accompanying NSW Coastal Management Manual (CM Manual; OEH, 2018b).

### 1.1 Purpose of the Lower Shoalhaven River CMP

The purpose of a CMP is to set the long-term strategy for the coordinated management of land within the coastal zone with a focus on achieving the objects of the CM Act. This CMP outlines the strategic aims for the coordinated management of the Lower Shoalhaven River and identifies specific actions to mitigate the threats and issues identified for the estuary that are to be implemented over the next 5 to 10 years. Clear details for how actions will be implemented, funded, monitored, and reviewed are provided in this CMP. A CMP is a plan of action for Council, public authorities and land managers responsible for management of the coastal zone to:

- Address coastal hazard risks, such as tidal and coastal inundation and estuary foreshore bank erosion;
- Preserve and enhance critical habitats, cultural values, and uses within the estuary and along its foreshore (including riparian vegetation, intertidal wetlands, and water quality monitoring and management);
- Encourage sustainable and adaptive agricultural, economic and built development in the coastal zone;
- Maintain or improve recreational amenity and resilience (including boating facilities and foreshore access); and
- Adapt to emerging issues such as population growth and climate change (e.g. in particular sea level rise impacts on low-lying areas).



Entrance at Crookhaven Heads (Photo – Shoalhaven City Council)



Lower Shoalhaven River Coastal Management Program

1.2 Strategic and Statutory Context

Under Part 3 of the CM Act, Local Councils in NSW are required to prepare CMPs in accordance with the coastal management framework (Figure 1-1), which reflects the broader suite of statutory instruments and strategies that provide for the Ecologically Sustainable Development (ESD) of the coastal zone of NSW. The CM Manual (OEH, 2018b) provides information and guidance to Councils in preparing their CMPs. A CMP is prepared in five stages as shown in Figure 1-2.

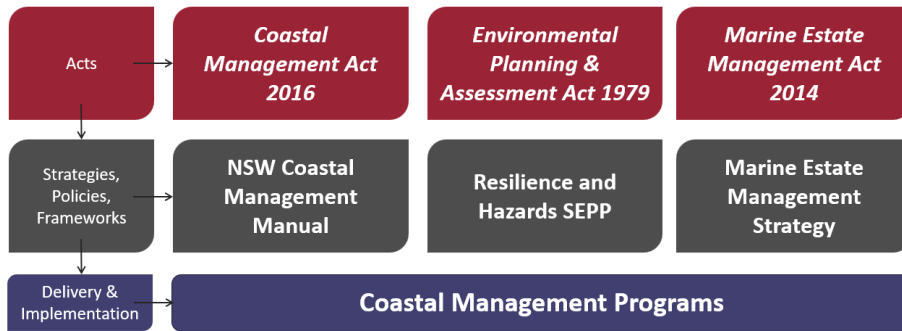


Figure 1-1 Coastal Management Framework (Adapted from OEH, 2018b)

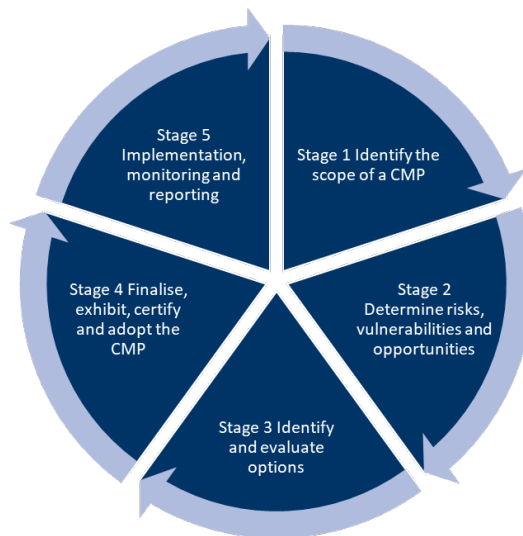


Figure 1-2 The Five Stages of a CMP (Adapted from OEH, 2018b)



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Previous stages that have been completed and support this CMP include:

- **Stage 1 Scoping Study** for the entire Shoalhaven City Council Local Government Area (LGA) coastal environment (Advisian, 2020), which set the context and scope for this CMP.
- **Stage 2 Vulnerability Assessments** for the Lower Shoalhaven River, including:
  - Stage 2 Synthesis of Current Knowledge Report (Rhelm, 2023a)
  - Detailed Risk Assessment (Rhelm, 2023b)
  - Lower Shoalhaven River Tidal and Coastal Inundation, Morphological Changes to Berry’s Canal, Groundwater and Acid Sulfate Soils Assessment (Stantec, 2023)
  - Boating Study (Rhelm, 2023c)
  - Water Quality and Monitoring Program Assessment (Rhelm, 2023d)
  - Urban Runoff Assessment and Treatment Options (Rhelm, 2023e)
  - Bank and Riparian Condition Assessment (Rhelm, 2023f)
  - Review of 2006 Entrance Management Plan and Recommendations for entrance management in the CMP (Rhelm, 2023g).
- **Stage 3 Report - Identification and Evaluation of Options** (Rhelm, 2024).

This CMP document constitutes Stage 4 of the CMP process for the Lower Shoalhaven River estuary and will be publicly exhibited prior to adoption, certification and implementation. The implementation, monitoring, and reporting of this CMP will occur in Stage 5.

### 1.3 Area Covered by this CMP

The Shoalhaven River rises in the Southern Tablelands east of the Great Dividing Range. It runs through a gorge 30 kilometres east of Goulburn and flows towards the low-lying floodplains around Nowra and Bomaderry. The river has two openings to the Tasman Sea – a permanent and trained entrance at Crookhaven Heads, and an intermittent opening at Shoalhaven Heads. The Shoalhaven Heads entrance was historically the main pathway for the Shoalhaven River until the construction of Berry’s Canal in 1822 connected that waterway with the smaller Crookhaven River, irreversibly altering the hydrodynamics of the estuary.

The estuary comprises of the tidal portion of the Shoalhaven River. The estuary has a water surface area of approximately 32 km<sup>2</sup> and a total catchment area of approximately 7,086 km<sup>2</sup> (Advisian, 2020). The estuary contains diverse landforms and can be divided into three zones:

- **Upper Estuary** – Starting at the upstream tidal limit at Burrier, the river passes through steep vegetated slopes and sandstone cliffs, with discontinuous pockets of floodplains.
- **Lower Estuary** – Once downstream of Nowra, or the Bomaderry Creek junction, the river widens into a large extensive floodplain.
- **Entrance** – There are two entrances to the estuary, with the northern entrance located at Shoalhaven Heads and the southern entrance at Crookhaven Heads located north of Culburra Beach.

Besides the primary channel of the Shoalhaven River, the key waterway features in the study area include Berry’s Canal and the tidal portions of the Crookhaven River, Bomaderry Creek, and Broughton Creek. There are also important coastal wetlands in the catchment that, although they are not within the tidal portion of the estuary, are important features of the estuary from an ecological and



hydrological perspective. These areas include Coomonderry Swamp, Saltwater Swamp and Brundee Swamp. These would have been hydrologically connected to the estuary, but the historical construction of floodplain drainage structures has disconnected these areas.

#### 1.3.1 Rationale for the CMP Study Area

The extent of the study area for the Lower Shoalhaven River CMP was defined in consultation with key stakeholders (including the former Department of Planning and Environment (DPE, now DCCEEW) during the Stage 1 Scoping Study (Advisian, 2020). At that time Council determined that they would prepare several CMPs for the coastal zone of the Shoalhaven City Council LGA, including one for the Lower Shoalhaven River estuary.

The area covered by the Lower Shoalhaven River CMP comprises the coastal zone within the lower catchments of the Shoalhaven and Crookhaven Rivers. It also includes the intermittently open and closed entrance area at Shoalhaven Heads. The landward extent of the study area is defined by the coastal management areas mapped in the *State Environmental Planning Policy (Resilience and Hazards) 2021* (the Resilience and Hazards SEPP, or RH SEPP) that are within the catchment of the Shoalhaven River estuary. This includes Coomonderry Swamp, Saltwater Swamp and Brundee Swamp.

Considerations for the border of the CMP study area include:

- Extent of the mapped coastal management areas under the RH SEPP; and
- Alignment with the adjacent Shoalhaven Open Coast and Jervis Bay CMP.

The CMP study area is shown in **Figure 1-3** as well as **Map RG-01-01** in **Appendix A**.



Lower Shoalhaven River Coastal Management Program



Figure 1-3 Study Area of the Lower Shoalhaven River CMP



### 1.3.2 Coastal Management Areas Included in the CMP

There are four coastal management areas (CMAs) as defined by the CM Act and RH SEPP. Three of these CMAs are mapped for the study area and therefore fall within the scope of the Lower Shoalhaven River CMP:

- **Coastal Wetlands and Littoral Rainforests Area (CWLRA)** – There are extensive areas of Coastal Wetlands throughout the study area in Coomonderry Swamp, Comerong Island, Kurrajong Island, along the Crookhaven River, Saltwater and Brundee Swamps, surrounding Orient Point and Curley’s Bay. Smaller coastal wetland areas are located in Broughton Creek, Shoalhaven Heads, and near Numbaa Island. Comparatively smaller areas of Littoral Rainforest are present in the study area on the eastern side of Comerong Island. These areas are mapped in **Map RG-01-02**.
- **Coastal Environment Area (CEA)** – The CEA comprises land containing coastal features such as the coastal waters of the State, estuaries, coastal lakes, coastal lagoons and land adjoining these features, including headlands and rock platforms (OEH, 2018b). The extent of the CEA within the study area is mapped in **Map RG-01-03**.
- **Coastal Use Area (CUA)** – The CUA includes land adjacent to coastal waters, estuaries, coastal lakes and lagoons where development is or may be carried out (now or in the future) (OEH, 2018b). There are a range of social and economic activities and development within the Lower Shoalhaven CUA, as mapped in **Map RG-01-04**.

Large parts of the study area and adjacent areas are vulnerable to coastal hazards, as identified through the Stage 2 Vulnerability Assessments (Stantec, 2023; Rhelm 2023f). However, there is presently no mapping of a Coastal Vulnerability Area (CVA) for the Shoalhaven River area under the RH SEPP. The context for Council’s decision to map a CVA is detailed in **Section 4** and is supported by an action (CTF\_13) in the CMP to develop a planning proposal to update the RH SEPP mapping, including the CVA.

### 1.3.3 Coastal Sediment Compartments

The Lower Shoalhaven CMP study area is located within one primary sediment compartment, the Illawarra compartment, which extends from Port Hacking Point in the north to Beecroft Head in the south. Within this larger primary sediment compartment, the study area is entirely contained within the Shoalhaven River secondary sediment compartment which extends from Black Head (Gerroa) to Beecroft Head. The study area within these sediment compartments is mapped in **Map RG-01-05**.

### 1.4 Vision, Objectives and Strategic Direction

The vision, objectives and strategic direction for the Lower Shoalhaven River CMP provide local context and recognise the unique values and attributes of the study area and the wider community’s aspirations for the coastal zone.

The long-term strategic direction for the study area is encapsulated in a vision statement established for management of the Lower Shoalhaven River coastal zone and is consistent with the objects of the CM Act and community values. The vision statement for the Lower Shoalhaven River CMP is as follows:

*We care for and protect the Lower Shoalhaven River and its catchment so that current & future generations continue to be refreshed & inspired by their coastal experience.*





Lower Shoalhaven River Coastal Management Program

The purpose statement of the Lower Shoalhaven River CMP further refines the vision:

*To develop a plan for the future of the Lower Shoalhaven River in a manner consistent with the principles of ecologically sustainable development for the social, cultural, and economic wellbeing and safety of the people of the Shoalhaven.*

Supporting the vision and purpose statements are locally relevant coastal management objectives that have been developed to align with the objects of the CM Act and further shape the strategic direction of the Lower Shoalhaven River CMP. These management objectives, developed during Stage 1 of the CMP (Advisian, 2020), provide guidance during the evaluation and selection of management actions in the CMP. The management objectives for the Lower Shoalhaven River CMP are summarised in **Table 1-1**. The CM Act requires that, in preparing a CMP, a local Council must:

- Consider and promote the objects of the CM Act; and
- Give effect to the management objectives for CMAs covered by the Program.

These requirements are addressed in **Table 1-1**, **Table 1-2** and **Table 1-3**, respectively. It is noted that, although there is no mapped CVA for the Lower Shoalhaven coastal zone, the objects for Coastal Vulnerability Areas have still been discussed in the context of the Lower Shoalhaven River CMP.



Sunset and Riparian Vegetation in the Shoalhaven River (Photo – Shoalhaven City Council)



Lower Shoalhaven River Coastal Management Program

Table 1-1 Lower Shoalhaven River Coastal Management Objectives

Theme	Objective
<b>Environmental Values</b>	Protect and enhance natural estuarine processes and environmental values including natural character, scenic value, biological diversity and ecosystem integrity and resilience.
<b>Social and Cultural Values</b>	Support the social and cultural values of the coastal zone and maintain public access, amenity, use and safety. Acknowledge the diversity of uses and values of the Shoalhaven River coastal zone.
<b>Aboriginal Values</b>	Acknowledge, protect and promote Aboriginal peoples' spiritual, social, customary and economic use and access to the coastal zone.
<b>Coastal Processes</b>	Recognise that the local and regional scale effects of coastal processes, and the inherently ambulatory and dynamic nature of the shoreline, may result in the loss of coastal land to the sea (including estuaries and other arms of the sea), and to manage coastal use and development accordingly.
<b>Coastal Economies</b>	Recognise the coastal zone as a vital economic zone and support sustainable coastal economies. Especially relevant are the tourism, oyster, recreational and commercial fishing, and agriculture industries.
<b>Land Use Planning</b>	Facilitate ecologically sustainable development in the coastal zone and promote sustainable land use planning decision-making. This is achieved through planning instruments, development controls, and other strategic planning facilitated by local and state government.
<b>Coastal Hazards</b>	Mitigate current and future risks from coastal hazards, taking into account the effects of climate change. Encourage and promote plans and strategies to improve the resilience of coastal natural and built assets to the impacts of an uncertain climate future including impacts of extreme storm events.
<b>Integrated and Collaborative Management</b>	Promote integrated and co-ordinated coastal planning, management, reporting and response amongst and between various government, industry and community organisations, and ensure co-ordination of the policies and activities of government and public authorities relating to the coastal zone to facilitate the proper integration of their management activities.
<b>Public Participation</b>	Support public participation in coastal management and planning and greater public awareness, education and understanding of coastal processes, values and management actions.





Lower Shoalhaven River Coastal Management Program

Table 1-2 Alignment with the Objects of the CM Act

Objects of the Act	How this is addressed in this CMP
<p><i>3 The objects of this Act are to manage the coastal environment of New South Wales in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of the State, and in particular—</i></p>	
<p><i>(a) To protect and enhance natural coastal processes and coastal environmental values including natural character, scenic value, biological diversity and ecosystem integrity and resilience, and</i></p>	<p>This object is reflected in the ‘Environmental Values’, ‘Coastal Processes’ and ‘Land use planning’ management objectives for the CMP (refer <b>Table 1-1</b>).</p> <p>Consideration of these values and relevant threats have been detailed in <b>Sections 2.1 and 2.2</b>, and a number of management actions developed to support these values and address these threats (refer <b>Section 3</b>).</p>
<p><i>(b) To support the social and cultural values of the coastal zone and maintain public access, amenity, use and safety, and</i></p>	<p>This object is reflected in the ‘Social and Cultural Values’ and ‘Land use planning’ management objectives for the CMP (refer <b>Table 1-1</b>).</p> <p>Consideration of these values and relevant threats have been detailed in <b>Sections 2.1 and 2.2</b>, respectively, and a number of management actions developed to support these values and address these threats (refer <b>Section 3</b>). This includes several activities to provide for public access and safety, as well as a Coastal Zone Emergency Action Subplan (CZEAS; refer <b>Section 6 and Appendix C</b>).</p>
<p><i>(c) To acknowledge Aboriginal peoples’ spiritual, social, customary and economic use of the coastal zone, and</i></p>	<p>This object is reflected in the ‘Aboriginal Values’ management objective for the CMP (refer <b>Table 1-1</b>). Engagement was undertaken with Traditional Owners during preparation of this CMP, as detailed in <b>Section 1.5 and Appendix B</b>.</p> <p>Several management actions are included in the CMP to address identified threats and support Aboriginal cultural heritage values and practices (refer <b>Section 3</b>).</p>
<p><i>(d) To recognise the coastal zone as a vital economic zone and to support sustainable coastal economies, and</i></p>	<p>This object is reflected in the ‘Coastal Economies’ management objectives for the CMP (refer <b>Table 1-1</b>).</p> <p>Consideration of these values and relevant threats have been detailed in <b>Sections 2.1 and 2.2</b>, respectively, and a number of management actions developed to support these values and address these threats (refer <b>Section 3</b>).</p>
<p><i>(e) To facilitate ecologically sustainable development in the coastal zone and promote sustainable land use planning decision-making, and</i></p>	<p>This object is reflected in the ‘Land Use Planning’ management objective for the CMP (refer <b>Table 1-1</b>).</p> <p>Consideration of these values and relevant threats have been detailed in <b>Sections 2.1 and 2.2</b>, respectively, and a number of management actions developed to support these values and address these threats (refer <b>Section 3</b>).</p> <p>This CMP does not propose any amendments to the existing mapping of the CEA, CUA, or CWLR areas currently gazetted with the RH SEPP. Mapping for the CVA has not been provided from the RH SEPP, and no such CVA map yet exists for the Shoalhaven LGA. Subsequently, it is the intent of Council to propose, by way of a planning proposal, the adoption of a map indicating a CVA. This is discussed further in <b>Section 4 and included as action CTF_13</b>.</p>



Lower Shoalhaven River Coastal Management Program

Objects of the Act	How this is addressed in this CMP
(f) <i>To mitigate current and future risks from coastal hazards, taking into account the effects of climate change, and</i>	This object is reflected in the 'Coastal Processes' and 'Coastal Hazards' management objectives for the CMP (refer Table 1-1).  Current and future risk from coastal hazards was assessed in Stage 2 (Stantec, 2023; Rhelm 2023f; and Rhelm, 2023g). Consideration of these threats has been detailed in <b>Section 2.2</b> , and a number of management actions have been included in the CMP to directly address the threats from coastal hazards under current and future sea levels. These include planning controls (see above), works, adaptation planning, monitoring, and education and awareness raising activities (refer <b>Section 3</b> ).
(g) <i>To recognise that the local and regional scale effects of coastal processes, and the inherently ambulatory and dynamic nature of the shoreline, may result in the loss of coastal land to the sea (including estuaries and other arms of the sea), and to manage coastal use and development accordingly, and</i>	This object is reflected in the 'Coastal Processes' management objective for the CMP (refer <b>Table 1-1</b> ).  Consideration of these threats have been detailed in <b>Section 2.2</b> , and local and regional coastal processes were described in the Stage 2 Synthesis of Current Knowledge Report (Rhelm, 2023a). A range of management actions have been included in this CMP to ensure improved recognition of coastal processes and provide for improved resilience in this regard, including recommendations for planning controls, monitoring and community education (refer <b>Section 3</b> ).
(h) <i>To promote integrated and co-ordinated coastal planning, management and reporting, and</i>	This object is reflected in the 'Integrated and Collaborative Management' management objective for the CMP (refer <b>Table 1-1</b> ). Reference is also made to <b>Section 1.5</b> and <b>Appendix B</b> .  Several management actions have been included in this CMP to facilitate coordination (refer <b>Section 3</b> ), and where other agencies are partnering or leading implementation of actions, this is identified in the Business Plan ( <b>Section 5</b> ).
(i) <i>To encourage and promote plans and strategies to improve the resilience of coastal assets to the impacts of an uncertain climate future including impacts of extreme storm events, and</i>	This object is reflected in the 'Coastal Processes', 'Land Use Planning' and 'Coastal Hazards' management objectives for the CMP (refer <b>Table 1-1</b> ).  Risks to coastal assets are to be addressed through a number of management actions included in this CMP (refer <b>Section 3</b> ), including land use and planning controls, preparation of adaptation strategies to address long-term risk, and as well as a Coastal Zone Emergency Action Subplan (CZEAS; refer <b>Section 6</b> and <b>Appendix C</b> ).
(j) <i>To ensure co-ordination of the policies and activities of government and public authorities relating to the coastal zone and to facilitate the proper integration of their management activities, and</i>	This object is realised through preparation of this CMP, with stakeholder engagement activities documented in <b>Section 1.5</b> and <b>Appendix B</b> . Letters of support from agencies will be provided along with the Final CMP.
(k) <i>To support public participation in coastal management and planning and greater public awareness, education and understanding of coastal processes and management actions, and</i>	This object is reflected in the 'Public Participation' management objective for the CMP (refer <b>Table 1-1</b> ).  Community engagement activities undertaken in development of this CMP are documented in <b>Section 1.5</b> and <b>Appendix B</b> . In addition, there are a number of management actions in this CMP that aim to provide for ongoing community participation and improved public awareness (refer <b>Section 3</b> ).



Objects of the Act	How this is addressed in this CMP
(l) <i>To facilitate the identification of land in the coastal zone for acquisition by public or local authorities in order to promote the protection, enhancement, maintenance and restoration of the environment of the coastal zone, and</i>	No land acquisition has been proposed as part of this CMP; however, a range of activities on public land are proposed to provide for protection, enhancement, maintenance and restoration of the coastal environment (refer <b>Section 3</b> ).
(m) <i>To support the objects of the Marine Estate Management Act 2014.</i>	Refer to stakeholder engagement undertaken for this CMP as summarised in <b>Section 1.5</b> . In addition, management actions have been developed that address threats to the Lower Shoalhaven coastal zone that align with several of those identified in the NSW Marine Estate Threat and Risk Assessment for the Marine Estate (BMT WBM, 2017) (refer <b>Section 2.2</b> ).

Table 1-3 Alignment with the Management Objectives for CMAs under the RH SEPP

Objects for CMAs	How this is addressed in this CMP
<b>6(2) The management objectives for the coastal wetlands and littoral rainforests area are as follows—</b>	
(a) <i>to protect coastal wetlands and littoral rainforests in their natural state, including their biological diversity and ecosystem integrity,</i>	Threats to CWLRAs in the study area are assessed in the risk assessment described in <b>Section 2.2</b> and refined in <b>Table 2-3</b> . Related threats identified in the risk assessment include: ‘Changes in Tidal Inundation as a Result of Sea Level Rise’, ‘Changes in Catchment Hydrology (referred to in the Stage 2 risk assessment as Changes in Catchment Flooding and Freshwater Flows)’, ‘Land Clearing and Development (urban and rural)’, and ‘Acid Sulfate Soils and Drainage Structures’.
(b) <i>to promote the rehabilitation and restoration of degraded coastal wetlands and littoral rainforests,</i>	A range of management options were considered in Stage 3 to address these threats, and several have been adopted as management actions in this CMP (see <b>Section 3</b> ). These management actions are considered consistent with the State policies and programs for wetlands and littoral rainforest management.
(c) <i>to improve the resilience of coastal wetlands and littoral rainforests to the impacts of climate change, including opportunities for migration,</i>	
(d) <i>to support the social and cultural values of coastal wetlands and littoral rainforests,</i>	
(e) <i>to promote the objectives of State policies and programs for wetlands or littoral rainforest management.</i>	
<b>7(2) The management objectives for the coastal vulnerability area are as follows—</b>	
(a) <i>to ensure public safety and prevent risks to human life,</i>	Council has decided to proceed with mapping of a CVA for the study area using the mapping of the land that is vulnerable to coastal hazards prepared for Stage 2 (refer Stantec, 2023), which is discussed in <b>Section 4</b> .
(b) <i>to mitigate current and future risk from coastal hazards by taking into account the effects of coastal processes and climate change,</i>	The risk to both land and built and natural assets from coastal hazards is discussed in <b>Section 2.2</b> and refined in <b>Table 2-3</b> and include: ‘Bank Erosion and Berry’s Canal Adjustment’, ‘Changes in Tidal Inundation as a Result of Sea Level Rise’ and
(c) <i>to maintain the presence of beaches, dunes and the natural features of foreshores, taking into account the beach system operating at the relevant place,</i>	





























































































































































































































































































































































































































































































































































































































































































































































































































































