

Southern Coastal Management Program Advisory Committee

Meeting Date: Wednesday, 15 January, 2025

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

Attachments (Under Separate Cover)

Index

Reports

SC24.3	Adoption of the Lake Conjola Coastal Management Program	
Attachment 1	Final Draft Lake Conjola Coastal Management Program – Full Document.....	2
Attachment 2	Report - Lake Conjola Coastal Management Program - Public Exhibition Response to Submissions Document	349



REPORT

Lake Conjola Coastal Management Program

Lake Conjola CMP

Client: Shoalhaven City Council

Reference: PA2591-RHD-CMP-LC-0005

Status: Final/6.0

Date: 16 December 2024



Project related



HASKONING AUSTRALIA PTY LTD.

Level 15
99 Mount Street
North Sydney NSW 2060
Australia
Water & Maritime

+61 2 8854 5000 **T**
project.admin.australia@rhdhv.com **E**
royalhaskoningdhv.com **W**

Document title: Lake Conjola Coastal Management Program

Subtitle: Lake Conjola CMP

Reference: PA2591-RHD-CMP-LC-0005

Your reference: Lake Conjola CMP

Status: Final/6.0

Date: 16 December 2024

Project name: Lake Conjola Coastal Management Program

Project number: PA2591

Classification

Project related

Unless otherwise agreed with the Client, no part of this document may be reproduced or made public or used for any purpose other than that for which the document was produced. Haskoning Australia PTY Ltd. accepts no responsibility or liability whatsoever for this document other than towards the Client.

Please note: this document contains personal data of employees of Haskoning Australia PTY Ltd.. Before publication or any other way of disclosing, this report needs to be anonymized, unless anonymisation of this document is prohibited by legislation.

Project related



Revision	Date	Description	Prepared	Checked	Approved
1	16 April 2024	Preliminary Draft	MP		
2	30 April 2024	Draft	MP	GWB	
3	9 August 2024	Revised Draft	MP	GWB	GWB
4	15 October 2024	Final Draft	MP	GWB	GWB
5	23 October 2024	Final Draft for Public Exhibition	MP	GWB	GWB
6	16 December 2024	Final	MP	GWB	GWB

SC24.3 - Attachment 1

Project related



Table of Contents

1	Introduction	1
1.1	Purpose of this Coastal Management Program	1
1.2	Area Covered by this CMP	3
1.2.1	Study Area	3
1.2.2	Coastal Management Areas	5
1.2.3	Coastal Sediment Compartments	7
1.3	Objectives, Vision and Purpose, and Strategic Directions of the CMP	9
1.3.1	Objectives	9
1.3.2	Vision and Purpose	10
1.3.3	Strategic Objectives	10
1.4	NSW Coastal Management Framework	12
1.5	Timeframes covered by the Lake Conjola CMP	14
1.6	Good faith and liability	15
2	A Snapshot of Issues	16
2.1	Environmental, Social & Cultural Assets and Attributes	16
2.1.1	Catchment and Waterbody	16
2.1.2	Sediments	17
2.1.3	Marine and Estuarine Ecology	18
2.1.3.1	Shorebirds	18
2.1.3.2	Fish Habitat	18
2.1.3.3	Estuarine Macrophytes	19
2.1.3.4	Invasive Weeds	19
2.1.3.5	Commercial Aquaculture	19
2.1.3.6	Threatened Ecological Communities	19
2.1.4	Cultural Heritage	20
2.1.5	Community Demographics	20
2.1.6	Recreational Use of Lake Conjola	20
2.2	Threats and Risk Assessment	21
2.2.1	Threat Identification	21
2.2.2	Inundation	21
2.2.3	Water Quality	22
2.2.4	Foreshore Erosion, Stabilisation and Structures	23
2.2.5	Climate Change	23
2.2.5.1	Regional Climate Change	23
2.2.5.2	Sea Level Rise	24
2.2.6	Risk Assessment	24
2.2.7	Current Built Assets within Lake Conjola	25
2.3	Entrance Processes and Entrance Management Options	25
2.3.1	General	25

Project related



2.3.2	Entrance Processes	25
2.3.3	Entrance Management Options Assessment	28
2.3.4	Entrance Management Policy	29
3	Stakeholder and Community Engagement	31
3.1	General	31
3.2	'Get Involved' Project Webpage	31
3.3	Stage 1	31
3.4	Stage 2	32
3.5	Stage 3	32
3.6	Stage 4	34
4	Actions to be Implemented by the Council or by Public Authorities	36
4.1	General	36
4.2	Implementation of CMP Actions	36
4.2.1	Actions to be Implemented by Council	36
4.2.2	Integrated Planning and Reporting Framework	36
4.2.2.1	Community Strategic Plan – Shoalhaven 2032	38
4.2.2.2	Resourcing Strategy	39
4.2.2.3	Delivery Program – 4 Years	39
4.2.2.4	Operational Plan – 1 Year	39
4.2.2.5	Annual Reporting	39
4.2.3	Actions to be Implemented by Public Authorities other than Council	40
4.2.4	Management Action Approvals and Considerations	40
4.3	Overview of Management Actions	40
5	Whether the CMP identifies recommended changes to the relevant planning controls, including any proposed maps	67
6	A Business Plan	68
6.1	General	68
6.2	Funding Sources	68
6.3	CBA Distributional Analysis	71
6.4	Disclaimer	72
7	Coastal Zone Emergency Action Subplan, if the Coastal Management Act 2016 requires that subplan to be prepared	79
8	Monitoring, Evaluation and Reporting Program	80
8.1	General	80
8.2	Monitoring, Evaluation and Reporting Program	80
8.2.1	Overview	80

Project related



8.2.2	Component 1: Delivery of Management Actions	83
8.2.3	Component 2: Environmental Parameters and Indicators	83
8.2.4	Component 3: Achievement of Objects of the CMP and CM Act	84
9	Maps	87
10	Reference List	88

Table of Tables

Table 3-1: Online Engagement Metrics	34
Table 4-1: Recommended Coastal Management Actions	42
Table 6-1: Potential funding sources and application for Lake Conjola CMP actions	69
Table 6-2: Legend for Funding Sources in Business Plan	71
Table 6-3: Business Plan for Lake Conjola CMP	73

Table of Figures

Figure 1-1: Lake Conjola Locality Map (source: BMT WBM, 2013a)	2
Figure 1-2: Lake Conjola CMP Study Area	4
Figure 1-3: RH SEPP Coastal Management Area Mapping (source: NSW ePlanning Spatial Viewer)	6
Figure 1-4: NSW Secondary and Tertiary Coastal Sediment Compartments (Short & Thom, 2018)	7
Figure 1-5: Shoalhaven Regional Tertiary Coastal Sediment Compartments (source: NCCARF, 2019)	8
Figure 1-6: Refined NSW Sediment Compartments (source: Carvalho and Woodroffe, 2015)	9
Figure 1-7: NSW Coastal Management Framework	13
Figure 1-8: Stages for preparation of a Coastal Management Program (NSW Coastal Management Manual Part A)	14
Figure 2-1: Lake Conjola tidal delta and shallow inlet channel extending approximately 3 km upstream until deeper water at "The Steps"	17
Figure 2-2: Sediment distribution within Lake Conjola (source: Sloss et al., 2010)	18
Figure 2-3: Schematic representation of Storm Washover Entrance State (source: PBP, 1999)	27
Figure 2-4: Aerial photograph showing an example of the Storm Washover Entrance State (source: Nearmap, dated 15 July 2018)	28
Figure 4-1: Shoalhaven City Council Integrated Planning and Reporting Framework	38
Figure 4-2: Dune Management Areas	57
Figure 4-3: Foreshore remediation areas	58
Figure 4-4: Stormwater runoff management – Conjola Village	59
Figure 4-5: Stormwater runoff management – Conjola Park	60
Figure 4-6: Management of watercraft storage	61
Figure 4-7: Management of uncontrolled stock access	62

Project related



Figure 4-8: Lake Conjola Diffuse Source Pollution Risk Assessment overlaid on satellite image (source: DPIE, 2020)	63
Figure 4-9: Future areas of potential migration of estuarine vegetation and habitat and areas for restoration of riparian vegetation	64
Figure 4-10: Mapped threatened ecological communities in tidal inundation sites – Lower Lake Conjola (source: Ecoplanning, 2023)	65
Figure 4-11: Mapped threatened ecological communities in tidal inundation sites – Fishermans Paradise (source: Ecoplanning, 2023)	66
Figure 8-1: Overview of MER program for the CMP	82

Appendices

- Appendix A – Draft Entrance Management Policy
- Appendix B – Lake Conjola Coastal Zone Emergency Action Subplan
- Appendix C – Tidal Inundation Maps - all SLR ranges
- Appendix D – Coastal Inundation Maps - all SLR ranges
- Appendix E – Alignment of CMP with Objectives of the CM Act and RH SEPP

Project related



Supporting Documents

- A. Lake Conjola CMP Stage 2: Report A – Environmental, Social & Cultural Assets and Attributes (RHDHV, 2023a)
- B. Lake Conjola CMP Stage 2: Report B – Threats and Risk Assessment (RHDHV, 2023b)
- C. Lake Conjola CMP Stage 2: Report C – Entrance Processes and Entrance Management Options (RHDHV, 2023c)
- D. Community Engagement Summary Report – Lake Conjola Coastal Management Program – Transition from Stage 2 to Stage 3 (EMM, 2022)
- E. Lake Conjola CMP Stage 3 – Identify and Evaluate Options (RHDHV, 2024a)
- F. Lake Conjola CMP – Responses to Submissions on the Public Exhibition Draft CMP (RHDHV, 2024b)

Project related



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

Project related



Executive Summary

Overview of the CMP

Lake Conjola is primarily an estuarine water body, made up of three identified basins (Lake Conjola, Berringer Lake and Pattimores Lagoon). The Lake entrance occasionally closes, sometimes requiring Council intervention to mitigate potential flooding of low-lying areas, however it is predominantly (88% of the time based on Council records over the period 1916 to 2019) open to the ocean and receives tidal interchange of marine waters. The natural environment of Lake Conjola benefits significantly from the large tracts of Lake Conjola National Park and Narrawallee Nature Reserve within the catchment, with some 85% of land remaining vegetated (not cleared).

South Coast villages such as Lake Conjola have a heavy reliance on tourism for their livelihood. While hosting a relatively small resident population (with respect to catchment size) of some 1,200-1,400 permanent residents, primarily based in three villages (Lake Conjola, Conjola Park and Fishermans Paradise), the region is an extremely popular tourism destination, hosting approximately 5,000 additional people during the peak summer period.

However, there are a number of threats and risks to the natural and built environment from coastal hazards at Lake Conjola that require management both now and in the future. These are addressed by the preparation of a Coastal Management Program (CMP) for Lake Conjola in accordance with the NSW Coastal Management Framework and the *Coastal Management Act 2016* (CM Act).

The CMP considers key environmental threats, as well as current and future coastal hazards, and outlines potential opportunities for adaptation and improvement, seeking to provide a set of prioritised, coordinated and cost-effective actions that, when progressively implemented, will help to ensure that Lake Conjola is ecologically healthy, resilient, attractive and accessible for future generations.

The Lake Conjola CMP has been prepared in accordance with the staged process detailed in the NSW Coastal Management Manual Part A (the Manual) (OEH, 2018) (refer **Figure E-1**). The completed stages supporting this CMP are documented in the following documents:

- STAGE 1: *Shoalhaven Coastal Management Program Scoping Study* (Advisian, 2020)
This included a review of relevant background information, a first pass risk assessment, a data gap analysis, and formulation of a plan for the development of the suite of CMPs covering the Shoalhaven's coastline and estuaries.
- STAGE 2: *Lake Conjola CMP Stage 2: Report A – Environmental, Social & Cultural Assets and Attributes* (RHDHV, 2023) (**Supporting Document A**)
Provides a review of the physical and social attributes and assets within the Lake Conjola catchment, as well as noting the various pieces of legislation that afford protection to these attributes.
- STAGE 2: *Lake Conjola CMP Stage 2: Report B – Threats and Risk Assessment* (RHDHV, 2023) (**Supporting Document B**)
Describes the range of, extent, and potential impact of threats posed by coastal hazards on the attributes, as well as providing initial consideration of potential mitigation options and actions.
- STAGE 2: *Lake Conjola CMP Stage 2: Report C – Entrance Processes and Entrance Management Options* (RHDHV, 2023) (**Supporting Document C**)
Provides a review of coastal processes and entrance dynamics, past and current entrance

Project related



management practices, as well as consideration of potential options for management of the entrance into the future.

- STAGE 3: Lake Conjola CMP Stage 3: - Identify and Evaluate Options (RHDHV, 2024) (Supporting Document E)**
 Includes the compilation of an initial long list of management options from the risk assessment process completed in Stage 2 and application of a coarse filter incorporating several criteria to confirm acceptable actions for the Stage 3 community and stakeholder consultation. Following consultation, these actions were refined and consolidated. A cost benefit analysis was completed on selected management options that would require significant expenditure to implement, comprising options for entrance management. The outcome of this stage was to identify management options to be carried forward to Stage 4 (this document) that effectively address issues and risks, take advantage of new opportunities, and give effect to the objectives of the CM Act.

This document has been prepared on behalf of Shoalhaven City Council (Council) with funding and technical support from the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW)¹, and in consultation with various state agencies and other relevant stakeholders.

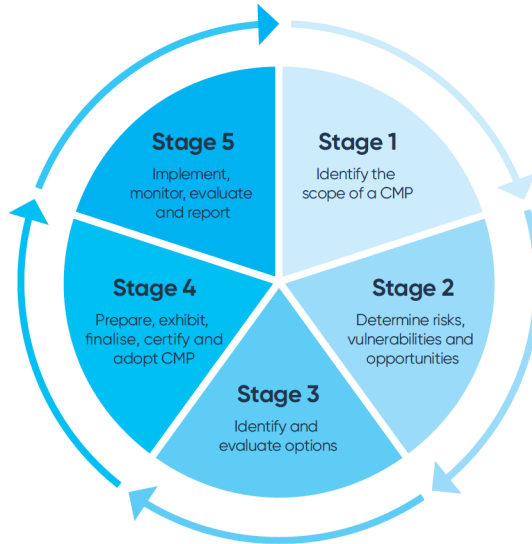


Figure E-1: Stages for preparation of a Coastal Management Program (NSW Coastal Management Manual Part A)

Study Area

The study area for the purposes of the Lake Conjola CMP extends from the entrance of the lake westward to the tidal limit and 500 m beyond consistent with the mapped Coastal Environment Area, as shown in **Figure E-2**. The open coast areas of Lake Conjola, and the potential impact of coastal hazards upon them, will be considered and addressed within the *Open Coast and Jervis Bay Coastal Management Program*. This CMP also covers the beaches and headlands across the LGA.

¹ Previously NSW Department of Planning & Environment (DPE).

Project related

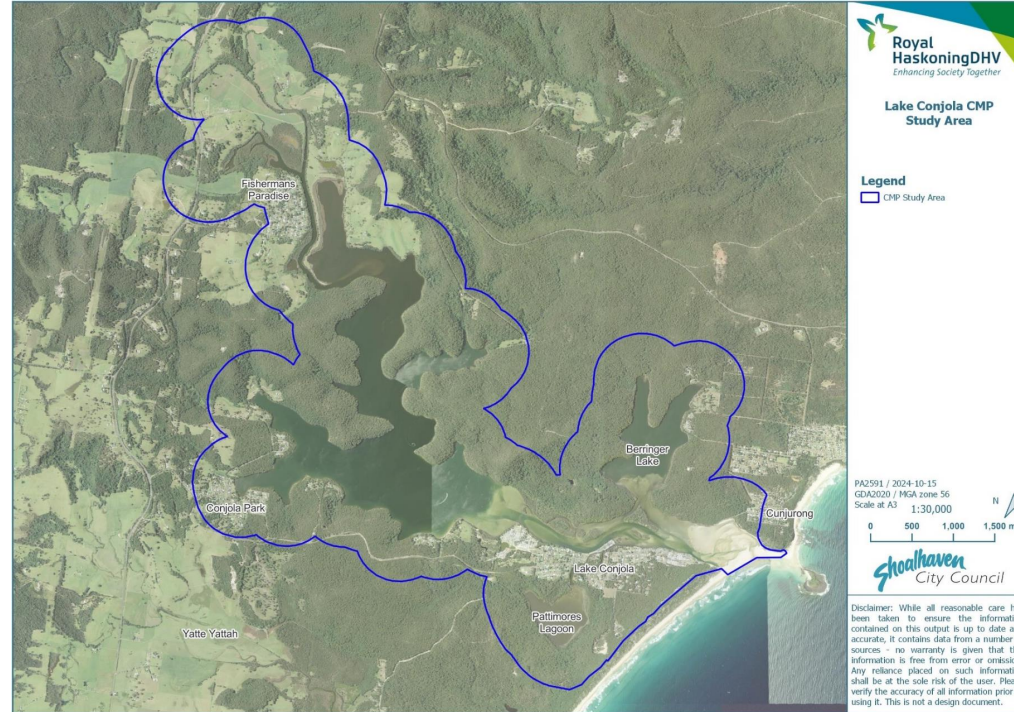


Figure E-2: Lake Conjola CMP Study Area

Project related



Objectives, Vision and Purpose, and Strategic Direction

The overarching **Vision** of the Lake Conjola CMP is:

“We care for and protect Lake Conjola in a responsible manner so that current & future generations continue to be safe, refreshed & inspired by their coastal experience.”

The overarching **Purpose** of the Lake Conjola CMP is:

“To develop a plan for the future management of Lake Conjola in a manner consistent with the principles of ecologically sustainable development for the social, cultural, and economic well-being and safety of the people of the Shoalhaven.”

Following the guidance of, and in accordance with, the NSW Coastal Management Manual and Framework, the Lake Conjola CMP will provide coastal management actions to be implemented over the next 10 years, and each potential action will be measured against the Vision and Purpose, to ensure that they are aligned with these statements.

Consistent with the *Coastal Management Act 2016* (CM Act), the objectives of the Lake Conjola CMP are to manage the coastal zone in a manner that is consistent with the principles of ecologically sustainable development for the social, cultural, and economic well-being of the people of the Lake Conjola area.

Snapshot of Issues

For the Lake Conjola CMP, the following Coastal Hazards (as defined within the CM Act) were identified for assessment:

- coastal lake or watercourse entrance instability,
- coastal inundation,
- tidal inundation,
- erosion and inundation of foreshores caused by tidal waters and the action of waves, including the interaction of those waters with catchment floodwaters.

As well as these defined coastal hazards, a number of additional threats to the environmental, social and cultural assets and attributes within the Lake Conjola CMP study area were identified. These included:

- coincident inundation - combination of catchment flooding and coastal inundation;
- poor water quality – both groundwater and surface water;
- impacts of catchment management on waterway health;
- foreshore erosion and removal of riparian vegetation;
- inadequate management of foreshore access, private structures, and watercraft storage; and,
- climate change related impacts from increases in sea level, bushfires and rainfall.

Following identification and quantification of the range of current and projected future threats to the cultural and environmental assets and attributes that exist within Lake Conjola, a risk assessment was undertaken in order to determine the severity of, and potential to mitigate, each of the identified risks.

Stakeholder and Community Engagement

Stakeholder and community engagement was undertaken throughout each stage of the CMP process. Responses received from stakeholders during each formal engagement opportunity, as well as feedback

Project related



provided throughout preparation of the draft CMP, have been considered during development and refinement of management actions.

Management Strategies and Actions

An initial long list of management actions was compiled from the risk assessment completed during Stage 2 (refer **Supporting Document B**), with additional selected actions developed to enable the integrated and strategic management of the study area for the Lake Conjola CMP within the broader Shoalhaven coastal zone. A coarse filter incorporating several criteria was applied to this long list to confirm which actions would be accepted for Stage 3 consultation. The actions were consolidated and presented in a summary written document including GIS mapping, for community and stakeholder engagement.

Feedback received from the Stage 3 consultation was used to refine the management actions. A cost benefit analysis was completed during Stage 3 for those management options that would require significant expenditure to implement, namely options for entrance management.

The recommended CMP management actions are structured under several main themes comprising:

- LGA-Wide Management Actions;
- Manage Foreshore Areas and Bank Erosion;
- Improve Planning and Management Arrangements for the Lake Catchment Area;
- Entrance Management Interventions;
- Maintain and Improve Water Quality;
- Protect and Rehabilitate Estuarine and Riparian Vegetation and Habitat; and,
- Maintain and Improve Recreation and Amenity.

For each action, this CMP provides a summary of the tasks involved, roles and responsibilities, costs, and timeframes for delivery, as well as objectives and performance indicators.

Management strategies and actions have been developed for a ten-year period. A timeframe for implementation of the actions is specified, adopting timing consistent with the key Council Integrated Planning and Reporting (IP&R) documents comprising the Operational Plan, Delivery Program 2022-2026, and future delivery programs for 2026-2030 and 2030-2034.

Entrance Management

The CMP includes a draft Entrance Management Policy (refer **Appendix A**) based on the recommended entrance management strategy determined from a detailed assessment completed during Stage 3. The preparation of an updated Lake Conjola Entrance Management Policy, including a supporting Review of Environmental Factors (REF), and ongoing implementation of the policy actions and procedures is a key management action within the CMP.

Business Plan

A Business Plan has been developed which outlines the key components of the funding strategy for the CMP, including the cost of proposed actions, proposed cost-sharing arrangements, and other potential funding mechanisms. Delivery of the CMP is estimated to cost \$12.2 Million (2024 dollars) over 10 years.

Project related



Sustainable funding and financing arrangements for management actions will be established in consultation with key stakeholders. Council may fund management actions outlined in the Lake Conjola CMP through a combination of sources, including Council internal funds and competitive State and Federal Government grant programs. The range of current funding sources that may be applicable for coastal management actions within the Lake Conjola CMP, as well as potential emergency and disaster support, are outlined in the CMP. The objectives and availability of funding programs are regularly changing, and Council are expected to maintain an awareness of appropriate funding opportunities as they arise.

Implementation and Review

Council is required to implement a monitoring, evaluation, and reporting (MER) programme as part of the Lake Conjola CMP, to identify key indicators, trigger points and thresholds as measures of success of actions in reducing the threats and maintaining the values of Lake Conjola, as well as mitigation actions should the actions not achieve the desired outcomes.

The CM Act requires CMPs to be reviewed at least once every 10 years, to ensure that actions to manage locations such as Lake Conjola remain current and relevant in light of new information, legislative and policy changes, and improved understanding of the local coastal and estuarine processes.

Council must maintain sufficient information and records about its management of the relevant parts of the coastal zone to demonstrate how the Lake Conjola CMP has been implemented, and what has been achieved in connection with the Lake Conjola CMP, including whether coastal management actions have been carried out within the timeframes identified in the Lake Conjola CMP.

Project related



1 Introduction

1.1 Purpose of this Coastal Management Program

The purpose of this Coastal Management Program (CMP) is to establish an integrated program for the coordinated management of Lake Conjola.

Coastal management in New South Wales (NSW) is guided by the *Coastal Management Act 2016* (CM Act), the *State Environmental Planning Policy (Resilience and Hazards) 2021* (RH SEPP) and the NSW Coastal Management Manual (the Manual) (OEH, 2018). This legislation and the Manual set out the requirement for councils to prepare Coastal Management Programs (CMPs).

Shoalhaven City Council (Council), with support from the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW), have engaged Royal HaskoningDHV (RHDHV) to prepare a Coastal Management Program (CMP) for Lake Conjola. The CMP considers key environmental threats, as well as current and future coastal hazards, and outlines potential opportunities for adaptation and improvement, providing a set of prioritised, coordinated, and cost-effective actions that, when progressively implemented, will help to ensure that Lake Conjola is ecologically healthy, resilient, attractive, and accessible for future generations.

Lake Conjola (also referred to as 'the Lake') is a medium sized barrier estuary on the NSW south coast, located approximately 210 km south of Sydney, and approximately 50 km south of Nowra, in the Shoalhaven Local Government Area (LGA) as shown in **Figure 1-1**.

Project related



Figure 1-1: Lake Conjola Locality Map (source: BMT WBM, 2013a)

SC24.3 - Attachment 1

Project related



1.2 Area Covered by this CMP

1.2.1 Study Area

The study area for the purposes of the Lake Conjola CMP extends from the entrance of the lake westward to the tidal limit and 500 m beyond consistent with the mapped Coastal Environment Area (refer **Section 1.2.2**), as shown in **Figure 1-2**. It is noted that the more immediate catchment areas adjacent to the lake were also considered in the development of CMP management actions due to their potential impacts on lake water quality through surface runoff. The CMP study area and its coastal sediment compartment (refer **Section 1.2.3**) is wholly contained within the Shoalhaven LGA.

The rationale for completing a CMP for this specific estuary is that there are a number of management issues specific to Lake Conjola, which warranted a separate CMP as identified in the Stage 1 CMP Scoping Study (Advisian, 2020). Council has prepared the certified Shoalhaven Open Coast and Jervis Bay CMP, and are preparing separate CMPs for other Shoalhaven estuaries, including the Lower Shoalhaven River, and Sussex Inlet, St Georges Basin, Swan Lake and Berrara Creek.

Lake Conjola is primarily an estuarine water body with a surface area of approximately 6.9 km², made up of three identified basins (Lake Conjola, Berringer Lake and Pattimores Lagoon), within a coastal catchment area of 145 km², and seven main reference locations, as shown in **Figure 1-2**. The Lake entrance occasionally closes, sometimes requiring Council intervention to mitigate potential flooding of low-lying areas, however it is predominantly open to the ocean and receives tidal interchange of marine waters.

The open coast areas of Lake Conjola, and the potential impact of coastal hazards upon them, will be considered and addressed within the *Shoalhaven Open Coast and Jervis Bay Coastal Management Program*. The open coastal area to the south of Lake Conjola consists of approximately 6.5 km of east facing sandy beaches, with Lake Conjola Ocean Beach transitioning through Buckleys Point to Buckleys Beach, which extends to the northern shore of Narrawallee Inlet, adjacent to Preservation Rock. The rocky northern shoreline from Cunjurong Point extends past Green Island to the nearly 1 km long Manyana Beach, which is bounded by Inyadda Point, with Inyadda Beach extending further north towards Bendalong.

Project related

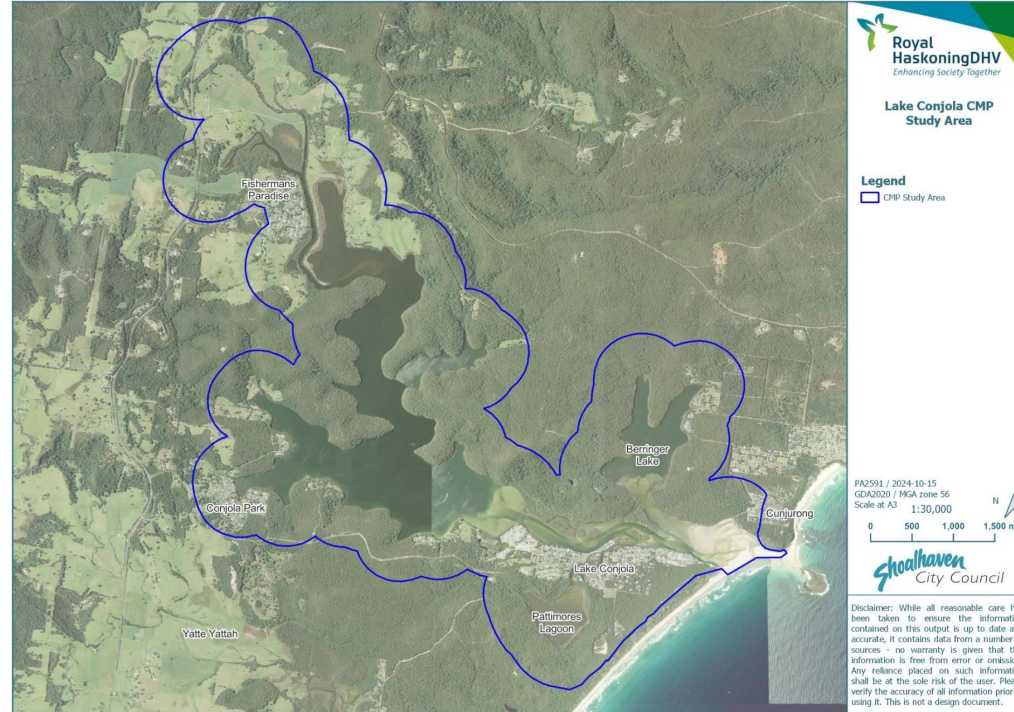


Figure 1-2: Lake Conjola CMP Study Area

Project related



1.2.2 Coastal Management Areas

In accordance with the CM Act, this CMP gives effect to the management objectives for the 4 coastal management areas (CMAs) that define the coastal zone of the study area (refer **Appendix E**). Each CMA has different characteristics and objectives, and the areas may overlap (refer **Figure 1-3**). The CM Act provides the definition and objectives for each of the management areas. The RH SEPP provides development controls for each of the management areas, and state-wide mapping of 3 of the 4 areas. The 4 coastal management areas as defined by the CM Act are:

- **Coastal Environment Area (CEA)** – Land containing coastal features such as the coastal waters of the state, estuaries, coastal lakes, coastal lagoons, and land adjoining those features including headlands and rock platforms. Beaches, dunes, and foreshores are included in this area.
- **Coastal Use Area (CUA)** – Land adjacent to coastal waters, estuaries, coastal lakes and lagoons where development is or may be carried out (at present or in the future) and impacts of development on the scenic and cultural values and use and enjoyment of the beaches, foreshores, dunes, headlands, rock platforms, estuaries, lakes and the ocean need to be considered.
- **Coastal Wetlands and Littoral Rainforests Area (CWLRL)** – Land which displays the hydrological and floristic characteristics of coastal wetlands or littoral rainforests, as well as a surrounding proximity area to manage impacts of adjacent development.
- **Coastal Vulnerability Area (CVA)** – Land which is subject to any of the coastal hazards listed in the CM Act. Mapping for the coastal vulnerability area has not been provided from the RH SEPP, and no such coastal vulnerability area (CVA) map yet exists for the study area. Nonetheless, it is recognised that the Lake Conjola is subject to coastal hazards and that the scope of this CMP also covers managing coastal vulnerability. Lake Conjola is subject to coastal hazards including coastal lake or watercourse entrance instability, coastal inundation, tidal inundation, and erosion and inundation of foreshores caused by tidal waters and the action of waves, including the interaction of those waters with catchment floodwaters.

The objectives of the CMAs covered by this CMP have been given effect in the CMP through the specific alignment between the CMP Objectives and the CMA management objectives, and through the specific alignment of the CMP Management Actions to these objectives (refer **Appendix E**). Implementation of the Management Actions across the 10 year timeframe of this CMP will achieve specific Action outcomes, will address the CMP objectives, and thus will help to address the CMA management objectives with regard to the CMAs within the CMP Study Area.



Project related

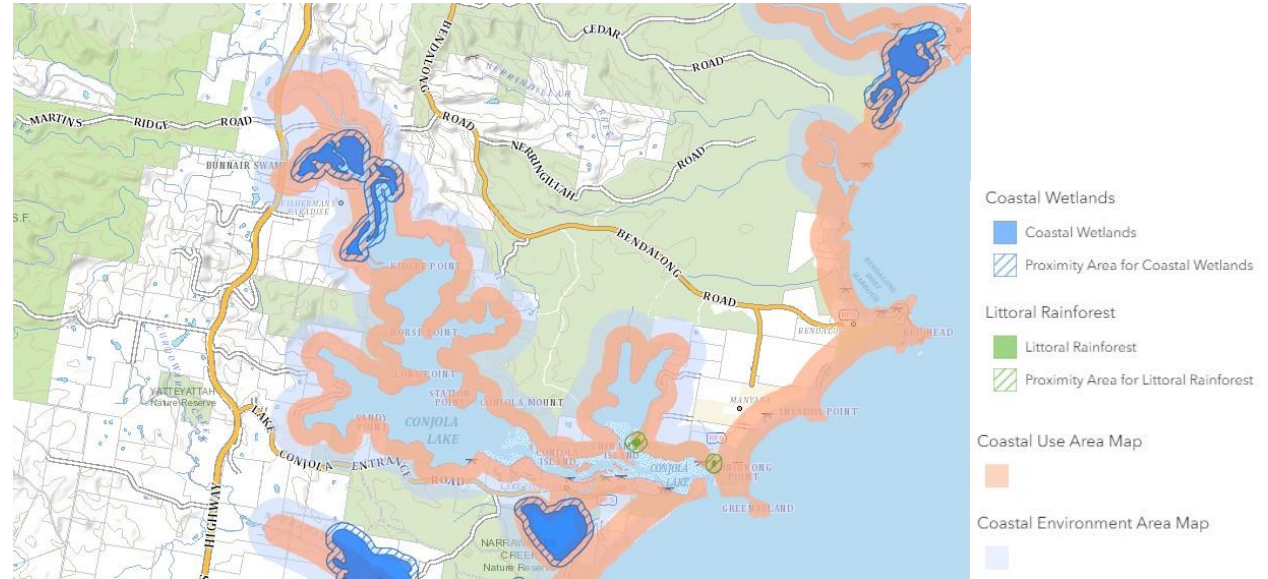


Figure 1-3: RH SEPP Coastal Management Area Mapping (source: NSW ePlanning Spatial Viewer)

Project related



1.2.3 Coastal Sediment Compartments

The NSW government has enshrined consideration of primary, secondary and tertiary scale sediment compartments within the CM Act, so as to ensure CMPs take into account potential impacts on adjoining locations and local government areas. According to Short and Tom (2018) classification, Lake Conjola is located within primary sediment compartment NSW02, secondary sediment compartment NSW02.05, and tertiary scale sediment coastal sediment compartment "Conjola North NSW02.05.05", as shown in **Figure 1-4** and **Figure 1-5**.

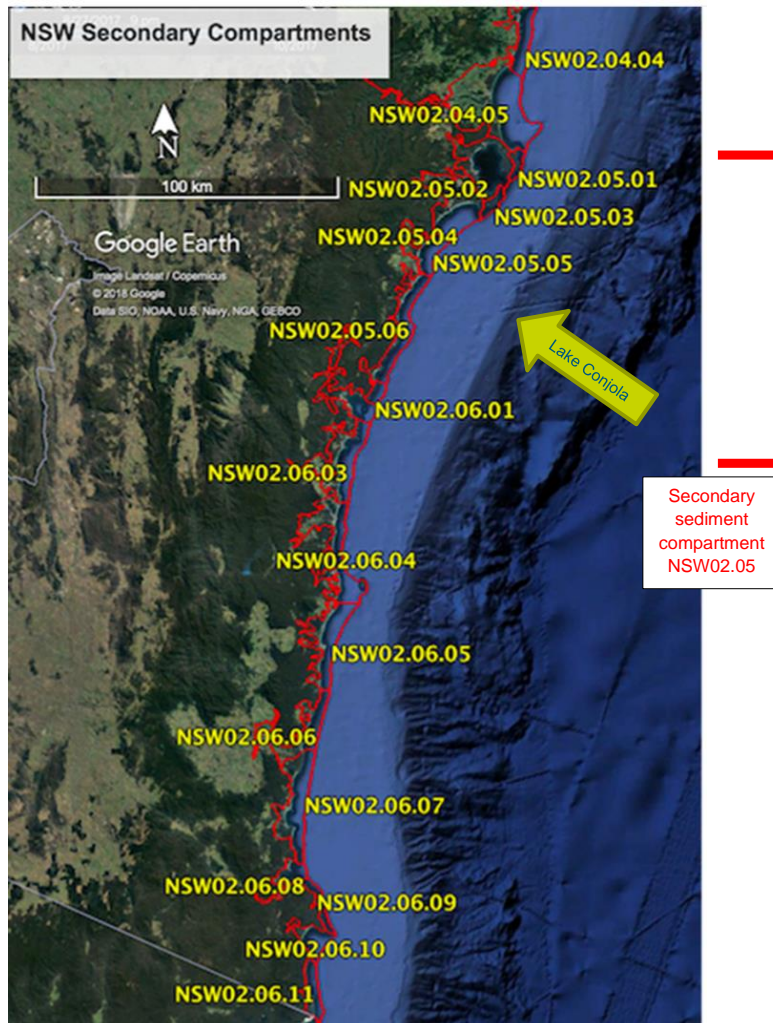


Figure 1-4: NSW Secondary and Tertiary Coastal Sediment Compartments (Short & Thom, 2018)

SC24.3 - Attachment 1

Project related

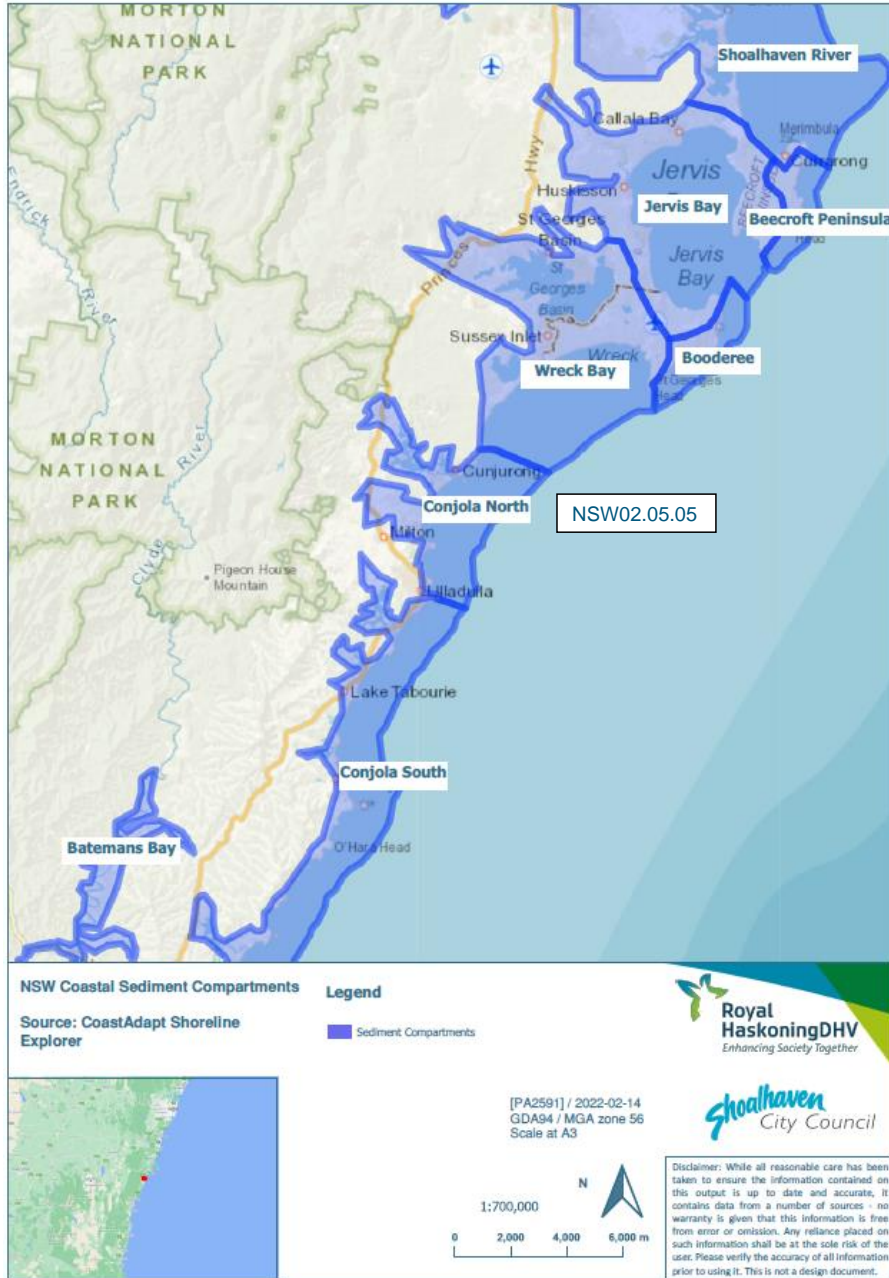


Figure 1-5: Shoalhaven Regional Tertiary Coastal Sediment Compartments (source: NCCARF, 2019)

Project related



While open coast coastal processes (including sediment transport) are addressed in the certified *Open Coast and Jervis Bay Coastal Management Program 2024*, it is still relevant to recognise that the entire study area of the Lake Conjola CMP is contained within the Conjola North tertiary sediment compartment. Further refinement of NSW sediment compartments was undertaken by Carvalho and Woodroffe (2015). This work included the definition of the tertiary sediment compartment including Lake Conjola as extending from Red Head (Bendalong) in the north to Bannisters Point in the south (refer to compartment 21b shown in **Figure 1-6**). It is noted that this refined sediment compartment excludes Mollymook Beach and Ulladulla Harbour to the south, which were included in the National Climate Change Adaptation Research Facility (NCCARF) sediment compartment definition (refer **Figure 1-5**).

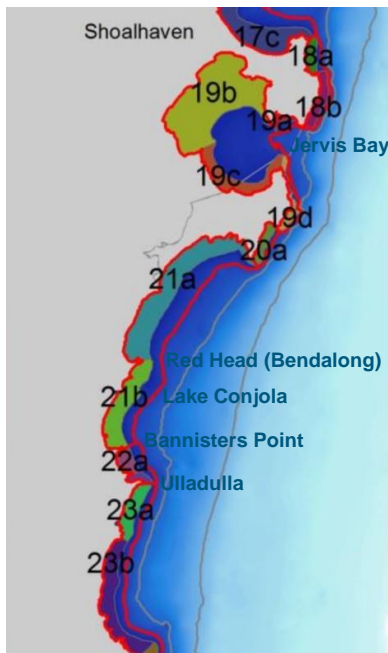


Figure 1-6: Refined NSW Sediment Compartments (source: Carvalho and Woodroffe, 2015)

1.3 Objectives, Vision and Purpose, and Strategic Directions of the CMP

1.3.1 Objectives

Aligned with directives provided by the CM Act, the objective of the Lake Conjola CMP is to provide an integrated, adaptive, and long-term strategy for the co-ordinated management of the Lake Conjola coastal zone. The Lake Conjola CMP will confirm the focus of coastal zone management by Council and by public authorities and co-ordinate the delivery of priority management actions.

The Lake Conjola CMP seeks to guide the informed and coordinated management, and environmentally sustainable development, of the dynamic environment of Lake Conjola, in order to protect the social,

Project related



cultural, economic and environmental values, and identity of the region, against current and future coastal hazards and threats to the environment.

1.3.2 Vision and Purpose

The Community Vision Statement, created by Council and the community during development of the Community Strategic Plan “Shoalhaven 2032”, has strong relevance to the Lake Conjola CMP.

We will work together in Shoalhaven to foster a safe and attractive community for people to live, work, stay and play; where sustainable growth, development and environmental protection are managed to provide a unique and relaxed lifestyle.

The Southern CMP Advisory Committee, with the support of Council and RHDHV, have refined the Vision and Purpose for the Lake Conjola CMP from the vision and purpose statements contained within the Shoalhaven CMP Scoping Study (Advisian, 2020).

The overarching **Vision** of the Lake Conjola CMP is:

“We care for and protect Lake Conjola in a responsible manner so that current & future generations continue to be safe, refreshed & inspired by their coastal experience.”

The overarching **Purpose** of the Lake Conjola CMP is:

“To develop a plan for the future management of Lake Conjola in a manner consistent with the principles of ecologically sustainable development for the social, cultural, and economic well-being and safety of the people of the Shoalhaven.”

The vision of the Lake Conjola CMP is consistent with the CM Act (refer to **Appendix E** for more detail regarding the specific objectives of the CM Act).

1.3.3 Strategic Objectives

Following the guidance of, and in accordance with, the NSW Coastal Management Manual and Framework, the Lake Conjola CMP will provide coastal management actions to be implemented over a 10 year timeframe, and each potential action will be measured against the Vision and Purpose, to ensure that they are aligned with these statements.

Consistent with the CM Act, the objectives of the Lake Conjola CMP are to manage the coastal zone in a manner that is consistent with the principles of ecologically sustainable development for the social, cultural, and economic well-being of the people of the Lake Conjola area.

The following overarching and specific **Strategic Objectives** of the Lake Conjola CMP, which drive the overall strategy behind the CMP, have been slightly amended from the adopted Shoalhaven CMP Scoping Study (Advisian, 2020) Strategic Objectives to be locally relevant, with the key themes highlighted in **bold**:

- Give effect to all relevant ***NSW legislation and policy***, as applied to the coastal zone, in the Lake Conjola context;
- Manage all coastal systems in an ***integrated manner that recognises the links*** between catchment, lake, estuary and open coast processes;
- Manage the coastal zone ***adaptively***, with a clear process for ***modifying management approaches*** as new knowledge becomes available;

Project related



- Invest in effective and efficient strategies to achieve **positive natural, social, cultural and economic outcomes** within Council's responsibilities;
- Take **coastal hazards** into account in Council's **land use planning**;
- Maintain **natural systems and processes** to improve the **health and diversity** of natural systems;
- Support the **social and economic wellbeing** of local **communities** by **maintaining safe access** to beaches and headlands and supporting recreational activities;
- **Align** the Coastal Management Program with Local Environment Plan 2014, Development Control Plan 2014 and Integrated Strategic Plan;
- **Engage with the community** in the review and preparation of Coastal Management Programs; and,
- Keep the **community informed** about coastal processes and management responses.

The overarching Specific Objectives of the Lake Conjola CMP, based on the objectives of the CM Act, are presented below with the key themes highlighted in **bold**:

- to **protect** and enhance natural **coastal processes** and **coastal environmental values** including natural character, scenic value, biological diversity and ecosystem integrity and resilience of Lake Conjola and its catchment;
- to support the **social and cultural values** of the coastal zone and maintain public access, amenity, use and safety;
- to **acknowledge and protect Aboriginal peoples'** spiritual, social, customary and economic use of the coastal zone;
- to recognise the coastal zone as a vital **economic** zone and support sustainable coastal economies;
- to facilitate **ecologically sustainable development** in the coastal zone and promote sustainable land use planning decision-making;
- to **mitigate current and future risks** from coastal hazards, taking into account the effects of **climate change**;
- 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;
- to promote **integrated** and co-ordinated coastal planning, management, reporting and response;
- to 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;
- 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;
- to support **public participation** in coastal management and planning and greater public **awareness, education and understanding** of coastal processes and management actions;
- 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,
- to support the objects of the *Marine Estate Management Act 2014*.

Project related



1.4 NSW Coastal Management Framework

Local councils and public authorities are required to manage their coastal areas and activities in accordance with relevant state legislation, policies, and plans.

The framework for managing the NSW coast as shown in **Figure 1-7** and includes the following key components:

- **Coastal Management Act 2016 (CM Act):** An act that provides for the integrated management of the coastal environment of NSW, consistent with the principles of ecologically sustainable development, for the social, cultural, and economic wellbeing of the people of the state.
- **NSW Environmental Planning and Assessment Act 1979 (EP&A Act):** An act that governs land use planning and development in NSW, focusing on sustainable development, environmental protection, community participation, and compliance measures.
- **State Environmental Planning Policy (Resilience and Hazards) 2021 (RH SEPP):** One of the key environmental planning instruments for land use planning in the coastal zone. It gives effect to the objectives of the CM Act and delivers the statutory management objectives of the act by specifying how development proposals are to be assessed if they fall within the coastal zone.
- **Coastal Management Programs (CMPs):** A 5 stage coastal management process intended to set the long-term strategy for the coordinated management of the coastal zone for a given region.
- **The NSW Coastal Management Manual (The CM Manual):** A manual that sets forth mandatory requirements and provides guidance to coastal councils in connection with the preparation, development, adoption, implementation, amendment, and review of CMPs.
- **The NSW Coastal Council:** It is responsible for providing independent and expert advice on matters relating to the Minister's functions under the CM Act, and in relation to the development and implementation of CMPs by local councils.
- **The NSW Coastal and Estuary Grants Program:** It provides technical and financial support to local government to help manage the coastal zone.

Other NSW legislation is relevant to the management of the environmental, social, and economic values of the coastal zone, including:

- *Local Government Act 1993 (LG Act);*
- *Crown Land Management Act 2016;*
- *National Parks and Wildlife Act 1974;*
- *Fisheries Management Act 1994;*
- *Marine Estate Management Act 2014;*
- *Local Land Services Act 2013;*
- *Biodiversity Conservation Act 2016; and,*
- *Aboriginal Land Rights Act 1983.*

