

From:
To: [Seccull, Orla](#)
Subject: Southern Byron CMP, DPIE - Water Floodplains and Coast comments
Date: Monday, 12 July 2021 3:41:00 PM

Hi Orla,

Thank you for the opportunity to review the draft scoping study and attachments for the Southern Byron and Belongil Estuary CMP.

I have completed my review of the document against the DPIE Scoping Study Assessment Tool and it meets all the necessary requirements of this tool. In addition, I note that I have had the opportunity to provide ongoing comments on several working paper versions of this scoping study throughout its development which have all been incorporated.

Suggested amendment:

DPIE suggests the map in Figure 3-2 – Summary of the current coastal processes be amended to indicate one source of data - WBM BMT 2013 should be used as reference to all coastal data used in this map. This is because it is the current hazard study adopted for the Byron Shire.

Feel free to contact me if you have any questions.

Kind regards,

Sara

Sara Cuthbertson
Coast and Estuaries (North East)

Biodiversity and Conservation | Water, Floodplain & Coast
Department of Planning, Industry and Environment

494 Bruxner Hwy, Alstonville | PO Box 856, Alstonville NSW 2477
www.dpie.nsw.gov.au

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.

If you are not the intended recipient, please notify the sender and then delete it immediately.

Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment and Heritage.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Hi Orla,

Thanks for the email and further information.

DPIE – Crown Lands notes removing DPIE Crown Lands as supporting agency for Add 3
DPIE – Crown Lands provides in principle support for Item Add 1 based on the below information provided on 16 June.

Kind regards

Malcolm

Malcolm Robertson
Senior Project Officer
Coastal Unit

Crown Lands | Department of Planning, Industry and Environment

30 Park Avenue, Coffs Harbour 2450

www.dpie.nsw.gov.au

cid:image003.jpg@01D5301D.0D4F18D0

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Seccull, Orla <oseccull@byron.nsw.gov.au>

Sent: Wednesday, 16 June 2021 12:03 PM

To: Malcolm Robertson <malcolm.robertson@crownland.nsw.gov.au>

Subject: RE: Coastal Management Program – Scoping Study (stage 1) for the Southern Byron Shire Coastline and Belongil Estuary May 2021

Thanks Malcolm,

In further to your last comment:

- We consider it acceptable to remove “Crown Lands” as a supporting agency for Add 3.
- Regarding Add 1, support from Crown Lands would be limited to provision of data (e.g. land tenure, reserve numbers, relevant strategic plans etc) and attendance at workshops/meetings.

Regards,

Orla Seccull
Byron Shire Council | P: 02 6626 7118
(Monday to Wednesday)

From: Malcolm Robertson <malcolm.robertson@crowland.nsw.gov.au>

Sent: Tuesday, 15 June 2021 5:12 PM

To: Dowsett, Chloe <cdowsett@byron.nsw.gov.au>

Cc: Ben Fitzgibbon <Ben.Fitzgibbon@environment.nsw.gov.au>; Emma Maratea
(emma.maratea@rhelm.com.au) <emma.maratea@rhelm.com.au>; Seccull, Orla
<oseccull@byron.nsw.gov.au>

Subject: Coastal Management Program – Scoping Study (stage 1) for the Southern Byron Shire Coastline and Belongil Estuary May 2021

Hi Chloe,

Please find attached Crown Lands response to Coastal Management Program – Scoping Study (stage 1) for the Southern Byron Shire Coastline and Belongil Estuary May 2021.

Please contact me if you have any concerns.

Kind regards

Mal

Malcolm Robertson
Senior Project Officer
Coastal Unit

Crown Lands | Department of Planning, Industry and Environment

30 Park Avenue, Coffs Harbour 2450
www.dpie.nsw.gov.au

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.



DOC21/118169

Attn: Chloe Dowestt
Coastal and Biodiversity Coordinator
Byron Shire Council
Mullumbimby NSW 2482

Dear Chloe

Coastal Management Program – Scoping Study (stage 1) for the Southern Byron Shire Coastline and Belongil Estuary May 2021

The Department of Planning, Industry and Environment – Crown Lands has reviewed the Coastal Management Program – Scoping Study (stage 1) for the Southern Byron Shire Coastline and Belongil Estuary, dated May 2020, where relevant to the administration of the *Crown Land Management Act 2016*.

The department's feedback on the scoping study is documented in the attachment. This includes a number of suggested amendments, which are intended to clarify the role of Crown Lands in terms of the management of the coastal zone within the scoping study area.

Should you wish to discuss the department's feedback, please do not hesitate to contact Mr Malcolm Robertson Senior Project Officer on (02) 6659 8212 or by email at malcolm.robertson@crownland.nsw.gov.au.

Yours sincerely

Catherine Knight
Manager Coastal Unit

15 June 2021

Table Comments on Coastal Management Program – Scoping Study (stage 1) for the Southern Byron Shire Coastline and Belongil Estuary (dated May 2021)

No.	Section / Text from Scoping Study	Comment	Suggested action
1.	Section 2.2 Table 2-2 Related visions for the coastal zone	The ‘Crown land 2031 – State Strategic Plan for Crown land’ vision statement is ‘Crown land supports resilient, sustainable and prosperous communities across NSW.’	May be relevant for Table 2-2.
2.	Section 3.2.1 State, Regional and Local Level Plans and Strategies	<p>DPIE-Crown land have recently released a 10 year vision for Crown land in NSW. The plan ‘Crown land 2031 – State Strategic Plan for Crown land’ reflects Government and community aspirations to deliver social, environment and economic benefits from Crown land.</p> <p>Refer ‘Crown land 2031 State Strategic Plan for Crown land’, noting the following agency priorities:</p> <ul style="list-style-type: none"> • Accelerate economic progress in regional and rural NSW • Commit to realising Aboriginal land rights and native title • Protect cultural heritage on Crown land • Protect environmental assets, improve and expand green space and build climate change resilience • Strengthen and support evolving community connections. 	Table 3-1 - Include Crown Land 2031 – State Strategic Plan for Crown Land.
3.	Section 3.4.3 Aboriginal Cultural Heritage and Use	This section, as well as section 13, should incorporate and acknowledge the <i>Aboriginal Land Rights Act 1984</i>	Amend text accordingly.

	Values and section 3.6.4 Cultural Context	and the <i>Native Title Act 1993</i> which provide a framework for recognising the rights and interests of Aboriginal people with respect to Crown land – which may include Crown land within the CMP study area. For example, the Northern end of Seven Mile Beach is subject to an incomplete claim made under the <i>Aboriginal Land Rights Act 1984</i> .	
4.	Section 3.5.2.2 - page 33 <i>buffer capacity to cope with excess effluent flows flows and irrigation</i> <i>The sampling results indicate that TP in effluent discharged</i>	Repeated word. TP acronym not explained.	Correct typo and explain acronym.
5.	Section 3.5.3.5 ICOLLs – Belongil Creek	This section could note that land below the mean high water mark (MHW) is Crown land. Belongil Creek is a Crown waterway with submerged Crown land below the mean high-water mark (MHW). Crown land includes the seabed and subsoil to three (3) nautical miles from the coastline of NSW that is within the limits of the coastal water of the state. Note: - There is a Crown Lands licence to artificially open Belongil Creek – Licence No 453621.	For inclusion.
6.	Section 5.1 Council manages the following key foreshore	Suffolk Park Reserve also includes Lot 1101 DP 1253895 and Lot 7018 DP1113326.	Amend text accordingly.

	<p>Crown Land Reserves within the study area:</p> <ul style="list-style-type: none"> • Suffolk Park Reserve – Lot 1102 DP 1253895 		
7.	<p>Section 5.1 Council manages the following key foreshore Crown Land Reserves within the study area:</p> <ul style="list-style-type: none"> • Unnamed reserve at western end of Belongil residences – Lot 37 Sec3 DP 1623 	Other unnamed reserves western end of Belongil residences – Lot 38, 42- 44 and 50 -51 Sec 3 DP1623, lot 15, Sec 6 DP 1623 and Lot 1 DP729064.	Amend text accordingly.
8.	<p>10.3 Recommended Studies for the Forward Plan – Table 9-2</p> <p>Item: S2 – 8 <i>Audit of Council's coastal planning framework.</i></p>	DPIE Crown Lands referenced as a support agency for this action.	DPIE – Crown Lands provides in principle support as a support agency for this action.
9.	<p>9.3 Recommended Studies for the Forward Plan - Table 9-2</p> <p>Item: Add – 7 <i>Shire-wide policy for beach use, access, congestion and overcrowding management, illegal camping, with site specific subplans / masterplans outlining asset replacement, and new facilities</i></p>	DPIE Crown Lands referenced as a support agency for this action.	DPIE – Crown Lands provides in principle support as a support agency for this action.

	<i>to meet current and future recreational demand (i.e. residents and tourists), linkage with Crown Land Plans of Managements and existing Council Asset Management Plans.</i>		
10.	<p>9.3 Recommended Studies for the Forward Plan - Table 9-2</p> <p>Item: Add 1 <i>Review and update Part C of the 2016 BBE CZMP (Community Uses of the Coastal Zone), to ensure compliance with IPR Framework; inclusion of beaches, public reserves, recreation facilities, accessways etc in Council (and other State Agencies) in Asset Management Plans; and consideration of the Byron Shire Open Space and Recreation Needs Assessment and Action Plan J82017 - 2036.</i></p> <p>Item: Add 3 <i>Economic valuation of the coastal zone (i.e. all cultural, natural and built assets, including beaches themselves) based upon the combined social, environmental and</i></p>	<p>Crown Lands is listed as 'Support Agency' for items Add 1 and Add 3.</p> <p>DPIE – Crown Lands would require more information on how to support this action.</p>	For Council's consideration.

	<i>economic benefits of/from the asset.</i>		
--	---	--	--

From:

Subject: CM: Byron Shire Southern Coastline CMP - Draft Scoping Study

Date: Friday, 4 June 2021 9:27:37 AM

Emma

Further to your request for feedback regarding the Byron Shire Southern Coastline CMP - Draft Scoping Study and our phone conference earlier this week we offer the following:

- The Vision Statement could more clearly identify the importance of the Conservation Values of the study/Program area, which we regard as a significant factor in the development of the Program.
- There was discussion around catchment health and practices – particularly for Belongil Creek. It would be useful for context if the nature and economic value of grazing/agriculture could be identified or estimated to inform discussions. (eg is the value of cattle grazing \$5000/year or \$5 million)
- Robust and ongoing water quality monitoring is necessary to guide future management and opening strategies of the ICOLLS.

Thanks for taking the time to talk us through your progress on this challenging and complex undertaking

Have a good weekend

Dave

David Maguire | Ranger (Marine) Cape Byron Marine Park

NSW Department of Primary Industries | Fisheries

PO Box 127 | Byron Bay | NSW 2481

Tallow Beach Rd | Byron Bay | NSW 2481

Please consider the environment before printing this e-mail

Subject: NPWS comments - Southern Byron Coastline - Draft Scoping Study
Date: Tuesday, 8 June 2021 3:29:58 PM

Mark Arnold

General Manager

Byron Shire Council

Attn: Chloe Dowsett & Orla Seccull

RE: Coastal Management Program Scoping Study for the Southern Byron Shire Coastline and Belongil Estuary – Draft Scoping Study Stage 1– Byron Shire Council LGA

Thank you for the opportunity to provide comments on the Coastal Management Program Scoping Study for the Southern Byron Shire Coastline and Belongil Estuary – Draft Scoping Study Stage 1 – Byron Shire Council LGA

NPWS manages the following coastal reserves within the study area. These reserves and their values are described in attachment 1.

- Cumbebin Swamp NR
- Arakwal National Park (NP).
- Cape Byron State Conservation Area (SCA).
- Ti-tree Lake Aboriginal Area
- Broken Head Nature Reserve.

Reserve Plans of Management (POM) can be accessed here:

<https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-management/plans-of-management>

NPWS areas of interest

■ NPWS is particularly interested in:

- Ensuring that NPWS and Council management of coastal issues and values is complementary.
- Understanding the issues including current and future hazards impacting natural, cultural and heritage values and built assets within reserves.
- Understanding and assessing the impacts of any proposed coastal management works on reserve including beach nourishment schemes and coastal protection works.
- Management of:
 - Vegetation including endangered ecological communities.
 - Riparian zones, bank erosion, floodplain and estuarine wetlands.
 - Preservation of natural water regimes and entrance openings associated with coastal lakes and lagoons.
 - Maintaining and improving water quality including monitoring to support entrance management.
 - Flora and fauna species including threatened species and their habitats.
 - Beach nesting birds, shore birds and marine wildlife including turtles and minimising threats and disturbance to these.
 - Street and other lighting that may impact wildlife including turtle hatchlings.
 - Marine mammal entanglements, vessel impacts and strandings including carcass removal.
 - Threat management including weeds, pests, fire erosion and inundation.
 - Reserve infrastructure and built assets, including day use, hard roof accommodation and fire trails.
 - Marine and estuarine water quality.
 - Access to reserves and beach and estuarine areas.

- Heritage including the protection and management of Aboriginal Cultural Heritage.
- Community engagement including involvement of the traditional owners and native title holders – Bundjalung of Byron Bay (Arakwal) Aboriginal Community - and their active participation in preparing the CMP and implementing coastal management initiatives.
- NPWS may also be able to assist with:
 - Information on specific natural and cultural values and threats.
 - Specific advice on matters such as the management of species and ecological communities and guidelines for marine mammal management.
- NPWS comments on the Cape Byron to South Golden Beach Scoping Study have some relevance to this scoping study and are attached.

Specific comments

Scoping study direction

NPWS supports the direction of the CMP and the inclusion of the 4 Coastal Management Areas (CM Act) in the scope. NPWS would support a whole of coast CMP including coastline and estuaries or separate estuary and coastline CMPs. Preference is to minimise demands on staff and the community for participation in consultation/engagement and review of CMP project outputs.

NPWS supports the inclusion of NPWS as a supporting agency in the forward plan action lists (S2-4, S2-8, S3-1, Add-9).

Coastal hazard mapping

NPWS is supportive of Council including hazard mapping for reserves. Where there are gaps, the mapping prepared by DPIE – EES may be suitable for use – see NPWS comment on the Cape Byron to South Golden Beach Scoping study.

Coastal vulnerability

Clarification is required around inclusion or exclusion of reserves in coastal vulnerability mapping. NPWS would like further information on the implications of inclusion and or exclusion of reserves prior to making a final decision on this matter.

NPWS primary response is to align with NSW government leadership to flag sections of coast subject to coastal hazards so that current and potential future risks can be minimised and avoided. See also NPWS comments on the Cape Byron to South Golden Beach Scoping Study.

Forward plan – Tables 9-2, 9-3

NPWS agrees to be a support agency as listed in the tables.

S2-1 Probabilistic analysis of erosion and recession hazards for high risk locations. Please include NPWS in a supporting role. NPWS supports the establishment of probabilistic mapping and the use of the state-wide data in reserves. Where state funding is available or where mapping is to be upgraded in the future NPWS would encourage this work to be completed for the whole of the coastal compartment including reserve.

S2.03 Mapping of a coastal vulnerability area identifying all applicable coastal hazards. Please include NPWS in a supporting role. As per the above comment. NPWS supports the preparation of coastal vulnerability mapping but would like to clarify the role of this mapping (pros and cons) in relation to reserves.

Add-9 -Adjust as follows: Develop and package up material from Nathan Galluzo's "Our Special Place Tallow Creek" exhibition into content to support, *with permission of knowledge holders*, development of management actions and place based engagement for Stages 3 and 4.

NPWS would also like to discuss involvement in water quality and entrance management actions S3-1, Add-5.

Entrance management

NPWS recommends water quality studies be developed further and implemented for Tallow and Belongil Creeks as part of stage two CMP development. This will help inform any review of Tallow and Belongil estuaries entrance management plans. NPWS understands that recent attempts to monitor water quality of Tallow Creek with an in situ water quality logger have stalled due to it being vandalised.

NPWS is concerned that Council has a long-term view to facilitate entrance opening both at Belongil and Tallows Creeks to alleviate inundation of public and private assets. This approach may lead to changes in the ecological character of estuarine communities including fringing wetlands. NPWS suggests a fresh approach to the review of the entrance management plans that questions the rationale for opening, minimises intervention, supports the ecology of these estuaries, and pursues options to mitigate the impacts of inundation on public and private assets.

Josh Chivers
Senior Project Officer,
Coastal Landscapes
Conservation Branch
NSW National Parks & Wildlife
Service

Federation House
Level 3, 24 Moonee Street,
Coffs Harbour NSW 2456

vv arks.nsw.gov.au

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.

If you are not the intended recipient, please notify the sender and then delete it immediately.

Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment and Heritage.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Attachment 1: Summary of NPWS reserves in the Byron Bay CMP study area.

Reserve Plans of Management (POM) can be accessed here:

<https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-management/plans-of-management>

Cumbebin Swamp NR

Vegetation within the study area includes banksia woodlands, regenerating Littoral rainforest swamp sclerophyll forest, swamp oak forest, mangroves, coastal saltmarsh and grasslands and includes CM SEPP wetlands. Cape Byron Marine Park adjoins the reserve.

Threatened fauna in and in proximity to the study area within the reserve include: White-bellied sea eagle, Eastern osprey, Sooty oystercatcher, Pied oystercatcher, Little tern, Beach-stone curlew, Bush stone-curlew, Koala, Grey-headed flying-fox, Common blossom-bat, Large-footed Myotis and Little bent-winged bat. Birds protected under international migratory bird agreements also occur.

The Reserve is crucial habitat for the Mitchell rainforest snail, found in remnant vegetation on the coastal plain between the Richmond River and Tweed River on the NSW north coast.

The reserve's beaches are popular with tourists.

There are no built assets in the reserve.

Arakwal National Park (NP)

Arakwal NP (the Park) is the first national park in Australia to be created under an Indigenous Land Use Agreement (ILUA) with the traditional owners, the Byron Bay Arakwal people in joint management with the NPWS. The Arakwal people have been engaged in coastal management for approximately 22,000 years. The park is an important and significant part of country to the Aboriginal community.

The reserve protects extensive areas of coastal heath and woodlands and includes CM SEPP wetlands. Cape Byron Marine Park adjoins the reserve.

The Wallum banksia heath – Byron Bay dwarf graminoid clay heath is an endangered ecological community in the reserve.

Threatened fauna in and in proximity to the reserve include: Wallum froglet, Olongburra frog, Loggerhead turtle, Green turtle, Red-tailed tropicbird, Wompoo fruit-dove, White-bellied sea eagle, Eastern osprey, Pale-vented bush-hen, Sooty oystercatcher, Pied oystercatcher, Comb-crested Jacana, White tern, Sooty tern, Spotted-tailed quoll, Koala, Grey-headed flying-fox, Common blossom-bat, Eastern long-eared bat, New Zealand fur-seal, Australian Fur-seal, Humpback whale, Little bent-winged bat.

Threatened flora within and in proximity to the reserve include: Dwarf heath casuarina, White lace flower, Queensland xylosma, Stinking Including1a, Native guava, Byron Bay diuris, Pink nodding orchid, Dark greenhood, Basket fern, Scented acronychia.

The reserve provides walking tracks, a lookout and beach accesses for visitors.

Cape Byron State Conservation Area

The study area incorporates reserve beaches, adjoining land and vegetation. The reserve is very popular with tourists and incorporates Cape Byron Lighthouse, tourist accommodation, a boat ramp,

a lookout, day use areas, beach access tracks and the Cape Byron walking track. Cape Byron Marine Park adjoins the reserve.

Vegetation of the study area includes grasslands, shrublands, dry and wet sclerophyll woodlands and forests and littoral rainforest. Threatened flora in and in proximity to the study area includes: Dwarf heath casuarina, Queensland xylosma, Stinking cryptocarya, Native guava, Pink nodding orchid and Scented acronychia.

Threatened fauna in and in proximity to the study area within the reserve includes: Loggerhead turtle, Green turtle, White-eared monarch, Wompoo fruit-dove, White-bellied sea eagle, Eastern osprey, Sooty oystercatcher, Pied oystercatcher, Koala, Grey-headed flying-fox, Common blossom-bat, New Zealand fur-seal, Australian fur-seal, Humpback whale, Little bent-winged bat.

Small but significant CM Littoral rainforest areas.

The reserve includes places of cultural significance to the Aboriginal community, including middens.

Ti-tree Lake Aboriginal Area

Ti-tree Lake and the adjacent area form a cultural landscape of particular interest to Aboriginal women. The Aboriginal Area and adjoining land is included in an Indigenous Land Use Agreement under the Native Title Act 1993 – between the NSW Government and the Bundjalung of Byron Bay (Arakwal) People, known as ILUA 3.

The park protects Country and provides for the Bundjalung people to continue their connection to Country and maintain and preserve the park's natural and cultural values.

The park supports a wide diversity of vegetation classes including littoral rainforest, coastal swamp forest, coastal dune dry sclerophyll forest, coastal heath swamps and wallum sand heaths.

Threatened fauna found in the catchment and proximity of Ti-tree lake include: Wallum froglet, Loggerhead turtle, Green turtle, White-bellied sea-eagle, Square-tailed kite, Eastern osprey, Pied oystercatcher, Common planigale, Koala, Grey-headed flying fox, Common blossom-bat, Eastern coastal free-tailed bat, Eastern long-eared bat, Little bent-winged bat.

Threatened flora found in the catchment and proximity of Ti-tree lake include: Stinking cryptocarya, Green-leaved rose walnut, Southern swamp orchid, Rough-shelled bush nut, Scented aronychia.

The plan of management for the Area lists several threats including alteration to flow regimes, stormwater drainage, weeds, pests and fire.

Broken Head Nature Reserve

This reserve totals 110 ha and incorporates an Aboriginal place on near-shore islands known as the Three Sisters or Cocked Hat Rocks. Cape Byron Marine Park adjoins the reserve. Native title has been determined for the Broken Head Nature Reserve and joint management of the reserve with the Bundjalung of Byron Bay Arakwal people occurs under an Indigenous Land Use Agreement (ILUA), known as ILUA 2.

The reserve supports over 240 plant species. Vegetation communities include rainforest/littoral rainforest (EECs), coastal cypress pine forest (EEC), dry sclerophyll forest and woodland, themeda grassland (EEC) and dunal vegetation.

Cocked Hat Rocks are important areas for shore and nesting sea birds.

The reserve is known to support endemic rainforest butterflies and a number of subtropical butterfly species at or near their limit. The Reserve Plan of Management states that the “The Diggie’s blue (*Hypochrysops digglesii*) breeds at the edge of the Reserve’s rainforest, where its larvae feed on mistletoes in the adjacent woodlands. This is the only population known from reserved public lands in New South Wales and it is considered at risk from adjacent development (Sands & New 2002; Sands 1993)”.

Threatened fauna found in an adjacent to Broken Head NR include: Olongburra frog, Loggerhead turtle, Green turtle, Wompoo fruit-dove, Rose-crowned fruit-dove, Marbled frogmouth, Masked booby, White-bellied sea eagle, Little eagle, Eastern osprey, Sooty oystercatcher, Little tern, Varied sittella, Olive whistler, White-eared monarch, Common planigale, Koala, Long-nosed potoroo, Grey-headed flying-fox, Common blossom-bat, Eastern long-eared bat, Little bent-winged bat.

Threatened flora found in and near Broken Head NR include: Knicker nut, Rainforest cassia, White lace flower, Queensland xylosma, Stinking cryptocarya, Rusty rose walnut, Green-leaved rose walnut, Scrub turpentine, Native guava, Red lilly pilly, Pink nodding orchid, Brown fairy-chain orchid, Ball nut, Spiny gardenia, Scented acronychia, Coast euodia, Rusty plum.

The plan of management includes a range of actions:

- Including the intertidal zone in reserve,
- Flora and fauna surveys,
- Management of threats including, fire, weeds, pests, myrtle rust.
- Map and address any occurrence of acid sulfate soils in the reserves.
- Maintain natural processes in the reserve including shoreline fluctuation.
- Design of reserve facilities to take into account the effects of climate change.

Do you have any feedback on the Draft Scoping Study for Byron Shire's Southern Coastline and Belongil and Tallow Creek Estuaries?

Given T1 and T2 in the Risk Assessment and the coastal erosion in the study area, TfNSW MIDO would like to have the CMP identify potential locations on the coastline that would be suitable for the placement of dredge spoil from projects performed by either local or state government.

Do you have any comments about the management of the coastline and coastal areas from Cape Byron to Seven Mile Beach?

Given T1 and T2 in the Risk Assessment and the coastal erosion in the study area, TfNSW MIDO would like to have the CMP identify potential locations on the coastline that would be suitable for the placement of dredge spoil from projects performed by either local or state government.

Do you have any comments about issues relating to the Tallow Creek or Belongil Creek estuaries?

N/A

Have you provided a response or feedback as part of the recent Byron Shire Southern Coastline survey (December 2020 to 1 February 2021)

No

From:

Subject: RE: Byron Shire Southern Coastline Draft Scoping Study
Date: Monday, 21 June 2021 5:02:59 PM
Attachments: [image005.png](#)
[image007.png](#)

Good Afternoon Emma,

In relation to the **Byron Shire Southern Coastline Draft Scoping Study**, Transport for NSW would like to provide the following feedback.

It is noted that Transport for NSW – MIDO was directly notified of the study. If possible, Transport for NSW – Maritime would also like to be included in any future consultation in regards to this Scoping Study.

As Transport for NSW – Maritime is responsible for compliance and boating safety on NSW navigable waters the agency will be able to provide valuable information surrounding waterway usage and any existing issues in the area.

There is a significant amount of boating (both commercial and recreational) that takes place along the Byron Shire Southern Coastline that should be considered in the study along with compliance and safety matters associated with these activities.

Of particular note to this study is The Pass at Byron Bay – this is a multi-use area where there has been a number of incidents involving vessels in the past.

The boat ramp is a main launching area for commercial dive vessels, the local fishing club and government agencies. The area is also utilised by passive craft including Ocean Kayaks and Stand Up Paddle Boards.

Due to the continued and sometimes conflicting use of the area, further consideration and discussion is required with Transport for NSW – Maritime.

There is also a boat ramp located at Lennox Head that is utilised by the public, providing an amount of boating activity in this area also.

Manager Operations North, Rod McDonagh, would be happy to provide further information or attend a meeting with you if required. Rod can be contacted on 0418 494 153.

Please feel free to forward any future documentation and/or correspondence to navigationadvicenorth@transport.nsw.gov.au

Kind Regards

Greg Wiseman

A/Project Officer North
NSW Maritime
Greater Sydney
Transport for NSW

8 Cowper Street Carrington NSW 2294

Sent: Friday, 11 June 2021 2:03 PM

To:

Cc:

Subject: FW: Byron Shire Southern Coastline Draft Scoping Study

Good Afternoon Emma,

Further to your discussions with Rod McDonagh, Manager Operations North, I am writing in relation to the Byron Shire Southern Coastline Draft Scoping Study. TfNSW-Maritime received the below link yesterday from the Maritime Infrastructure Delivery Office and would like the opportunity to provide comment surrounding boating activity that takes place in the area.

Depending on level of consideration that will be given to boating activities in this stage of the CMP, TfNSW-Maritime would like to register their interest in any further consultation and advise that there is a significant amount of boating (both commercial and recreational) that takes place along the Byron Shire Southern Coastline that should be considered in the study.

If a detailed response regarding the boating activity taking place in this area is required we would like to request an extension of time to assess and review the Byron Shire Southern Coastline Draft Scoping Study thoroughly.

As discussed with Rod, we will provide further detail by the end of the week.

Kind Regards

Greg Wiseman

A/Project Officer North

NSW Maritime

Greater Sydney

Transport for NSW

8 Cowper Street Carrington NSW 2294

Feedback at the workshop was used to revise relevant content in this CMP, such as the purpose, vision, objectives of the CMP, as discussed in **Section 2**.

1.4.2.2 Workshop 2

The First Pass Risk Assessment Workshop was held in February 2021 to provide input to the threats – known hotspots, current management arrangements and data, particularly where this may not have been identified through the data review, and to provide insight into the consequence and likelihood assigned to each threat.

Attendees to the workshop included some of the stakeholders involved in the management of the Byron coastal zone:

- Byron Shire Council staff from various departments: Utilities, Open Spaces, Social and Cultural Planning, Environmental and Economic Planning, Public and Environmental Services
- Coastal Estuary Catchment Panel
- ~~BOBBAC (Arakwal)~~ Bundjalung of Byron Bay Aboriginal Corporation (Arakwal) RNTBC
- Heritage NSW
- DPI – Fisheries
- DPIE – EES
- NPWS.

Council also had a meeting with DPIE – Crown Lands representatives following the workshop to obtain their feedback.

Issues and questions raised at the workshop were investigated using the information gathered from the data and information review. These findings were used to update the risk assessment (including the confidence assessment), as discussed in **Section 7**.

1.4.3 Aboriginal Representatives engagement

At the project inception, the project team (Council, DPIE-EES and Rhelm) met with several Aboriginal community representatives to discuss the CMP with an aim to ensure cultural management practices are considered in proposed coastal management approaches and actions, and to develop robust objectives with regards to Aboriginal culture in the study area.

The engagement included a round table discussion facilitated by maps, followed by site inspections on Country at Tallow Creek entrance, Ti Tree Lake and The Pass on 27 October 2020.

Notes from the day are provided in **Appendix C**, including agreed actions for this Scoping Study and later stages of the CMP.

Cultural heritage

3.4.3 Aboriginal Cultural Heritage and Use Values

Bundjalung of Byron Bay Arakwal people.

Much of Byron Shire lies in the Arakwal Jugun 'Country' within the Bundjalung Nation. It is home to the Traditional Owners and Custodians of the land – the Arakwal People. Arakwal Jugun boundaries ~~begin from Broken Head in the South, and go west to Newrybar, Bangalow and Mullumbimby and North to the Brunswick River (BSC, 2020a).~~ *We recommend North to South*
~~begin South of the Brunswick River, west to Mullumbimby, Bangalow + Newrybar~~
 The study area is extremely important for the Arakwal People, with the landscape holding a rich cultural story for the Arakwal People, including cultural connections along the coastal zone beyond the study area boundaries. Their relationship with this Country is more than just a place to live, it is the living, breathing source of all life, their spiritual home and home of their ancestors' spirits (BSC, 2020a). In recognition of this, Native Title has been determined over the majority of the study area, ~~Broken Head~~ *South of Broken Head*. (refer National Native Title Register number NCD2019/001 - Bundjalung People of Byron Bay #3).

Several existing management plans and strategies have worked to identify the values of Aboriginal cultural heritage and use of Country within the study area. One example within the study area is the *Arakwal National Park Plan of Management* (NPWS, 2007), which identified values through consultation with BOBBAC (Arakwal) in 2003 and 2004. Park values and issues identified during this consultation included the following:

- Caring for Country (plants, animals, special places and sites, bush tucker)
- Recognition as Traditional Owners
- Joint management
- Maintaining family connections with Country
- Cultural tourism to share Country with others
- Protecting and accessing Country
- The transfer of knowledge among family
- Cultural education
- Provisions for cultural use and activities
- Reconciliation
- Economic opportunities
- Employment of young people with the NPWS.

Cultural

and continues to be

With regards to the estuaries in the study area, Tallow Creek estuary is an extremely important place for the Arakwal People, who used the estuary as a refuge during European settlement and into the mid 20th century. The estuary was an important resource for traditional owners and custodians providing sources of fish, crabs and shellfish. The traditional owners and custodians have a deep connection to the waterway and understand the changing nature of the estuary (i.e. periods of opening and closing) in terms of "cultural seasons" which consider fish movements (i.e. mullet runs), rainfall and oceanic conditions (tides, waves etc.) (Alluvium, 2019c).

Ti Tree (Taylors) Lake and surrounding area is also an extremely important place for the Arakwal People, recognised through the reservation of the Ti Tree Lake Aboriginal Area as an Aboriginal Place under the NPW Act (NPWS, 2020a). An Aboriginal Place is an area of special significance to Aboriginal culture. Declaration provides recognition of the significance of the area and its heritage values, which relate to traditions, observances, customs, beliefs or history of Aboriginal people. Ti Tree Lake Aboriginal Area is of particular significance to women and is an acknowledged mythological site (NPWS, 2020a).

"Sacred" (not mythological!)

Broken Head Nature Reserve is co-managed by NPWS and the Arakwal People, acknowledging the cultural significance of this land to traditional owners and custodians. Three Sisters, previously known as Cocked Hat Rocks, is an important cultural site representing a story about a young Aboriginal woman who was caught in a strong current when swimming in this area. When her sister

trailers must vacate the beach and park at a suitable location in accordance with local road rules (S. Court (NPWS), pers. comm, 19 April 2021).

3.6.4 Cultural Context

*Bundjalung of Byron Bay
Arakwal People*

~~Aboriginal peoples of the Bundjalung of Byron Bay~~ are the recognised Aboriginal Traditional Custodians of the study area and have lived in the coastal landscape around the Byron Bay area for at least 22,000 years. It should be noted that 22,000 years ago the current Byron Bay coastal area would have been an upland plain approximately 120m above sea level. Hence while there may well have been Aboriginal occupation of the land which currently forms the coastal zone of Byron Shire it is more likely the Aboriginal coastal dwellers 22,000 years ago were 10 to 20km further east, indicating the historical adaptability of the Aboriginal culture/communities to sea level rise. Within the Bundjalung Nation exist a number of recognised tribes, including the Arakwal Bumberlin people who occupied Arakwal Country, ~~which extends from Seven Mile Beach south of Broken Head to the Brunswick River up north, out to the escarpment west of Byron Bay, and east out into the Tasman Sea (Arakwal, 2019).~~

*South of Brunswick River west to Mullin Head
Bangalow + Newport to the South of Broken Head*

The study area also resides within the Tweed Byron Local Aboriginal Land Council (LALC) and the Jali LALC. The objects of each LALC are to "improve, protect and foster the best interests of all Aboriginal persons within the Council's area and other persons who are members of the Council". LALC's operate to acquire and manage land, promote/protect culture and heritage and facilitate business enterprise.

The Bundjalung of Byron Bay Arakwal people have a Memorandum of Understanding (signed 2013) in place with Byron Shire Council, where Council identifies support and cooperation with the Arakwal people in respect of previously established Indigenous Land Use Agreements (ILUA) and the Arakwal people's ongoing involvement in the management and protection of culturally significant places within the Byron Shire.

In April 2019, Native Title Application NC2001/008 covering much of the study area was determined, with the outcome that native title continues in parts of the determination area, including near Tallow Beach and Belongil Creek estuary waterway (**Section 5.1.1**). The determination is supported by an ILUA that was registered in May 2020.

In addition, several ILUAs have been established between the Arakwal People and the NSW Government. ILUAs are a voluntary agreement about the use and management of land. The first ILUA (ILUA 1), registered in 2001, recognises the Arakwal people as the traditional owners of the Arakwal National Park. ILUA 1 led to the formation of Arakwal National Park, the first time a national park had been created under an ILUA in Australia (**Section 5.1.1**). The park is jointly managed by the Arakwal people and the NPWS. Subsequent ILUAs have strengthened ILUA 1.

Two subsequent ILUAs were registered in 2008. These ILUAs build on the ILUA 1 and cover nature reserves in Byron Bay plus additions to Arakwal National Park (ILUA 2), and the Ti Tree Lake Aboriginal Area (ILUA 3).

The Cape Byron State Conservation Area was created in 1997 as part of resolving a Native Title Claim. It was established under a Deed of Agreement between the Arakwal people, the Tweed Byron LALC and the NSW Government. The Conservation Area is managed by Cape Byron Trust of which the Arakwal people are members. The Deed of Agreement was acknowledged in the Indigenous Land Use Agreement (ILUA 1).

There are a variety of culturally significant areas located in the study area. Some of the sites are listed on the Aboriginal Heritage Information Management Service (AHIMS) site, as shown on **Map**

4.3.2 Threats to the Study Area

A substantial list of potential issues (threats) from the same sources as used for the values (i.e. BMT (2020), TARA, CM Act, community and stakeholder feedback, etc.) was developed and then refined through the course of developing this CMP Scoping Study to 24 priority threats, under four themes, as shown in **Figure 4-3**. These threats have incorporated stakeholder feedback received at the first pass risk assessment workshop and community feedback received during the community survey from December 2020 to February 2021 (summarised below).

The BMT (2020) Scoping Study contained 18 threats. Six additional threats have been added for this Scoping Study and some threats have been re-worded for the current study to be more inclusive (i.e. to include the estuaries), but the general theme of each threat and the numbering system has remained consistent with BMT (2020) for consistency between the two Scoping Studies.

The Coastal Hazard threats generally align with the definition of 'coastal hazard' in the CM Act. Tidal inundation has been added in as Threat 3b in this Scoping Study, in order to include Belongil Creek, Tallow Creek and Ti Tree (Taylors) Lake estuaries in the scope. Similarly, erosion and inundation of foreshores caused by tidal waters and the action of waves, including the interaction of those waters with catchment floodwaters has been added in as Threat 3c. Consideration has also been given to the six issues identified in the *Byron Shire Biodiversity Conservation Strategy 2020 to 2030* (BSC, 2020a).

Many of the other identified threats have been derived from the statewide TARA, with particular note given to Table 5-2 in the TARA, the ranked priority threats for the North region, which includes the Byron Shire. **Table 4-1** shows the top five priority threats to environmental assets and to social, cultural and economic benefits for the North region as identified in the TARA and indicates how these have been captured in the threats developed specifically for the study area in this CMP (**Figure 4-3**).

The lack of Aboriginal ^{engagement} ~~involvement~~ in decision-making has been identified as a major threat to culture state-wide in the TARA and was reiterated during community ^{cultural} engagement for this scoping study (see Threat 19 in **Figure 4-3**). The need for Aboriginal knowledge and expertise to be incorporated into the ongoing management of Land and Sea Country is recognised by government. Adequate engagement is required with Traditional Owners of the study area to ensure the Aboriginal cultural heritage and use within the area is maintained, knowledge of it is shared (in a sensitive manner) and to ensure the community/visitors to the area are aware of the cultural values of the study area.

In interpreting the outcomes of the community consultation undertaken for this Scoping Study (particularly Questions 3 to 6), the highest priority threats as perceived by the community were able to be determined as shown in **Table 4-2**. Some of the comments received from the community during the online survey regarding management threats are shown in **Figure 4-4**.

Climate change and associated sea level rise, as well as population and tourism growth and coastal development pressure are all stressors that will exacerbate the impacts from the identified management issues into the future.

The 24 priority management issues (threats) of the current study area have been identified as listed in **Figure 4-3**, informed by the work undertaken by BMT (2020). A first pass risk assessment was undertaken for these management issues, which is documented in **Section 7**.

Coastal Hazards

- Threat 1 – Beach erosion
- Threat 2 – Shoreline recession
- Threat 3a – Coastal inundation
- Threat 3b – Tidal inundation
- Threat 3c – Erosion and inundation of foreshores caused by tidal waters and the action of waves, including the interaction of those waters with catchment floodwaters
- Threat 4a – Coastal watercourse entrance variability
- Threat 4b – Coastal watercourse entrance modifications (interventions in natural opening regimes for ICOLLs)
- Threat 5 – Dune slope instability
- Threat 6 – Coastal cliff instability

Recreational Activities

- Threat 7 – Conflict over resource access and use
- Threat 8 – Habitat (physical) and wildlife disturbance (e.g. from overuse, overcrowding, foreshore development, commercial and recreational fishing methods, etc.)
- Threat 9 – Poorly located, poorly maintained and/or inappropriate access and supporting facilities
- Threat 10 – Anti-social behavior and unsafe practices
- Threat 11 – Passive recreational use (swimming, surfing, dog walking, bush walking, etc.)
- Threat 12 – Active recreational use (recreational boating and fishing, motorised watercraft, drones, four wheel driving, etc.) and commercial fishing

Coastal Development

- Threat 13 – Coastal development resulting in loss of plant and animal species (habitat disturbance or loss)
- Threat 14a – Water pollution from urban stormwater and treated effluent discharge
- Threat 14b – Water pollution from agricultural diffuse source runoff
- Threat 14c – Pollution of water, beach sand and other habitat areas from litter, solid waste, marine debris and microplastics
- Threat 15 – Coastal development encroaching onto natural coastal processes to exacerbate hazard impacts on both the open coast and the ICOLLs

Engagement and Governance and Compliance

- Threat 16 – Lack of compliance with regulations (by users) or lack of compliance resources (by agencies)
- Threat 17 – ~~Insufficient community and visitor awareness of the values and threats to the coastal environment, and lack of engagement with managing this environment~~
- Threat 18 – ~~Insufficient or inappropriate governance and management of the coastal environment~~
- Threat 19 - Lack of Aboriginal engagement involvement in decision-making and insufficient knowledge sharing regarding cultural heritage and use within the coastal environment

Figure 4-3 List of management issues/threats to the study area

Why is this??
the last threat??

5.1.1 Native Title and Aboriginal Land Governance

The Commonwealth *Native Title Act 1993* is key legislation relevant to the study area, that governs use and development of land in which Native Title Rights and Interests continue. Native Title recognises the rights and interests of the Traditional Owners of Country.

A Native Title determination applies to the majority of the study area with Native Title rights and interests continuing on some Crown Land within the study area. Native Title rights do not apply to freehold lands.

That determination recognises that the Bundjalung People have ongoing rights and interests in lands, seas and waters deriving from their use of the lands. The rights and interests are non-exclusive and non-commercial and allow for activities such as entry, travel over lands and water, taking of natural resources such as food and water (including hunting and fishing), camping, lighting fires and conduct of cultural activities and teaching.

Arakwal National Park was created under an Indigenous Land Use Agreement (ILUA) as part of resolving the native title claim. The ILUA recognises the rights and interests of the traditional owners of Country. The National Park extends to the mean low water mark (DEC, 2007).

The Cape Byron State Conservation Area is also jointly managed with the Arakwal People as members of the Cape Byron Trust.

5.1.2 Non-Aboriginal Land Governance and Agencies

Council is responsible for preparing and maintaining the CMP with shared responsibilities with some agencies and stakeholders. Implementation of actions within the CMP will lie also with these groups based on their jurisdiction which may solely be based on land tenure or if they are a core service of the agency.

State and local government share strategic and statutory planning responsibilities for land in the study area. The DPIE and Council administer the *Environmental Planning and Assessment Act 1979*, which is the key legislation for land use planning and development assessment in NSW. The NPWS administers the *National Parks and Wildlife Act 1974* which includes management of lands in the study area including several nature reserves, a national park and a State Conservation Area.

Council will also need to work with MEMA including DPI Fisheries in relation to the NSW Marine Estate, specifically the CBMP. MEMA's role is to ensure that policies and programs (such as the *NSW Marine Estate Management Strategy (2018-2028)* (MEMA, 2018)) address priority issues for the marine estate as identified in the TARA (BMT WBM, 2017), are well coordinated, efficient, evidence-based and result in positive outcomes. CBMP is managed by DPI Fisheries.

Other state agencies such as the Natural Resources Access Regulator (NRAR), Rural Fire Service (RFS), Environment Protection Authority (EPA) and TfNSW also play a role in planning, management and compliance in the study area.

Crown land areas are regulated under the *Crown Land Management Act 2016* by DPIE – Crown Lands. Unreserved Crown Land is managed by DPIE – Crown Lands. Reserved and dedicated Crown land is managed by the entity appointed by DPIE – Crown Lands to manage the Crown Reserve or Dedication. Entities appointed to manage Crown Reserves or Dedications can and do change over time. Where Council is appointed to manage a Crown Reserve or Crown Dedication, management of that land is governed by both the *Crown Land Management Act 2016* and *Local Government Act 1993*. Council is required to prepare Plans of Management under the *Local*

Table 6-1 Potential CMP governance and management

Entity	Responsibility
Byron Shire Council	Lead agency for development, coordination and implementation of CMP.
State Agencies/Land Managers Department of Planning, Industry and Environment (DPIE) – Environment, Energy and Science DPIE – Water DPIE – Crown Lands DPI – Fisheries (incorporating Marine Parks) National Parks and Wildlife Services (within DPIE) NSW Environment Protection Authority Transport for NSW Maritime Infrastructure Delivery Office (MIDO) BOBBAC (Arakwal) Jali LALC <i>A high level Working Group or Task Force (coordinated by DPIE) of Director level/Senior staff from the various agencies may assist in achieving buy-in to the CMP. This group may advise Ministers during the development of the CMP to ensure adequate cross-collaboration of agencies.</i>	DPIE – Project partner and funding provider; Oversight of development through conditions of funding; Review final draft documents and provide comments in line with coastal management framework requirements to assist in submission for certification to the Minister. All – Collaborate to prepare, provide input and feedback on, and review draft CMP documents. If actions are to be carried out by a public authority, the public authority will either endorse the action or if not endorsed, will request amendments to the action. All – Collaboration/carrying out of actions as endorsed and defined in final CMP document.
Coastal Advisory Committee Byron Shire Council Agencies (above who have direct land ownership and management responsibilities in the CMP study area) Regional Bodies (Local Land Services (LLS), Regional Development Australia (RDA) Northern Rivers, Tweed Byron LALC, etc) RFS, SES and NSW Police (emergency management) (particularly for implementation of the EASP, potentially through Council's Incident Management System Local Emergency Management Committee) Selected community and user group(s)	Non-statutory committee to assist facilitating local community and stakeholder involvement and oversight of the planning and implementation process(es). (Advisory only, potentially a committee of council under Section 355 of the <i>Local Government Act 1993</i>)

Table 7-1 Summarised first pass risk assessment outcomes

Management Issues / Threats		Risk Assessment							
No.	Description	Current Consequence - Rating	Current Likelihood - Rating	Current Risk: 2020	Future (2100) Consequence - Rating	Future (2100) Likelihood - Rating	Future Risk: 2100	Future Risk: 2120 (+ 100 years)	Confidence - Rating
T1	Beach erosion	Moderate	Possible	High	Moderate	Almost certain	High	High	Moderate
T2	Shoreline recession	Moderate	Rare	Medium	Moderate	Possible	High	High	Moderate
T3a	Coastal inundation	Major	Possible	High	Catastrophic	Almost certain	Extreme	Extreme	Moderate
T3b	Tidal inundation	Major	Possible	High	Major	Almost certain	Extreme	Extreme	Moderate
T3c	Erosion and inundation of foreshores caused by tidal waters and the action of waves, including the interaction of those waters with catchment floodwaters	Moderate	Possible	High	Major	Almost certain	Extreme	Extreme	Moderate
T4a	Coastal watercourse entrance variability	Minor	Possible	Medium	Moderate	Likely	High	High	Moderate
T4b	Coastal watercourse entrance modifications (interventions in natural opening regimes for ICOLLS)	Moderate	Likely	High	Moderate	Almost certain	High	High	Moderate
T5	Dune slope instability	Moderate	Possible	High	Moderate	Almost certain	High	High	Moderate
T6	Coastal cliff instability	Moderate	Unlikely	Medium	Moderate	Unlikely	Medium	Medium	Low
T7	Conflict over resource access and use	Moderate	Likely	High	Moderate	Almost certain	High	High	Moderate
T8	Habitat (physical) and wildlife disturbance (e.g. from overuse, overcrowding, foreshore development, commercial and recreational fishing methods, etc.)	Moderate	Possible	High	Moderate	Almost certain	High	High	Moderate
T9	Poorly located, poorly maintained and/or inappropriate access and supporting facilities	Minor	Likely	Medium	Minor	Almost certain	High	High	Moderate
T10	Anti-social behaviour and unsafe practices	Minor	Almost certain	High	Moderate	Almost certain	High	High	Moderate
T11	Passive recreational use (swimming, surfing, dog walking, bush walking, etc.)	Minor	Possible	Medium	Minor	Likely	Medium	Medium	Moderate
T12	Active recreational use (recreational boating and fishing, motorised watercraft, drones, four wheel driving, etc.) and commercial fishing	Minor	Likely	Medium	Moderate	Likely	High	High	Moderate
T13	Coastal development resulting in loss of plant and animal species (habitat disturbance or loss)	Moderate	Likely	High	Major	Almost certain	Extreme	Extreme	Moderate
T14a	Water pollution from urban stormwater and treated effluent discharge	Moderate	Likely	High	Major	Almost certain	Extreme	Extreme	Moderate
T14b	Water pollution from agricultural diffuse source runoff	Moderate	Likely	High	Major	Almost certain	High	High	Moderate
T14c	Pollution of water, beach sand and other habitat areas from litter, solid waste, marine debris and microplastics	Moderate	Likely	High	Moderate	Almost certain	High	High	Moderate
T15	Coastal development encroaching onto natural coastal processes to exacerbate hazard impacts on both the open coast and the ICOLLS	Minor	Likely	Medium	Minor	Almost certain	High	High	Moderate
T16	Lack of compliance with regulations (by users) or lack of compliance resources (by agencies)	Moderate	Likely	High	Moderate	Almost certain	High	High	Moderate
T17	Insufficient community and visitor awareness of the values and threats to the coastal environment, and lack of engagement with managing this environment	Moderate	Almost certain	High	Moderate	Almost certain	High	High	Moderate
T18	Insufficient or inappropriate governance and management of the coastal environment	Moderate	Likely	High	Minor	Almost certain	High	High	Moderate
T19	Lack of Aboriginal involvement in decision-making and insufficient knowledge sharing regarding cultural heritage and use within the coastal environment	Moderate	Likely	High	Moderate	Almost certain	High	High	Moderate
				High	Moderate	Almost certain	High	High	High

Table 9-2 Forward plan (high priority studies)

Item	Recommended Studies / Components	Timing	Cost (Low)	Cost (High)	Lead Agency	Support Agency
Stage 2: Risks, Vulnerabilities and Opportunities						
S2-1	Coastal Hazard Assessment (2021) –Review and Update (for the entire Byron Shire LGA coastline). A consultant is presently being engaged with the project due to commence in June 2021. <ul style="list-style-type: none"> Sediment budget and quantified conceptual sand movement model Probabilistic assessment of beach erosion and shoreline recession Coastal inundation (dune and seawall wave runoff and overtopping) Tidal inundation Coastal entrance instability Cliff instability Erosion and inundation of foreshores 	Op. Plan 2021-2022	Project has been funded and is due to commence June 2021.		Council	DPIE - EES
S2-2	Consider mapping of erosion escarpment as an outcome of Coastal Hazard Assessment (2021)	Op. Plan 2021-2022	\$ 10,000	\$ 20,000	Council	DPIE - EES
S2-3	Consider mapping of a coastal vulnerability area for the study area identifying all applicable coastal hazards (e.g. see definition in the CM Act) and created in accordance with current guidelines. This will be used to support a Planning Proposal at a later stage of CMP preparation (if selected for preparation).	Op. Plan 2021-2022	\$ 5,000	\$ 10,000	Council	DPIE - EES (incl NPWS)
S2-4	Investigate and ground truth discrepancies between Council's mapping of Littoral Rainforest and Coastal Wetlands with the CM SEPP mapping and identify whether a planning proposal to amend the SEPP mapping is required.	Op. Plan 2021-2022	\$ 5,000	\$ 10,000	Council	DPIE - EES (incl NPWS)
S2-5	Identification of water quality pollution sources (e.g. potential sources of bacterial contamination in ICOLLs, acid runoff in the Belongil catchment, consideration of West Byron development, and macro/micro plastics) and composition to inform management strategies developed in Stage 3 of the CMP. It is expected that this assessment would be undertaken largely as a desk top assessment, with some ground truthing. The outcome would include recommendations for detailed water quality monitoring that may be included in CMP options assessed in Stage 3.	Op. Plan 2021-2022	\$ 5,000	\$ 10,000	Council	DPIE - EES
S2-6	Preliminary Aboriginal cultural heritage and values mapping. This would form the preliminary work which would potentially recommend more detailed mapping or known and predicted places of Aboriginal cultural significance, and the connections between these places. This more detailed work would be considered in Stage 3 for inclusion as an action of the CMP. The preliminary work would aim to gather existing known data (e.g. AHIMS sites and other documented resources) and also consider, through engagement with Aboriginal community representatives, landscape characteristics within the context of traditional Aboriginal settlement, resources, pathway, cultural and spiritual practices.	Op. Plan 2021-2022	\$10,000	\$15,000	Council	DPIE - EES
S2-7	Ongoing implementation of the Community and Stakeholder Engagement Strategy (CSES) in Appendix A. The objectives of engagement in Stage 2 will be to communicate the outcomes of the coastal hazard assessment (2021) and initiate discussions on preferred coastal management approaches that will be investigated as part of Stage 3 of the CMP. Engagement activities likely to include website updates, information drop-in sessions, direct engagement with key stakeholders, and online submissions. Stage 2 engagement could be combined with Stage 3 engagement.	Op. Plan 2021-2022	\$ 5,000	\$ 10,000	Council	DPIE - EES
S2-8	Audit of Council's coastal planning framework. This would involve identification of all coastal planning controls and processes, and evaluation of the effectiveness of this framework in managing existing and future risk to the coastal zone and ensuring preservation of coastal values. The audit would also consider how Council's coastal planning framework aligns with State Government Agency frameworks and planning controls. This could be undertaken as a desk top assessment only, but would benefit from workshops or other engagement with relevant Council and Agency representatives (e.g. NPWS, Crown Lands). This would inform Stage 3 recommendations for future planning provisions and updates to Council's LEP, DCP and other relevant documents.	Op. Plan 2021-2022	\$ 5,000	\$ 10,000	Council	DPIE (NPWS, Crown Lands) DPI (Marine Parks, Fisheries)
S2-9	Activities involving engagement of Aboriginal cultural knowledge holders including reimbursement of Aboriginal cultural knowledge holders at stakeholder consultation forums for coastal management, such as workshops like those undertaken for this Stage 1 CMP Scoping Study. This would enable sharing of cultural knowledge by Traditional Owners in coastal management. This was feedback obtained from Traditional Owners during consultation undertaken for this Scoping Study. There would be a budget for Aboriginal engagement for Traditional Owner knowledge holders.	Op. Plan 2021-2022	\$ 5,000	\$ 10,000	Council	BOBBAC LALCs
Estimate Stage 2 Subtotal			\$ 50,000	\$ 95,000		