

NOTICE OF MEETING



COASTAL ESTUARY CATCHMENT PANEL MEETING

A Coastal Estuary Catchment Panel Meeting of Byron Shire Council will be held as follows:

Venue	Conference Room, Station Street, Mullumbimby
Date	Thursday, 20 May 2021
Time	4.30pm

Shannon Burt
Director Sustainable Environment & Economy

*12021/791
Distributed 13/05/21*

CONFLICT OF INTERESTS

What is a “Conflict of Interests” - A conflict of interests can be of two types:

Pecuniary - an interest that a person has in a matter because of a reasonable likelihood or expectation of appreciable financial gain or loss to the person or another person with whom the person is associated.

Non-pecuniary – a private or personal interest that a Council official has that does not amount to a pecuniary interest as defined in the Code of Conduct for Councillors (eg. A friendship, membership of an association, society or trade union or involvement or interest in an activity and may include an interest of a financial nature).

Remoteness – a person does not have a pecuniary interest in a matter if the interest is so remote or insignificant that it could not reasonably be regarded as likely to influence any decision the person might make in relation to a matter or if the interest is of a kind specified in the Code of Conduct for Councillors.

Who has a Pecuniary Interest? - a person has a pecuniary interest in a matter if the pecuniary interest is the interest of the person, or another person with whom the person is associated (see below).

Relatives, Partners - a person is taken to have a pecuniary interest in a matter if:

- The person’s spouse or de facto partner or a relative of the person has a pecuniary interest in the matter, or
- The person, or a nominee, partners or employer of the person, is a member of a company or other body that has a pecuniary interest in the matter.

N.B. “Relative”, in relation to a person means any of the following:

- (a) the parent, grandparent, brother, sister, uncle, aunt, nephew, niece, lineal descends or adopted child of the person or of the person’s spouse;
- (b) the spouse or de facto partners of the person or of a person referred to in paragraph (a)

No Interest in the Matter - however, a person is not taken to have a pecuniary interest in a matter:

- If the person is unaware of the relevant pecuniary interest of the spouse, de facto partner, relative or company or other body, or
- Just because the person is a member of, or is employed by, the Council.
- Just because the person is a member of, or a delegate of the Council to, a company or other body that has a pecuniary interest in the matter provided that the person has no beneficial interest in any shares of the company or body.

Disclosure and participation in meetings

- A Councillor or a member of a Council Committee who has a pecuniary interest in any matter with which the Council is concerned and who is present at a meeting of the Council or Committee at which the matter is being considered must disclose the nature of the interest to the meeting as soon as practicable.
- The Councillor or member must not be present at, or in sight of, the meeting of the Council or Committee:
 - (a) at any time during which the matter is being considered or discussed by the Council or Committee, or

- (b) at any time during which the Council or Committee is voting on any question in relation to the matter.

No Knowledge - a person does not breach this Clause if the person did not know and could not reasonably be expected to have known that the matter under consideration at the meeting was a matter in which he or she had a pecuniary interest.

Non-pecuniary Interests - Must be disclosed in meetings.

There are a broad range of options available for managing conflicts & the option chosen will depend on an assessment of the circumstances of the matter, the nature of the interest and the significance of the issue being dealt with. Non-pecuniary conflicts of interests must be dealt with in at least one of the following ways:

- It may be appropriate that no action be taken where the potential for conflict is minimal. However, Councillors should consider providing an explanation of why they consider a conflict does not exist.
- Limit involvement if practical (eg. Participate in discussion but not in decision making or vice-versa). Care needs to be taken when exercising this option.
- Remove the source of the conflict (eg. Relinquishing or divesting the personal interest that creates the conflict)
- Have no involvement by absenting yourself from and not taking part in any debate or voting on the issue as of the provisions in the Code of Conduct (particularly if you have a significant non-pecuniary interest)

RECORDING OF VOTING ON PLANNING MATTERS

Clause 375A of the Local Government Act 1993 – Recording of voting on planning matters

- (1) In this section, **planning decision** means a decision made in the exercise of a function of a council under the Environmental Planning and Assessment Act 1979:
- (a) including a decision relating to a development application, an environmental planning instrument, a development control plan or a development contribution plan under that Act, but
- (b) not including the making of an order under that Act.
- (2) The general manager is required to keep a register containing, for each planning decision made at a meeting of the council or a council committee, the names of the councillors who supported the decision and the names of any councillors who opposed (or are taken to have opposed) the decision.
- (3) For the purpose of maintaining the register, a division is required to be called whenever a motion for a planning decision is put at a meeting of the council or a council committee.
- (4) Each decision recorded in the register is to be described in the register or identified in a manner that enables the description to be obtained from another publicly available document, and is to include the information required by the regulations.
- (5) This section extends to a meeting that is closed to the public.

BYRON SHIRE COUNCIL
BUSINESS OF MEETING

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2. DECLARATIONS OF INTEREST – PECUNIARY AND NON-PECUNIARY

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ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

Report No. 3.1 Adoption of Minutes from Previous Meeting

Directorate: Infrastructure Services

5 **Report Author:** Dominika Tomanek, Executive Assistant Infrastructure Services

File No: I2021/777

10 **RECOMMENDATION:**

That the minutes of the Coastal Estuary Catchment Panel Meeting held on 10 September 2020 be confirmed.

15 **Attachments:**

1 Minutes 10/09/2020 Coastal Estuary Catchment Panel, I2020/1382 , page 8 [↓](#)

Report

The attachment to this report provides the minutes of the Coastal Estuary Catchment Panel Meeting of 10 September 2020 .

5

Report to Council

The minutes were reported to Council on

Comments

10

In accordance with the Panel Recommendations, Council resolved the following:

20-552 Resolved that Council adopts the following Panel recommendations:

15

1. That Council notes the minutes of the Coastal Estuary Catchment Panel Meeting held on 12 March 2020.

20

2. That Council escalates the unresolved matters regarding the Belongil Drainage Board status and lack of response from NSW Department of Planning, Industry and Environment staff to the NSW Minister for Water, Property and Housing.

25

3. In relation to the presentation from Student on Pesticide Occurrence in the Coastal Aquatic system, Council considers approaching NSW Premier Gladys Berejiklian, Minister for Energy and Environment Matt Kean, Minister for Health Brad Hazzard, Minister for Agriculture Adam Marshall and Minister Gabrielle Upton (responsible for National Parks) with a copy to Ballina MP Tamara Smith, asking them to follow the findings of the EU in banning the sale and use of the following pesticides in NSW:

30

- a) Dimethoate
- b) Omethoate
- c) Terbutryn
- d) Methomyl
- e) Triadimenol

BYRON SHIRE COUNCIL

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

3.1

4. That's Council notes the update provided on the coastal projects presently being delivered by the Coastal, Biodiversity and Sustainability team.

MINUTES OF MEETING



**COASTAL ESTUARY CATCHMENT PANEL
MEETING**

Venue Conference Room, Station Street, Mullumbimby
Date Thursday, 10 September 2020
Time 11.30am

BYRON SHIRE COUNCIL

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

3.1 - ATTACHMENT 1

BYRON SHIRE COUNCIL

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

3.1 - ATTACHMENT 1

BYRON SHIRE COUNCIL

COASTAL ESTUARY CATCHMENT PANEL MEETING MINUTES

10 SEPTEMBER 2020

Minutes of the Coastal Estuary Catchment Panel Meeting held on Thursday, 10 September 2020

File No: I2020/1382

PRESENT: Cr C Coorey, Cr M Lyon

Staff: Phillip Holloway (Director, Infrastructure Services)
Shannon Burt (Director Sustainable Environment and Economy)
James Flockton (Infrastructure Planning Coordinator)
Scott Moffett (Flood and Drainage Engineer)
Chloe Dowsett (Coastal & Biodiversity Coordinator)
Dominika Tomanek (Minute Taker)

Community Representatives: Mathew Lambourne and Duncan Dey

Visitor: Dylan Laicher, student

Cr Coorey (Chair) opened the meeting at 11:37 am and acknowledged that the meeting was being held on Bundjalung Country.

APOLOGIES:

Cr J Hackett,
Cr Richardson
Mary Gardner
Tim Hochgrebe

DECLARATIONS OF INTEREST – PECUNIARY AND NON-PECUNIARY

There were no declarations of interest.

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

Report No. 3.1 **Adoption of Minutes from Previous Meeting**
File No: I2020/1362

Panel Recommendation:

1. That the minutes of the Coastal Estuary Catchment Panel Meeting held on 12 March 2020 be confirmed.
2. That Council escalate the unresolved matters regarding the Belongil Drainage Board status and lack of response from NSW Department of Planning, Industry and Environment staff to the NSW Minister for Water, Property and Housing

(Dey/Lambourne)

The recommendation was put to the vote and declared carried.

Note: The minutes of the meeting held on 12 March 2020] were noted, and the Panel Recommendations adopted by Council, at the Ordinary Meeting held on 23 April 2020.

BYRON SHIRE COUNCIL

COASTAL ESTUARY CATCHMENT PANEL MEETING MINUTES

10 SEPTEMBER 2020

BUSINESS ARISING FROM PREVIOUS MINUTES

There was no business arising from previous minutes.

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

Report No. 4.1 Presentation from Student on Pesticide Occurrence in the Coastal Aquatic System

File No: I2020/913

Panel Recommendation:

1. That the Panel note the presentation.

2. That Council consider approaching NSW Premier Gladys Berejiklian, Minister for Energy and Environment Matt Kean, Minister for Health Brad Hazzard, Minister for Agriculture Adam Marshall and Minister Gabrielle Upton (responsible for National Parks) with a copy to Ballina MP Tamara Smith, asking them to follow the findings of the EU in banning the sale and use of the following pesticides in NSW:
 - a) Dimethoate
 - b) Omethoate
 - c) Terbutryn
 - d) Methomyl
 - e) Triadimenol

(Coorey/Dey)

The recommendation was put to the vote and declared carried.

Report No. 4.2 Coastal Projects Update

File No: I2020/1357

Panel Recommendation:

That the Coastal Estuary Catchment Panel note the update provided on the coastal projects presently being delivered by the Coastal, Biodiversity and Sustainability team.

(Coorey/Lyon)

The recommendation was put to the vote and declared carried.

There being no further business the meeting concluded at 1:44 pm.

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

Report No. 4.1 'Bringin Back the Bruns' - project update

Directorate: Sustainable Environment and Economy

5 **Report Author:** Chloe Dowsett, Coastal and Biodiversity Coordinator
James Flockton, Infrastructure Planning Coordinator

File No: I2021/735

Summary:

10 This report provides the Panel members with an update on the 'Bringing Back the Bruns' project.

RECOMMENDATION:

15 **That the Coast and Estuary Panel note the update.**

BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.1

Bringing Back the Bruns is large scale project that is proposed to be delivered over many years with an end goal of returning the Brunswick River to as natural a state as feasible.

5 Initial works began some year ago with projects like Coral Avenue Causeway upgrade and the removal of old crossings that had been replaced by bridges some years ago, but the old causeways were never removed.

Recently more work has been completed and as part of the grant funding for these works and the name 'Bringing Back the Bruns' was developed.

Recent works include the upgrade of six old causeways to fish friendly crossings and the removal of three redundant causeways. But there is still much to do.

10 **Fish Habitat Restoration Program – successful grant**

Background:

15 A 190m bank of the upper Brunswick River estuary has been identified in the Brunswick Coastal Zone Management Plan as a strategic project site (CZMP B8) and in the DPI Fisheries Draft Brunswick Bank Management Strategy. There is major bank undercutting and erosion with a narrow and sparse riparian vegetation buffer. The primary cause is channel meander migration, accelerated by the lack of riparian vegetation and possibly wave action from the wind and boats. The eroding bank contributes towards poor water quality of the Brunswick River estuary. This, with the lack of a functioning riparian zone means that there is poor aquatic and minimal terrestrial habitat at the site.

20 In 2020 Council applied for the funds in partnership with North Coast Local Land Services (NCLLS) and has been successful in our bid for \$186,500 Federal funding to re-habilitate 190m of the Brunswick estuary riverbank and riparian land. The property is just downstream from Mullumbimby, behind 'The Paddock'. The landowner will be contributing a considerable amount to the project in fencing and re-vegetation, with Council providing in-kind contribution.

25 This is a 2 year project with NCLLS managing the design, supply and construction. Council will manage the landholder and community engagement components.

30 Contracting, sub-contracting, structural design and permit/approval process discussions have commenced with partners NCLLS and Soil Conservation Service however the project has been extended by 6 months due to the delayed release of the funding agreement to NCLLS. Design and permitting is in progress and construction will commence around June 2022.

Scope of the Project:

35 The aim of the project is to stabilise and rehabilitate the riverbank using designs and techniques that will also improve the habitat values of the bed and bank. The landholder has committed to providing and maintaining appropriate riparian vegetation to a minimum 16m from the top of the riverbank, stock fencing and on-going maintenance to complete the project and ensure its on-going estuarine and terrestrial habitat value.

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STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.1

Recreational fisher people engagement, planning and design, sourcing of materials, funding and implementation make this a 2 year staged project. The funding body requires the involvement of local fishers in various stages of the project as well as informing the community about the values of a healthy riparian zone.

5 Outcomes:

1. Engagement with the local fishing community as well as the broader community will result in a greater understanding of the benefits of protected stable riverbanks and effective riparian zone with regard to aquatic habitat and fish stocks.
2. 190m of severe eroding riverbank will be stabilised and protected for the benefit of water quality and the aquatic habitat of the Brunswick River.
3. Increase in aquatic habitat and fish refuge along 190m of the Brunswick River to assist the increase in fish stocks in the Brunswick River.
4. Increase in 0.28ha of fenced riparian habitat along 180m of the Brunswick River bank at the project site for the benefit of bank stability, improved water quality and improved aquatic and riparian habitat.



Location of works east of Mullumbimby



Brunswick CZMP site B8: 190m long erosion control, aquatic rehabilitation, re-vegetation and fencing.

5

Fisheries Habitat Action Grant (2019) – Mullumbimby Riparian Riverbank Project

1.8km of Council owned riverbank land, downstream from the Showgrounds on the northern bank of the Brunswick river in Mullumbimby. Primary weed control is nearly complete and this will then lead to follow-up weed control from the starting points. A community information day demonstrating the weeds of the area and community bush protection and regeneration is planned for the winter.

10

Future Works

5 Council is currently preparing a construction package that will result in the causeway known as 'Upper Main Arm No.2 being removed. Construction will begin once all design and approvals are received.

Upper Main Arm No.2 is the next crossing in the river that is under Council control and not fish friendly.

10 Johnstons Lane causeway is funded and ready to be upgraded once all approvals are received. This crossing is not Council controlled and therefore the approvals are somewhat out of Council's control, however, staff are pushing for this work to be completed as soon as possible. Prior to the end of the current Council term is the goal.

Between Johnstons Lane and Upper Main Arm No.2 there is another private crossing that is not fish friendly and Council does not have control over. Staff and currently working with NSW Fisheries and Crown Lands to address this crossing.

15 Once the above works are complete staff will continue to seek funds to progress the upgrade of causeways further upstream until all crossings are fish friendly.

Financial Implications

All current planned works are funded. Future works will be subject to Council and grant funding.

20 **Statutory and Policy Compliance Implications**

Permits and approvals in accordance with relevant legislation will/ be obtained for the project/s.

Report No. 4.2 Coastal Management Program for the Richmond River

Directorate: Sustainable Environment and Economy

Report Author: Chloe Dowsett, Coastal and Biodiversity Coordinator

5 **File No:** I2021/736

Summary:

This report provides the Panel members with an update on the commencement of a Coastal Management Program for the Richmond River estuary and catchment, including Council's participation in the process.

10

RECOMMENDATION:

15 **That the Coast and Estuary Catchment Panel note the update on the development of a Coastal Management Program for the Richmond River estuary and catchment.**

20

Coastal Management Program for the Richmond River

5 Coastal Management Programs will set out the long-term strategy for the coordinated management of the coastal zone by Council, public authorities and other land managers and will consolidate the funding and delivery of priority management actions to balance the environmental, cultural, recreational and economic needs of the coastal zone and to adapt to emerging issues such as population growth and climate change. Preparation of CMPs is a five-stage process which can take several years to complete.

Council has commenced preparation of Coastal Management Programs (CMPs) for its coastline, with an update report provided to the 22 April 2021 meeting.

10 Best practice management of the coastal zone includes a connected catchment-to-coast approach. To achieve this, Council is participating with neighbouring councils on the Richmond River CMP. Collaborative management of the Richmond River estuary and catchment is extremely important to manage current and emerging threats and to ensure the highly valued river and associated wetlands, waterways and ecosystems are protected
15 into the future. It has been determined that the Richmond River CMP will include management actions and activities for all parts of the broader Richmond catchment (including Wilsons River and Bungawalbyn catchments) and their headwaters. This is relevant to Council as approximately half of the Byron Shire is in the Wilsons catchment. Applications for funding for catchment management activities will be strongly supported if
20 they are outlined in the CMP. Councils involvement in the development of the plan helps ensure its catchment issues and requirements are included in the CMP.

On 23 October 2019, Rous County Council received advice from the Department of Planning, Industry and Environment (DPIE) confirming that their funding application for commencement of a Coastal Management Program for the Richmond River estuary and
25 catchment had been approved. This grant is for \$50,000 and matches the commitments of Rous County Council and its constituent Councils. Whilst Byron Shire Council did not pledge a financial contribution, Council confirmed participation in the process with in-kind contributions for the Stage 1 Scoping Study.

30 Hydrosphere Consulting will prepare the Stage 1 Scoping Study for the Coastal Management Program (CMP) for the Richmond River (the first of 5 stages of the CMP development). The Scoping Study will identify issues and knowledge gaps, document the requirements for CMP development and engage the community and stakeholders in the CMP process (the below information can be found on the project webpage at <https://www.hydrosphere.com.au/richmondrivercmp>)

35 The Richmond River estuary and catchment are important for many people for many different reasons. The area is the traditional home of the Bundjalung Nation and has spiritual and cultural significance for traditional owners and custodians. The Richmond River is highly valued by the community, supporting local economies in agriculture, fisheries, tourism and recreation. The estuary, with its associated wetlands and
40 waterways, supports a rich biodiversity and a range of important environmental functions as well as local industry.

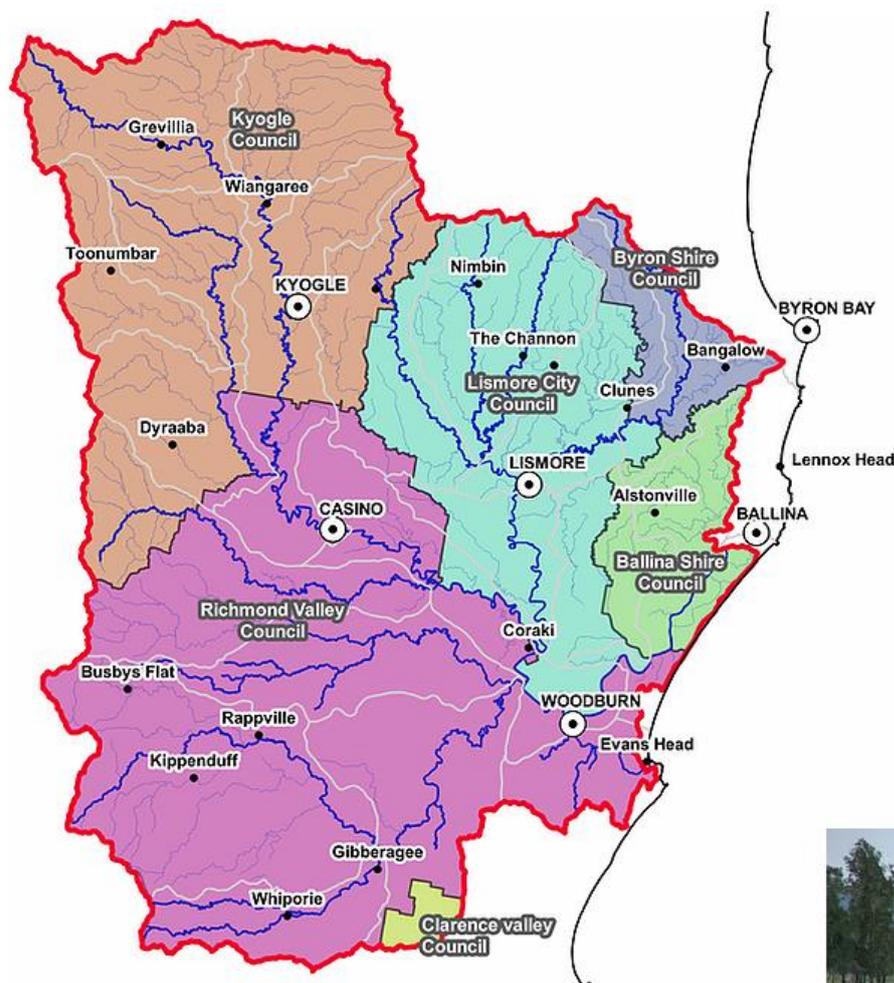
BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.2

The Richmond River has a large catchment area (refer figure below) and has historically undergone substantial land use modifications and as such the management of the whole catchment has a significant impact on the health of the coastal zone. The Richmond River catchment extends from the Queensland border in the north, Tenterfield and Clarence Valley council areas in the west to the Clarence River catchment at its southern border. Including the entire catchment in the CMP will provide a whole-of-catchment perspective for the coastal management process and capture all issues and activities that impact the health of the estuary.

Rous County Council, Ballina Shire Council, Lismore City Council and Richmond Valley Council are partnering with the NSW Government to deliver the CMP. Due to the whole-of-catchment approach to the project, participating councils also include Kyogle Council, Byron Shire Council and Clarence Valley Council.



Financial Implications

15 NA – staff in-kind participation only.

Statutory and Policy Compliance Implications

The NSW Coastal Management Framework.

Overview of ICOLL Recent Openings - Tallow and Belongil

Tallow Creek estuary

Natural Breach February 2021

- 5 A natural breach of the entrance to Tallow Creek took place approximately 11am Friday 19 February 2021 (refer Figure 1 and 2). Within an hour, the breakout reduced the water level by 0.45 m and water levels continued to fall. No reports of any fish kills have been received by Council relating to the natural breach.



- 10 **Figure 1: Natural breach scouring the beach berm at the entrance to Tallow Creek, 21 February 2021 (Photo credit: Dailan Pugh)**

Monitoring and Decision Making Preceding the Natural Breach:

- Moderate cumulative rainfall was experienced in the catchment over the week prior to the breach.
- 15
- Council continued to monitor and make decisions with regards to a potential opening via the relevant management documents and licences including:

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STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.3

- Environmental Management Plan and Opening Strategy for Tallow Creek (EMP and EOS) (BMT WBM, 2015);
- Tallow Creek Entrance Management [Interim Position] (NPWS, 2020) and amendments;
- 5 ○ Council's Licence for Access to the Arakwal National Park (NPWS Licence); and
- Council's licence to manage the entrance to Tallow Creek falls under NPWS' Interim Position which does not support any mechanical opening of the Tallow Creek mouth but does support scraping/lowering of the berm/sand bar under certain
10 stringent conditions with pre-approval from consent authorities.
- Council staff undertook the following monitoring and communications:
 - monitoring of water levels and forecast rainfall.
 - communications with NPWS regarding the presence and location of any nesting shorebirds.
 - 15 ○ survey of the height of the entrance berm which identified a berm height less than the height to which scraping of the berm is allowed. With the water level in the creek and the level of the berm at almost an identical height, and with some spill over from the creek evident on the morning of Friday 19 February, there were no immediate plans to initiate scraping of the berm. The natural
20 breach occurred soon after.

Latest River Heights for Byron Bay (Tallow Ck Br)

Issued at 9:46 am EDT Monday 22 February 2021

[About river height plots](#) | [About this Plot](#)

Station details: Station Number: 558098 Name: Byron Bay (Tallow Ck Br)

Data from the previous 4 days.

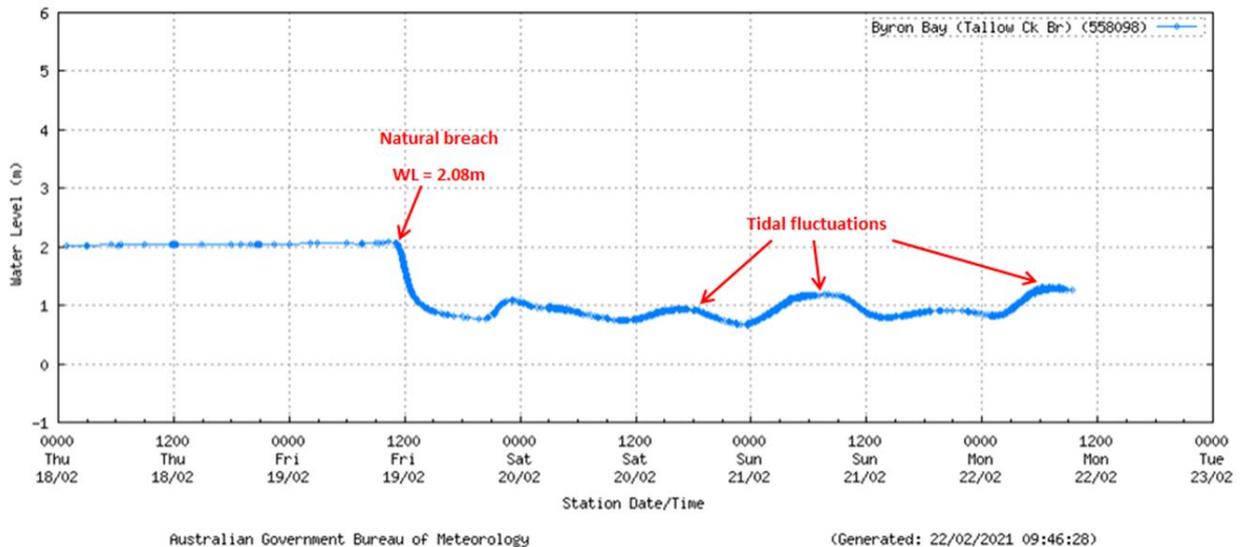


Figure 2: Tallow Creek water level (mAHD) showing the natural breach and subsequent tidal fluctuations (Source: adapted from <http://www.bom.gov.au/fwo/IDN60231/IDN60231.558098.plt.shtml>)

5 Community and Stakeholder Engagement

Council provides regular stakeholder updates to key Council staff and agency stakeholders providing a snapshot on berm status, water levels, monthly water quality sampling results and other information relevant to ICOLL management.

10 In the lead-up to and following the natural breach, Council provided several email updates to key stakeholders and to interested community members as to Councils continuing monitoring of water levels, predicted rainfall, the status of the berm and the procedure for decision making with regards to entrance management.

15 Feedback from one member of the community shows appreciation for the recent communications as follows: “We acknowledge the natural opening plan and would like to congratulate you on this communication. Communication is the key to preventing mis-trust...”.

Two social media posts were completed pre and post the natural breach.

Vandalism of Monitoring Equipment

20 There has been a consistent pattern of vandalism of Council’s water quality monitoring equipment at both Tallow (Figure 3) and Belongil Creek. The Belongil WQ logger was

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STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.3

recently relocated (location not to be made public) and secured to decrease the risk of future vandalism at this location.

5 The WQ logger and housing at the Tallow Creek Footbridge has been vandalised twice now with the most vandalism being the most significant. It was clear that there was intent to do maximum damage to the large aluminium housing (owned by SCU), logger and associated equipment. The project team are presently discussing mitigation measures and ways to make the system more secure. In the interim the logger has been repaired and deployed in another location (not to be made public).

10 It is interesting to note that vandalism to our water level and rainfall equipment is rare. The reason for this is not clear.





Figure 3: Tallow Creek water quality monitoring equipment at the Footbridge, after being vandalised (Photos taken 24 February 2021. Photo credit: T. Barchard).

Belongil Creek estuary

- 5 Entrance management activities were undertaken by Council at the Belongil Creek mouth on two occasions.

Artificial Opening December 2020

Council monitored and made decisions with regards to a potential opening via the relevant management documents and licences including:

- 10
- Belongil Creek Entrance Opening Strategy and Environmental Management Plan (EOS and EMP) (Alluvium, 2020); and
 - Council's Crown Lands Licence to undertake entrance opening of Belongil Creek

Council staff undertook the following monitoring and communications:

- 15
- monitoring of water levels and forecast rainfall;

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STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.3

- survey of the height of the entrance berm; and
- communications with key stakeholders and authorities.

The following activities were undertaken:

5 1. Berm Scrape on Friday 11 December 2020

Details of the conditions were:

- Water levels in the creek were 0.82m AHD at 0947 on 11/12.
- 10 • A survey completed on Wednesday 09/12 identified a berm height of 1.48m AHD, which is more than the height of the EOS water level trigger of 1.1m AHD. With the water level in the creek able to rise significantly before spilling over, plans needed to be made to initiate scraping of the berm.
- Rain forecast was 50-100 mm (starting the night of the Friday 11/12) and increasing through Sunday and Monday.
- 15 • Based on the rain forecast water levels were expected to increase overnight (11/12) bringing levels up to the EOS watch level of 1.0m AHD or above by Saturday (12/12) morning (immediate breach level is 1.1m AHD).
- An East Coast Low (ECL) was forecast to form roughly off the Gold Coast on Sunday (13/12) morning generating easterly waves that were likely to exceed 4m between Coffs Harbour and the NSW/QLD border through until Tuesday morning and then start to dissipate quickly. The possibility of larger swells appeared to be confined to the Gold Coast region with exceedances > 5-6 m.
- 20 • Elevated swells were coinciding with high spring tides at 1.82m (7.40am on 13/12) and 1.91m (8.30am on 14/12) and 1.95 m (9.20am 15/12).
- 25 The berm scrape failed due to ocean levels preventing a full scour of the creek entrance occurring. The water level peaked at 1.445m AHD, 7.30am Sunday 13 and plateaued at 1.410m AHD by midday. Water levels were not expected to reduce without further intervention.



Figure 4: Belongil Creek entrance showing peak of high water levels and ocean storm surge on morning of Sunday 13 December 2020, prior to first mechanical opening attempt.

2. Mechanical Opening (1st attempt)

5 On Sunday 13 December 2020 Council initiated the mechanical opening of Belongil Creek. The decision was made to open as soon as the team was mobilised and could safely access the beach. While the opening was successful, the large swell and high tides led to closure of the excavated channel the following day and as such efforts to open on the Sunday had failed.

10 3. Mechanical Opening (2nd attempt)

15 On Monday 14 December 2020 Council attempted a second mechanical opening of Belongil Creek after the failure of the first opening and increasing water levels in the creek following heavy rainfall. Staff mobilised to site as soon as it was safe to access the beach and completed a second mechanical opening, at which stage the water level was at 1.73m AHD.

Latest River Heights for Byron Bay (Belongil Ck Br)

Issued at 10:46 am EDT Tuesday 15 December 2020

[About river height plots](#) | [About this Plot](#)

Station details: Station Number: 558099 Name: Byron Bay (Belongil Ck Br)

Data from the previous 4 days.

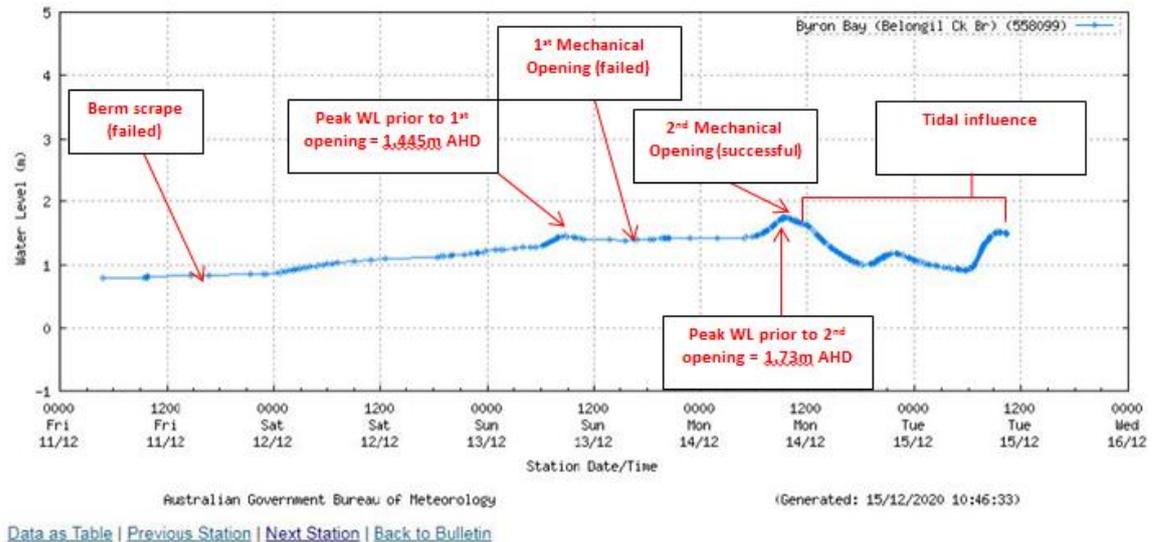


Figure 5: Belongil Creek water level (mAHD) showing the attempted openings and subsequent tidal fluctuations (Source: adapted from <http://www.bom.gov.au/fwo/IDN60231/IDN60231.558099.plt.shtml>)

- The opening was immediately successful and the breakout reduced the water level by approx. 0.75 m within 12 hours to around 1.0m AHD Monday evening (14/12). Post the opening water levels in the creek were subject to higher than normal tides and elevated ocean levels with large peaks in levels on the higher of the two tides each day. Water levels decreased towards the end of the week as the storm eased.

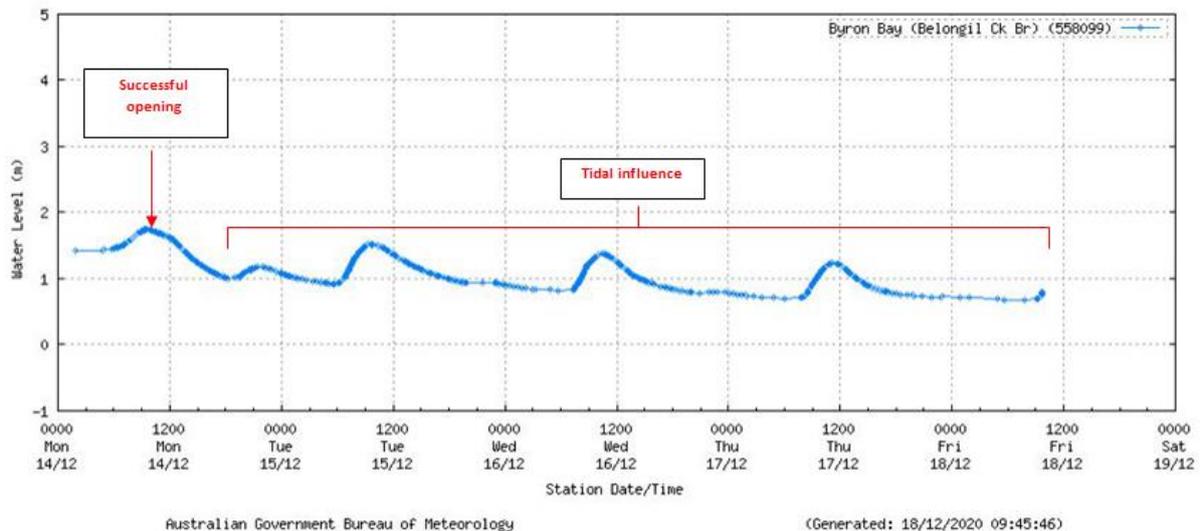
Latest River Heights for Byron Bay (Belongil Ck Br)

Issued at 9:45 am EDT Friday 18 December 2020

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Station details: Station Number: 558099 Name: Byron Bay (Belongil Ck Br)

Data from the previous 4 days.



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Figure 6: Belongil Creek water level (mAHD) showing the successful opening and subsequent tidal fluctuations – December 2020 (Source: adapted from <http://www.bom.gov.au/fwo/IDN60231/IDN60231.558099.plt.shtml>)

- 5 On behalf of Council, Australian Wetlands Consulting undertake water quality monitoring for a period of seven days, starting the day prior to any mechanical opening. Monitoring is undertaken using a hand-held water quality sensor where pH, Dissolved Oxygen (DO), Turbidity (NTU), Conductivity (EC) and temperature readings are recorded at the five sites. Monitoring is undertaken on the lower half of the outgoing tide.
- 10 Results of the water quality monitoring are:
 - DO trended down following the opening with the lowest value (12%sat) recorded on the final day of monitoring at the Ewingsdale Bridge site
 - Conductivity dropped rapidly once the large swell and tides eased on the 14 December allowing water to discharge from the mouth
- 15
 - pH in the main channel dropped to around 6.5 following the opening and remained at these levels
 - the lowest pH (4.1) was observed in Union Drain
 - Turbidity was relatively stable and remained <40 NTU apart from a spike at the mouth on the 17 December

- Water temperatures ranged from 20 - 30oC during the monitoring
- No dead fish were observed during the monitoring period

Artificial Opening March 2021

5 Council monitored and made decisions with regards to a potential opening via the relevant management documents and licences including:

- Belongil Creek Entrance Opening Strategy and Environmental Management Plan (EOS and EMP) (Alluvium, 2020); and
- Council's Crown Lands Licence to undertake entrance opening of Belongil Creek

10 Council staff undertook the following monitoring and communications:

- monitoring of water levels and forecast rainfall;
- survey of the height of the entrance berm; and
- communications with key stakeholders and authorities.

The following activities were undertaken:

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Mechanical opening on Friday 19 March

Details of the conditions were:

20

- The latest sand bar survey was completed on 09/12 and identified a berm height of 1.48 m AHD. As the last survey was 4 months ago it was assumed the sand bar at the location of Council's approved berm scrape alignment was 1.48m AHD.

- Water levels in the creek at the time were 1.24m AHD at 8:07am on 19/03.

- Rain forecast indicated +75mm over the following 48hrs with up to 100mm in the next consecutive 72hrs. Highest intensities were expected for Saturday 20/03.

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- A large swell event was forecast for 21/03 with a peak swell reaching 3.43m at 10 seconds from an east-south-easterly direction. With these ocean conditions it was expected that waves from the swell event may start to influence water levels in the creek, by not allowing water to escape or flow.

30

- Current tides were in the neap phase with high tides <1.7m. Neap tides may reduce the ability of the creek to naturally open due to reduced head gradient.

Due to the swell and rainfall event commencing and potential inability for the excavator to track onto the beach, the decision was made to go straight to a mechanical opening. Council advised stakeholders on the Friday 19th March that a mechanical opening would occur that afternoon along the agreed and approved southern alignment as per Council's adopted EOS.

Results of the water quality monitoring are:

- DO trended down following the opening with the lowest surface value of 32.5%DO recorded on the final day of monitoring (25th March) at the Union Drain site
- Conductivity dropped rapidly once the large swell eased on the 23rd March, allowing water to discharge from the mouth
- pH in at the river mouth dropped to 6.00 on the 20th March following the opening and remained at these levelsthe lowest pH (4.1) was observed in Union Drain
 - the lowest surface value (pH 4.39) was observed in Union Drain
- Anoxic conditions (<~5%DO) were not observed
- Turbidity varied between sites with Union Drain recording lowest results
- Water temperature was stable in the low 20oC during the monitoring period
- No dead fish or bad odours were observed during the monitoring period

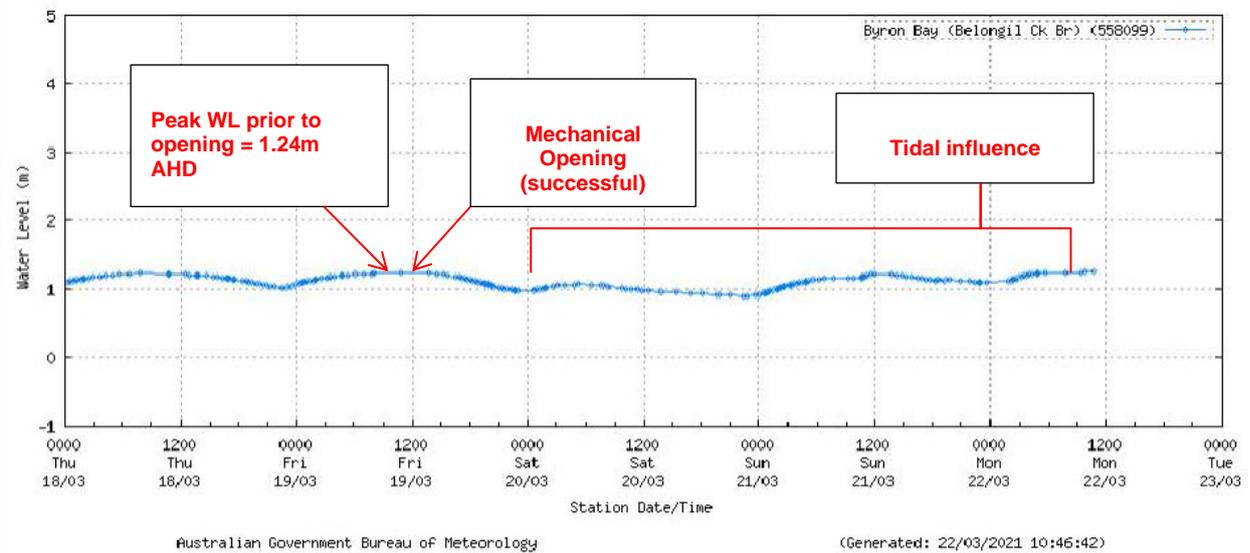
Latest River Heights for Byron Bay (Belongil Ck Br)

Issued at 10:46 am EDT Monday 22 March 2021

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Station details: Station Number: 558099 Name: Byron Bay (Belongil Ck Br)

Data from the previous 4 days.



15 **Figure 7: Belongil Creek water level (mAHD) showing the successful opening and subsequent tidal fluctuations – March 2021 (Source: adapted from <http://www.bom.gov.au/fwo/IDN60231/IDN60231.558099.plt.shtml>)**

Elements Resort – Repair of coastal protection works

The December event resulted in erosion of the northern foreshore of the Belongil Creek mouth within Elements of Byron Resort private property, damaging existing coastal protection works (a geo bag wall).

- 5 The 1.5 m high geo-fab (sandbag) wall was constructed in 2015 under the Code of Practice provisions (now repealed *Coastal Protection Act 1979*). The works sit wholly within the Elements of Byron property. Under the Code private landowners are required to maintain their structure for safety and integrity in perpetuity.

10 A statement was put out by Elements after significant community concern regarding the repair works within the creek (relevant parts provided below).

- *This is the first time since 2016 that we (Elements) have needed to carry out any maintenance works. These works are limited to a small section of the overall structure.*
- *The contractor commenced work on Thursday 4 Feb 2021.*

15 • *Under direction from the Fisheries Department we stopped work on Friday 5th and submitted an application to DPIE (which we were not aware was required).*

- *A Marine Parks permit is not required unless we need to work on the Crown land.*
- *We anticipate 2-3 days to complete the works and tidy the site. It is unfortunate that we had to stop and leave it the way it is.*

20 • *It is possible these bags may be buried again for many years due to the dynamic nature of this ICOLL. We are planning to restore any planting along the frontal dunes upon completion.*

- *We had no intention to leave the site unsafe or untidy. We are hoping to receive the DPIE permits soon so we can get in and complete the works and restore the area.*

25 Community Concern

Community concern has centred around one main theme, this being works within the creek mouth at this location which is assumed to be Crown Land.

30 The below map shows the parcel owned by Ganra Pty Ltd (Elements of Byron Property) in Council's internal GIS system. Part of this parcel extends into the entrance of Belongil Estuary. There are many other property lots that extend into/over the creek - this is a legacy of deposited plans produced a long time ago, at coastal locations where there is movement of waterways/creeks. It is not uncommon in NSW.

35 Council understands that repairs to coastal protection works (geo-fab sandbag) constructed in 2015 under the Code of Practice provisions (*Coastal Protection Act 1979*) sit wholly within the Elements of Byron Property.



Figure 6: Elements of Byron Property (Ganra Pty Ltd) boundaries (Council internal Geocortex system, accessed 2/03/21).

Council Involvement

- 5 Council has liaised with NSW Fisheries staff regarding the repair works and the previous Stop Work Order under the Fisheries Management Act. Council is aware that Fisheries have now issued their permit for the completion for the repair works with the Stop Works Order lifted on Friday 19 Feb.

At this stage Council has no role in the activity being undertaken.

10 Financial Implications

- 15 The annual operating budgets for Tallow and Belongil ICOLLs cover the cost of the monitoring associated with each ICOLL and report writing, survey of the sand bar berm, mobilisation of staff and equipment to open the entrances and other associated costs. Depending on how many entrance opening events are conducted, the budget tends to get overrun.

It is proposed to increase the annual budget to \$75,000 for the 21/22 FY.

Statutory and Policy Compliance Implications

Environmental Management Plans, Entrance Opening Strategy's and Licences/Permits that have been developed in accordance with the below legislation:

- 20
- Fisheries Management Act 1994
 - National Parks and Wildlife Act 1974

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- Marine Estate Management Act 2014
- Coastal Management Act 2016