

# Notice of Meeting

## Climate Change and Resource Recovery Advisory Committee Meeting

A Climate Change and Resource Recovery Advisory Committee Meeting of Byron Shire Council will be held as follows:

Venue	Conference Room, Station Street, Mullumbimby
Date	Thursday, 16 June 2022
Time	11.30am

Phillip Holloway  
Director Infrastructure Services

I2022/711  
Distributed 10/06/22



**BYRON  
SHIRE**

---

---

## 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**

**1. APOLOGIES**

**2. DECLARATIONS OF INTEREST – PECUNIARY AND NON-PECUNIARY**

**3. STAFF REPORTS**

**Sustainable Environment and Economy**

3.1	Introduction to Council's Sustainability Program .....	5
3.2	Introduction and Update from Zero Emissions Byron .....	66
3.3	Review Constitution of Climate Change and Resource Recovery Advisory Committee .....	71

**Infrastructure Services**

3.1	Introduction to Resource Recovery - Projects and Programs .....	82
-----	---	----

**Report No. 3.1 Introduction to Council's Sustainability Program**

5 **Directorate:** Sustainable Environment and Economy  
**Report Author:** Julia Adams, Sustainability Team Leader  
**File No:** I2022/459

**Summary:**

10 This report provides an introduction and short update on the key sustainability and climate change projects across Council. Project managers will speak to their items.

---

**RECOMMENDATION:**

- 15 1. That the Climate Change and Resource Recovery Advisory Committee notes the updates in the report.
2. That the Climate Change and Resource Recovery Advisory Committee recommends to Council that the annual membership with Climate Emergency Australia continues.

20

**Attachments:**

- 1 Regional State of the Environment Report - 2016 to 2020, E2021/135168 , page 16  

25

## Report

5 The sustainability team manages several different projects, including but not limited to Council's Net Zero Emissions Strategy and Action Plan, the Climate Change Adaptation Plan, community gardens, public car share initiatives, and various partnerships with external organisations.

## Key Sustainability Updates

### *State of the Environment Report 2020*

- 10 • The 2020 Regional State of the Environment report is the third prepared for the North Coast NSW region. It involved collaboration between 12 councils and reports on environmental conditions at both a regional and local level from 2012 to 2020. (Delays are due to COVID-19)
- The report is divided into four main sections: people and the environment, biodiversity and vegetation, land and soils, and water.
- 15 • Attached is the summary for the 2016 to 2020 reporting period (see Attachment 1 E2021/135168).

### *Finalisation of Council's Operational Emissions Boundary*

- 20 • Climate Active certification process – Council is progressing towards its Climate Active goal of carbon neutrality (**Res 19-634**), as part of its net zero target. As part of this process, Council must complete its emissions boundary and include scope 3 emissions.
- Staff have been working with consultants for several months to compile the data required to report on scope 3 emissions. As a result, the following emissions sources will be added to our annual emissions inventory:
  - 25 ○ Fuel use – recycled waste trucks
  - Paper
  - IT equipment and software
  - Office equipment
  - Food and catering
  - 30 ○ Postage and couriers
  - Car share services
  - Waste from council operations

# BYRON SHIRE COUNCIL

## STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

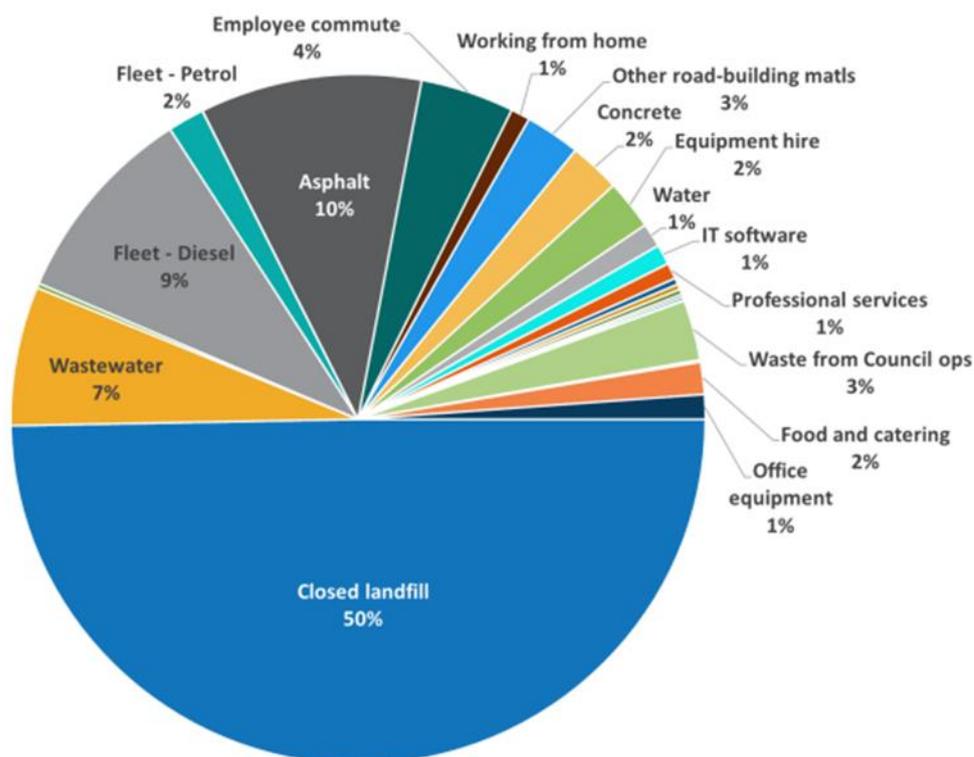
3.1

- Air travel
- Business accommodation
- Employee commute
- Telecommunications
- 5 ○ Cleaning supplies and services
- Stationery
- Chemicals
- Entertainment
- Business services
- 10 ○ Advertising
- Legal fees
- Education and training
- Asphalt
- Concrete
- 15 ○ Other road-building materials
- Machinery and vehicle repairs
- Equipment hire
- Clothing
- 20 ● It is expected that the addition of scope 3 sources will increase our emissions boundary by approximately 5,521 tCO<sub>2</sub>e-, taking the total to approximately 15,097 tCO<sub>2</sub>e-.
- The top three emissions sources are landfill fugitive emissions, asphalt, and diesel (see Figure 1).

# BYRON SHIRE COUNCIL

## STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

3.1



**Figure 1.** Byron Shire Council's operational emissions inventory, including scopes 1, 2 and 3.

- Staff plan to report on Council's complete emissions boundary from 2022, in preparation for Climate Active certification.

### 5 Solar Assets Annual Report

- Council currently has 15 solar PV arrays totalling 615kW that are installed across 13 sites.
- In FY2021 Council's solar generated approximately 796MWh of renewable electricity, which in turn translated into approximately \$117,407 in savings and 629 tCO<sub>2</sub>e- in emissions savings.

10

For Period from 1/5/2021-30/4/2022	Size (kW)	Project Cost (\$)	Savings (\$)	Earnings (\$)	Total ROI (\$)	Payback (years)	(MWh)	tCO <sub>2</sub> e-
Byron STP	152	275,257	25,087	735	25,822	11	208	164
Byron STP (Old System)	52	76,500	8,562	51	8,613	9	75	59
Brunswick Valley STP	99	136,883	16,105	377	16,482	8	132	104
Mullumbimby Admin Building Carpark	99	330,000	15,263	2,085	17,348	19	127	100
Byron Bay Library	60	60,000	19,460	1,404	20,864	3	88	70
Bangalow STP	51	76,030	8,042	166	8,208	9	66	52
Cavanbah Centre	25	25,300	9,133	324	9,457	3	36	28

# BYRON SHIRE COUNCIL

## STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

3.1

Resource Recovery Centre - 2	15	15,000	2,922	487	3,409	4	18	14
Sandhills Childcare Centre	13	12,600	2,568	421	2,989	4	16	12
Mullumbimby Drill Hall	12	15,570	471	537	1,008	15	7	5
Mullumbimby Neighbourhood Centre	10	20,009	1,017	401	1,418	14	10	8
Resource Recovery Centre - 1	10	65,000	0	0	0	0	0	0
Durrumbul Hall	8	19,688	508	348	856	23	8	6
Brunswick Valley Community Centre	5	22,275	0	0	0	0	0	0
Mullumbimby Civic Hall	5	9,906	818	115	933	11	7	6
<b>TOTAL</b>	<b>615</b>	<b>\$1,160,018</b>	<b>\$109,956</b>	<b>\$7,451</b>	<b>\$117,407</b>		<b>796</b>	<b>629</b>

\*Solar sites currently out of order and under investigation.

### External Partnerships Update

- Climate Council's Cities Power Partnership (CPP)
  - 5 ○ Free membership that provides staff and councillors with access to a nation-wide community of LG sustainability teams, knowledge resource library, educational webinars and reports.
  - Council Connect – online collaborative platform for members to connect, share knowledge and create opportunities. For example, the sustainability team is now part of an electric vehicle working group.
  - 10 ○ <https://citiespowerpartnership.org.au/>
- ICLEI – Local Governments for Sustainability
  - ICLEI supports local governments across Australia, New Zealand and the Pacific to accelerate climate action and sustainable urban development
  - 15 ○ Council currently pays an annual fee of approximately \$1,100 for membership to ICLEI Local Governments for Sustainability.
  - Staff reviewed the membership in 2021 and have decided to remain a member and supporter of the ICLEI Oceania community in order for council's emissions reduction efforts to contribute to global efforts.
  - <https://www.icleioceania.org/>
- 20 • Global Covenant of Mayors (GCoM) and Carbon Disclosure Project (CDP)

# BYRON SHIRE COUNCIL

## STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

3.1

- A global alliance of cities and local governments sharing goals for an action-oriented approach to climate change for the transition to low-emission and resilient societies. It is the largest global network of local councils taking action on climate change.
- 5 ○ Council reports its emissions to the CDP and GCoM on an annual basis, and has subsequently been awarded both Mitigation and Adaptation ‘badges’ under this alliance.
  - <https://www.gcom-oceania.org/members/byron>
- Climate Emergency Australia (CEA)
  - 10 ○ Council has been trialling a one year membership with CEA. CEA is a network of local governments working together to have all levels of government acknowledge and respond to the climate emergency. It was formed as a response to the over 90 municipalities across Australia declaring a climate emergency, and represents the collective LGAs in the movement.
  - 15 ○ Staff recommend that Council continue its annual membership of \$1,000, and thus support the climate emergency movement across Australia.
    - [CEA - Home \(climateemergencyaustralia.org.au\)](https://climateemergencyaustralia.org.au)
- Sustain Energy
  - 20 ○ The Sustain Energy Working Group is a network of councils, regional peak bodies and community renewable energy groups facilitating the transition to renewable energy in the Northern Rivers. The group was established as a subset of the broader Sustain Northern Rivers collaboration in 2008 and has been delivering on ground and research based energy outcomes since then.
  - 25 ○ The group meets quarterly to share project learnings, prepare submissions, apply for grants, and disseminate information and deliver regional projects.
    - <https://www.sustainenergynr.org.au/>
- Zero Emissions Byron
  - 30 ○ Council collaborates with local community organisation, Zero Emissions Byron, on a regular basis to support them in their goal to transition our community to net zero emissions.
    - See separate report on Zero Emissions Byron for more detailed information.
- Climate Clever
  - Council participated in a one year trial partnership with software platform Climate Clever. This partnership provided all schools and residents with a

# BYRON SHIRE COUNCIL

## STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

3.1

50% discount on a subscription, and council also pre-purchased 50 subscriptions for households, provided on a first come, first served basis, and one for a local school, awarded through an expression of interest process.

- 5
- Unfortunately community uptake was very low and it was found to be very challenging to incorporate into the existing school programming
  - As of January 2022, the household platform has become free for everyone and no longer has paid tiers. There are also free versions available to schools and businesses.
- 10
- As a result of these changes, Council now has a free partnership in place with Climate Clever until 24<sup>th</sup> January 2023. This offer includes upgrading Council to a tier 2 Partnership Program, equivalent of \$5,000/year. Benefits include five community information sessions per year and live user data according to postcode.
- 15
- Staff and Zero Emissions Byron will be collaborating to promote these free programs later in 2022.
  - <https://www.climateclever.org/>

### *Energy Efficiency for Mullumbimby Administration Building*

- Energy Efficiency for Mullumbimby Administration Building
- 20
- Operational Plan activity 3.2.1.11 – Investigate energy efficiency upgrade of Mullumbimby Administration Building (action A4 in Net Zero Emissions Action Plan).
  - Staff investigated the opportunities available for a bulk lighting upgrade at the Mullumbimby Administration Office and found that it would not be an efficient use of funds.
- 25
- Due to the combination of fluorescent, CFL and old LED lighting in the building, the energy savings would not be large enough to generate significant energy savings.
  - The FY2022/23 operational plan includes an activity to identify a project for our revolving energy fund. The sustainability team plans to consider solar for either the administration building or depot site as potential project options.

### *Climate Conversations to replace Sustainability Awards*

- In 2019/20 Council reignited the Sustainability Awards program in council, whereby the community were asked to nominate and then vote for an organisation, individual or community group in several different categories, including sustainability, biodiversity, waste and water. The awards received a low number of nominations and votes, and as a result the Awards were turned into a “[showcase](#)” where every nominee was a winner, however the overall level of engagement and impact was low.
- 35

# BYRON SHIRE COUNCIL

## STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

3.1

- Reflecting on this and the experiences of 2022 thus far, the awards will be replaced with an innovative arts-based approach this year to engage the community in conversations and ideas related to sustainability, resilience, and climate change.
- Climate Conversations is a new biennial collaborative art project encouraging artists to explore, with the community, how we can adapt, reorganise, and evolve as a community in the face of climate change.
- Climate Conversations is a collaboration between the sustainability and cultural teams at council.

### *Sustainability E-newsletter*

- The sustainability and resource recovery teams produce a sustainability e-newsletter that is sent out to subscribers on a quarterly basis.
- The newsletter will feature an “In Focus” section in place of the sustainability awards that will share information about local organisations and people doing great projects on a more regular basis, rather than once every two years. An invitation to submit stories is included in the newsletter, and staff encourage individuals and groups to email [sustainability@byron.nsw.gov.au](mailto:sustainability@byron.nsw.gov.au) to submit stories.
- To subscribe to the newsletter, head to the [Newsletters webpage](#) on Council’s website.

### *Climate Change Adaptation Plan*

- Staff will present a report focusing on adaptation updates at the next committee meeting.

## **Key Utilities Project Updates**

### *Bioenergy Facility*

The Bioenergy Facility renewable energy project has progressed to the next stage. The Northern Rivers Regional Planning Panel has approved the development application for the facility to be built on operational land at the Byron Bay sewage treatment plant.

The project will be reviewed by the elected Council in late 2022, with grant funding options for the \$23.8 million project currently being explored.

For more background information on the Bioenergy facility, head to Council’s webpage - [Council website - Bioenergy](#).

## **Strategic Considerations**

### **Community Strategic Plan and Operational Plan**

CSP Objective	CSP Strategy	DP Action	Code	OP Activity
---------------	--------------	-----------	------	-------------

## BYRON SHIRE COUNCIL

### STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

3.1

<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.1	Implement the Net Zero Emissions Action Plan for Council Operations 2025
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.2	Prepare Annual Emissions Inventory to determine progress towards 2025 Net Zero Emission Target.
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.4	Investigate Council's methane gas flare and Australian carbon credit unit generation in line with net zero emissions target
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.6	Monitor Solar Performance at STP and provide annual report
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.7	Finalise and commence implementation of the Climate Change Adaptation Plan
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.8	Report annually on sustainability partnerships, such as Cities Power Partnership.
<b>Community Objective 3: We protect and enhance</b>	3.2: Strive to become a sustainable	3.2.1: Work towards Council's zero-	3.2.1.10	Investigate a carbon offset policy and strategy for Council, in

# BYRON SHIRE COUNCIL

## STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

3.1

<b>our natural environment</b>	community	emissions target		accordance with Climate Active certification.
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.11	Investigate energy efficiency upgrade of Mullumbimby Administration Building (action A4 in Net Zero Emissions Action Plan)
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.12	Monitor Council's solar assets.
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.13	Develop an energy usage benchmarking system for waste water assets to identify potential energy efficiency upgrades (Action C4 Net Zero Action Plan)
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.2: Support community environmental and sustainability projects	3.2.2.1	Provide coastal, environmental and sustainability information and encourage and support community activities and groups
<b>Community Objective 3: We protect and enhance our natural environment</b>	3.2: Strive to become a sustainable community	3.2.2: Support community environmental and sustainability projects	3.2.2.2	Participate in regional coastal, sustainability and environmental working groups and initiatives.

**Recent Resolutions**

- 17-086
- 18-680
- 19-634

**5 Legal/Statutory/Policy Considerations**

Applicable Council Strategies and Plans:

- Net Zero Emissions Strategy for Council Operations 2025
- Net Zero Emissions Action Plan for Council Operations 2025
- Climate Change Adaptation Plan

**10 Financial Considerations**

The annual membership for Climate Emergency Australia would be drawn from the sustainability programs budget, GL 2605.63.

**Consultation and Engagement**

- Sustainability Team
- 15
- Relevant internal staff
  - Executive Team
  - Zero Emissions Byron



# Regional State of the Environment Report Summary

# 2020

For the North Coast Region of NSW  
October 2021

2

Regional State of the Environment Report Summary 2020

# Regional State of the Environment Report Summary 2020

Published by North Coast Region State of the Environment Report Working Group (on behalf of the participating councils)

Coffs Harbour City Council | Locked Bag 155 Coffs Harbour NSW 2450

P: (02) 6648 4000 | E: council@chcc.nsw.gov.au | W: coffsharbour.nsw.gov.au

Version 1 - October 2021 - Prepared by North Coast Region State of the Environment Report Working Group

Design by GP Design | E: info@giulianapuccio.com.au

Cover Photo: Bellingen Shire Council

The authors would like to acknowledge the traditional custodians of the land reported on, including the Bundjalung, Yaegl, Gumbaynggirr, Dunghutti, Biripi, Bunyah, Nganyaywana and Ngarabal nations and their people, and pay respect to the Elders past and present and emerging of these nations.



## Table of Contents

	<b>Introduction</b>	05
01	<b>01 People &amp; the Environment</b>	<b>06</b>
	1.1 Regional climate characteristics	07
	1.2 Population characteristics and change	08
	1.3 Climate change: reducing emissions & preparing for change	09
	1.4 Surface water demand	13
	1.5 Waste	15
	1.6 Environmental levy	18
02	<b>02 Biodiversity &amp; Vegetation</b>	<b>19</b>
	2.1 Ecologically functional landscapes	20
	2.2 Native vegetation restoration	25
	2.3 Conservation: reserves & agreements	26
	2.3.1 Protection of Native vegetation	26
	2.3.2 Council land-use zoning	27
	2.4 Native Flora & Fauna	28
	2.5 Invasive species	29
	2.5.1 Invasive weed species	29
	2.5.2 Invasive fauna species	30
03	<b>03 Land &amp; Soils</b>	<b>31</b>
	3.1 Soil condition	33
	3.2 Landuse	34
	3.3 Funded land & soils management activities	35
	3.4 Acid sulfate soils	35
	3.5 Mining	36
04	<b>04 Water</b>	<b>37</b>
	4.1 Estuarine & freshwater rivers	38
	4.1.7 River restoration works & riparian vegetation	45
	4.1.8 Stormwater improvement works & WSUD	45
	4.2 Wetlands	-
	4.3 Groundwater	46
	4.4 Near-shore marine	47

## List of Abbreviations



<b>ASS</b>	Acid sulfate soils
<b>CMP</b>	Coastal management program
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>CZMP</b>	Coastal zone management plan
<b>DISER</b>	Department of Industry, Science, Energy and Resources
<b>DCP</b>	Development control plan
<b>DPIE</b>	NSW Department of Planning, Industry and Environment
<b>EHA</b>	Effective habitat area
<b>EPA</b>	Environment protection agency
<b>GDE</b>	Groundwater dependent ecosystem
<b>ICOLL</b>	Intermittently closed or open lakes or lagoons
<b>IP&amp;R</b>	Integrated planning and reporting
<b>LEP</b>	Local environmental plan
<b>LGA</b>	Local government area
<b>LiDAR</b>	Light Detection and Ranging
<b>LLS</b>	Local land services
<b>LULUCF</b>	Land use, land-use change and forestry
<b>MEMS</b>	Marine estate management strategy
<b>MPA</b>	Marine protected area
<b>NRAR</b>	Natural resources access regulator
<b>NRM</b>	Natural resource management
<b>OSMS</b>	Onsite sewage management system
<b>PNF</b>	Private native forestry
<b>RSoE</b>	Regional State of the Environment Report
<b>SLATS</b>	State-wide land cover and trees study
<b>SoE</b>	State of the Environment report
<b>WSP</b>	Water sharing plan
<b>WSUD</b>	Water sensitive urban design
<b>WWTP</b>	Waste water treatment plant

5

Regional State of the Environment Report Summary 2020



### Introduction

This Regional State of the Environment 2020 (RSoE) is the third prepared for the North Coast Region of New South Wales (NSW). It involved collaboration between the 12 general purpose councils (councils) along the Region’s coast, from Port Macquarie-Hastings Council in the south to Tweed Shire Council in the north, including Lismore and Kyogle councils, and Rous County Council. It aims to report on environmental condition at both a regional and local level from 2012 to 2020. This condition information may inform the community and local and state governments on key pressures acting on the environment, and responses to those key pressures. This **condition–pressure–response** information can be used to increase community awareness of environmental issues, and to guide natural resource managers in prioritising and addressing management actions. This document is a summary for the 2016 to 2020 reporting period.



Image: Map of North Coast Region of NSW

AIM: To increase community awareness of environmental issues, and to guide natural resource managers in prioritising and addressing management actions



6

Regional State of the  
Environment Report  
Summary 2020

# 01 People & the Environment



*Photo: Bellingen Shire Council*

7

Regional State of the Environment Report Summary 2020

## 1.1 Regional climate characteristics



KEY FACTS

Photo: Coffs Harbour City Council



**Hottest**  
year on record  
for Australia  
**2019**



**Driest**  
year on record  
**2019**



**Highest  
Sea Surface  
Temperatures**  
on record  
**2019**



**Drought**  
Whole of NSW  
declared  
August  
**2018**



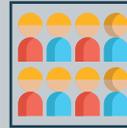
**Bushfires**  
started in North  
Coast region  
July  
**2019**



**Floods**  
impacted  
the region  
**2013  
2015  
2016  
2017 &  
2020**

## 1.2 Population characteristics & change

KEY FACTS



### Highest Population Growth

Port Macquarie Hastings and Byron LGAs at over

**17%**

since 2009

### Highest Population Density

Ballina

**93** People

per square kilometre

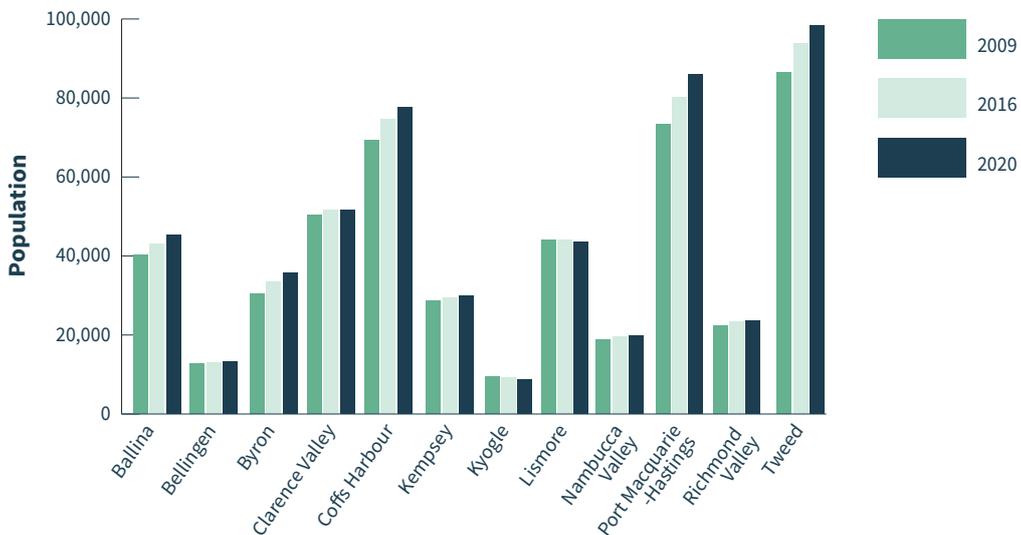
### Lowest Population Density

Kyogle

**2.5** People

per square kilometre

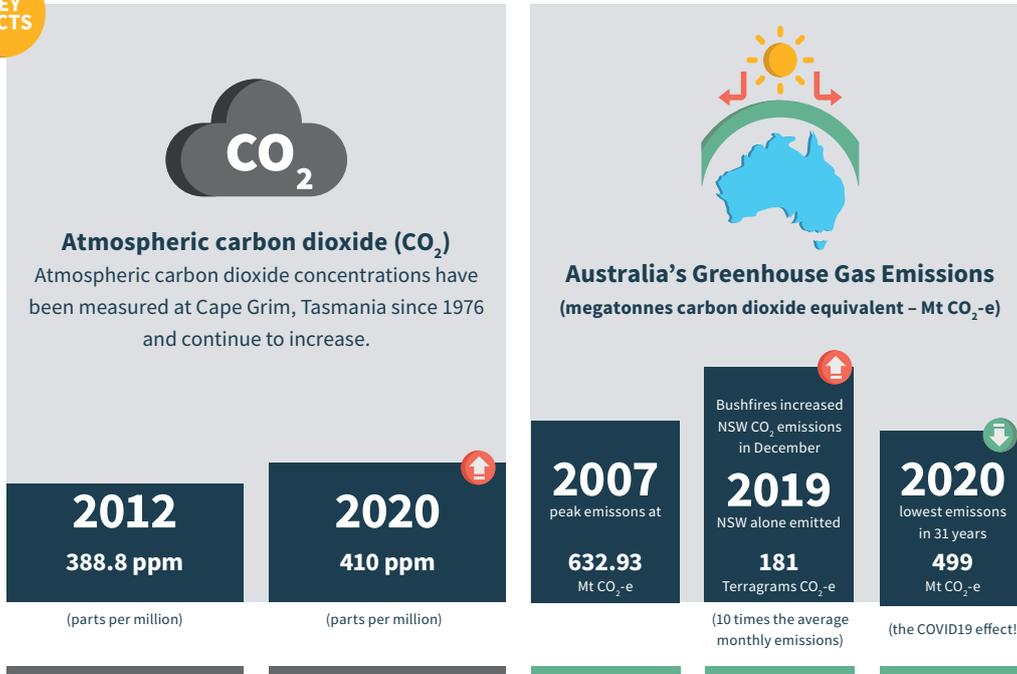
### Population by local government area from 2009-2020



- Port Macquarie-Hastings had the highest increase in population over 10 years at **17.2%** followed closely by Byron at **17.1%**
- Both were above the NSW 10 year average of **15.5%** population increase.
- Tweed, Ballina and Coffs Harbour also had substantial population increases over 10 years at **13.7%**, **12.2%** and **12%** respectively.
- Kyogle and Lismore experienced a slight decline in population over 10 years.
- Population density is highest in Ballina at 93 people per square kilometre, followed by Tweed at 75, Coffs Harbour at 66, and Byron at 63.
- Kyogle has the lowest at 2.5 people per square kilometre, with Clarence Valley at 5, and Richmond Valley at 7.7.

### 1.3 Climate change: reducing emissions & preparing for change

KEY FACTS

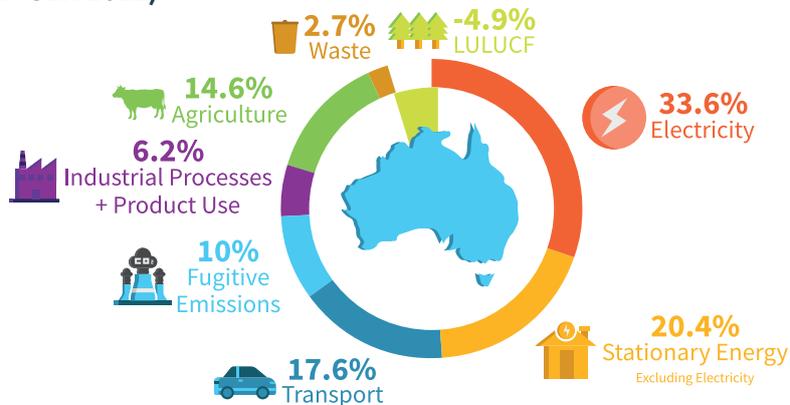


Australia's annual total greenhouse gas emissions peaked in 2007 at 632.93 Mt CO<sub>2</sub>-e. Since our reporting began in 2012, the annual emissions have decreased from 546.8 Mt CO<sub>2</sub>-e in March 2012 to 513.45 Mt CO<sub>2</sub>-e in June 2020, down to 499 Mt CO<sub>2</sub>-e in December 2020 – the lowest level in 31 years. This was due to the ongoing steady decrease in emissions from

electricity, a drop in fugitive emissions from reduced coal production, and the impacts of COVID-19 reducing transport emissions, which fell 12% from 2019 (source: DISER 2021).

Electricity use continues to be the greatest contributor to emissions in Australia.

**Figure 4: Share of total emissions, by sector, for the year to December 2020 (Source: DISER 2021)**



10

Regional State of the Environment Report Summary 2020

## Total Electricity Consumption



**30-43%**

of buildings have solar installations in the North Coast Region of NSW, up by 33% across most LGAs since 2016.



**10%**

of the region's electricity comes from solar.

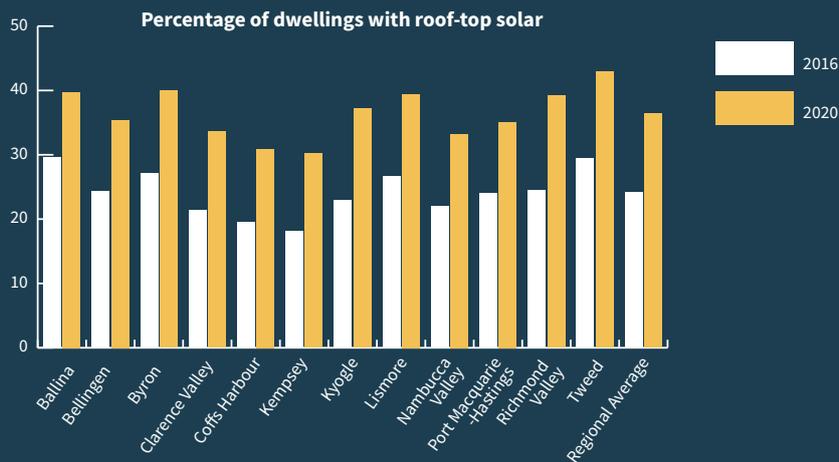


**2020**

Total electricity generated by solar sent back to the grid was 225,658 megawatt hours.

Renewable energy from roof-top solar installations now provides 10% of total electricity consumption for the north coast region, up from 4% in 2014. Note this does not include the rooftop solar energy used by each solar household or business.

Total electricity consumption from the grid has remained steady since 2014 due to the increased number and capacity of solar installations.



11

Regional State of the Environment Report Summary 2020

### Each Council's electricity and fuel consumption

has been collected since 2010 in most cases. For all Councils, emissions from general electricity consumption are the largest contributor to total greenhouse gases (75% on average), usually followed by fuel (17%) and street lighting (8%).

Almost all councils have adopted targets for renewable energy and/or policies for net zero emissions by certain dates, with some investing in multiple large solar installations, purchasing green power, and transitioning their fleet to hybrid and electric vehicles. Byron Council has a 100% carbon neutral electricity agreement, thereby offsetting nearly 100% of electricity emissions. Rous County Council generates enough solar power to run their administrative premises.

### The following graph show emissions by source for each council

General trends show:



All councils have reduced street lighting emissions due to LED retrofits.



Electricity use from the grid is decreasing due to increased solar installations.



Fuel use is variable and often increases when large works are required such as road repairs after flood.



Abatement measures are now showing a real impact on reducing emissions for some councils.

\*Note that waste and waste water emissions are not included.

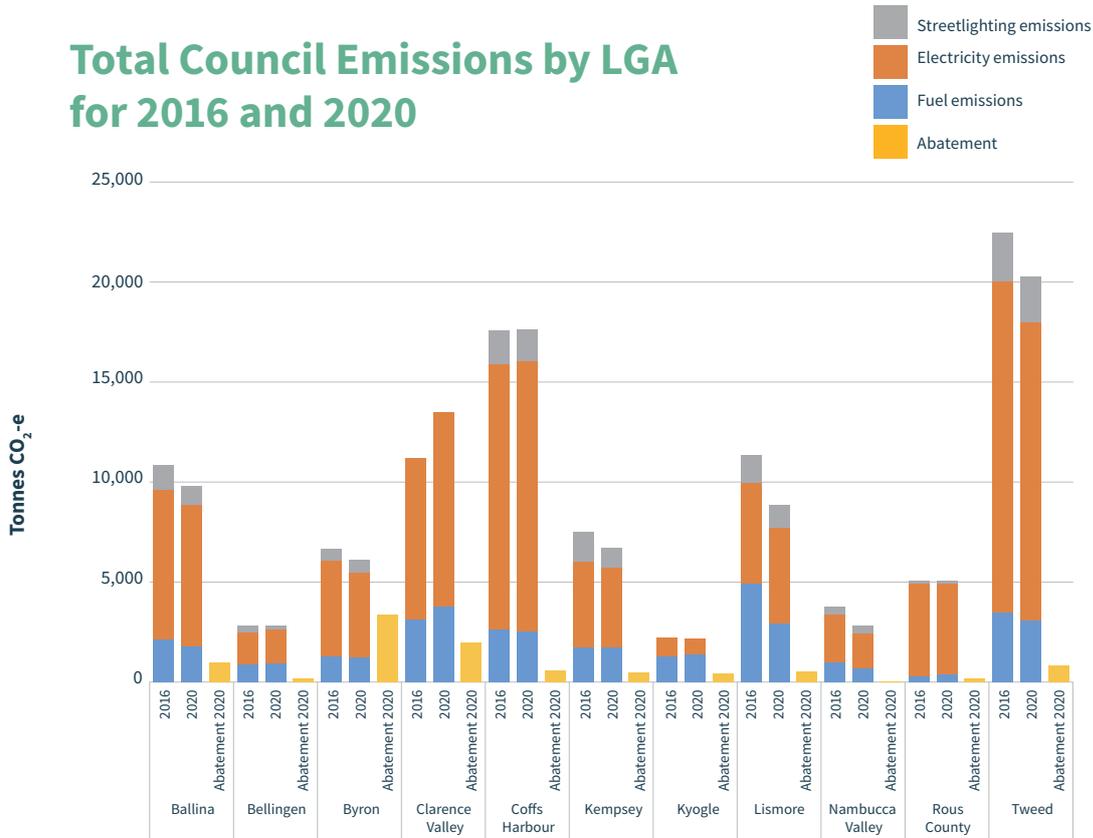


Photo: Bellingen Council

12

Regional State of the Environment Report Summary 2020

### Total Council Emissions by LGA for 2016 and 2020



### Progress towards net zero emissions for each Council

LGA	Renewable energy target	Emissions reduction target
Ballina	100% by 2030	100% by 2030
Bellingen	100% by 2030	100% by 2040
Byron	100% by 2027	100% by 2025
Clarence Valley	50% by 2030	40% by 2030
Coffs Harbour	100% by 2030	50% by 2025
Kempsey	100% by 2030	70% by 2030 for energy
Kyogle	100% by 2030	-
Lismore	100% by 2023	-
Nambucca Valley	60% by 2030	70% by 2030
Port Macquarie - Hastings	100% by 2027	-
Richmond Valley	-	-
Rous County	100% by 2030	-
Tweed	25% by 2022; 50% by 2025	100% by 2030

*Photo: Byron Shire Council*

13

Regional State of the Environment Report Summary 2020

### 1.4 Surface water demand

KEY FACTS



#### Residential Water Use

dropped in 2019-20 for 10 of 12 LGAs during the very dry 2019. Byron showed an increase of 9%, with Kyogle increasing by 5%.



#### Non-residential Water Use

remained high or increased during 2018-2019 in Byron, Kyogle, Nambucca, Richmond Valley and Kempsey LGAs by over 15% since 2016.



#### Water Restrictions

All councils introduced water restrictions during the drought declared years in 2018-2020, with some at Level 4 – severe.



#### Imported Water

Kyogle Council imported water from outside the region during the 2017/18/19 drought.



#### Water Supply Impact

The 2019 bushfires impacted water supply catchments in the region, including Rous County Council's Emigrant Creek catchment which supplies four LGAs, and Clarence Valley's Shannon Creek dam supplying two LGAs.



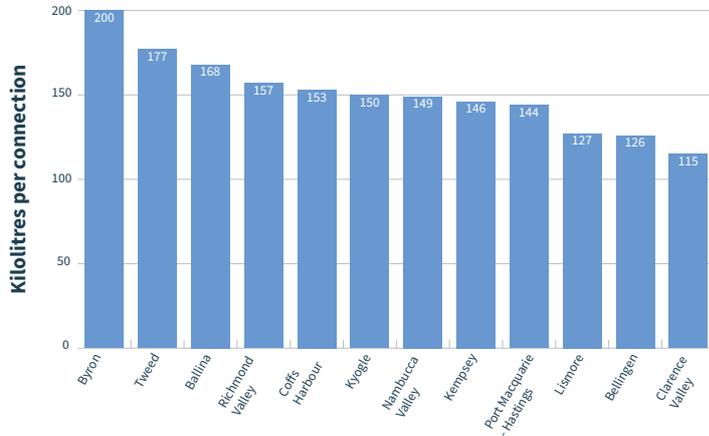
Photo: Upper Macleay River - Paul Koch

14

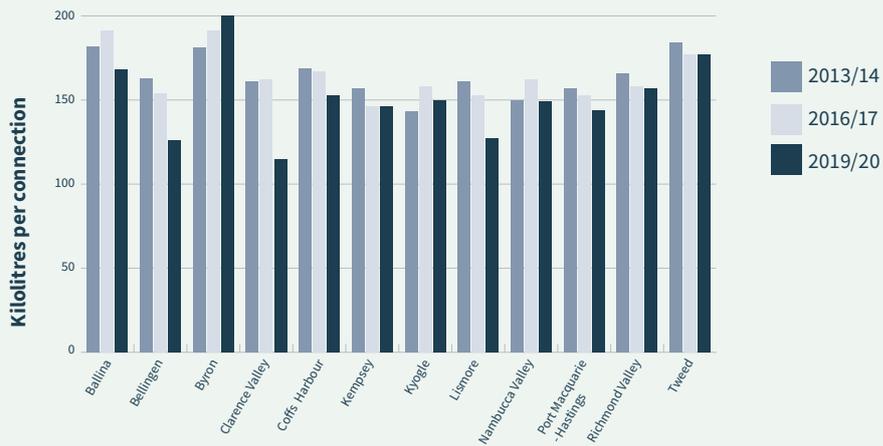
Regional State of the Environment Report Summary 2020



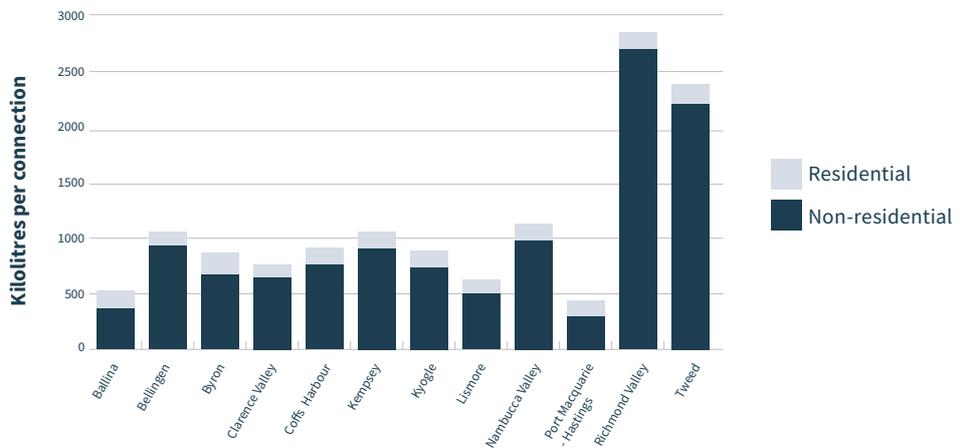
Residential Water Use - Kilotres per connection 2019/20



Residential Water Use - Kilotres per connection



Residential Versus Non-residential Water Use - 2019/20



15

Regional State of the Environment Report Summary 2020

### 1.5 Waste



**Waste Data**  
is variable so trends are difficult to identify



**50%** On average, 50% of **total waste**  
**+**  
**59%** **domestic waste** recycled/reused and has remained steady since 2012



**Natural disasters** and legislative changes substantially increase the amount of waste produced



Many LGAS are **nearing capacity** for their landfill sites



The **container deposit scheme** has shown a reduction in bottles on beaches and in waterways for the North Coast Region

Trends show an increase in construction/demolition waste to landfill in recent years



Photo: Hat Head - Paul Koch

Waste is a key issue for the north coast region with many landfill sites nearing capacity, pressure to find better ways to manage our waste, and the need to reduce greenhouse gas emissions from landfill. Trends are difficult to identify in the waste data as it is variable, and natural disasters cause large inputs into waste facilities. For example, in 2013, Ballina’s storms increased green waste by 12,000 tonnes, in 2016 floods added waste to landfill for many LGAs, and the 2019-20 bushfires impacted Clarence Valley Council’s waste more than any other LGA in the region despite hazardous waste such as asbestos being removed to separate facilities under the NSW Government’s clean up. Coffs Harbour’s biomass facility had a fire in 2016 which closed it for 10 months, resulting in much of Nambucca Valley, Bellingen and Coffs Harbour waste going to landfill.

Additional pressures to landfill came in late 2018 when the NSW Environmental Protection Authority (EPA) revoked the recovery of organics from mixed waste (ie red bins) for use in composting due to risks associated with chemical and physical contaminants.

For total waste generated in 2020, Bellingen, Nambucca Valley and Coffs Harbour had the highest

rates of diversion from landfill at 68%, 67% and 60% respectively, while Kyogle and Clarence Valley had the lowest at 26% each. However, the waste data is of low confidence and is impacted by natural disasters.

For domestic waste only in 2020, Bellingen, Nambucca Valley and Coffs Harbour again had the highest rates of diversion from landfill at 73%, 71% and 72% respectively, while Kyogle and Kempsey had the lowest at 29% and 35%.

Per capita domestic waste shows a decreasing trend since 2012, dropping from a regional average of 435 kilograms of waste per person in 2012 to 358 in 2019. In 2020, Byron and Coffs Harbour have the highest per capita domestic waste rates, with Kyogle by far the lowest, followed by Lismore, Richmond Valley and Bellingen.

The container deposit scheme was introduced in NSW in 2018, and collected 44.2 million bottles and cans in its first 6 months for the North Coast Region. This has increased to 86.3 million bottles and cans in the first 6 months of 2020. This program has contributed to fewer bottles and cans on beaches and in waterways in recent litter and debris research which is still ongoing (see section 4.1).

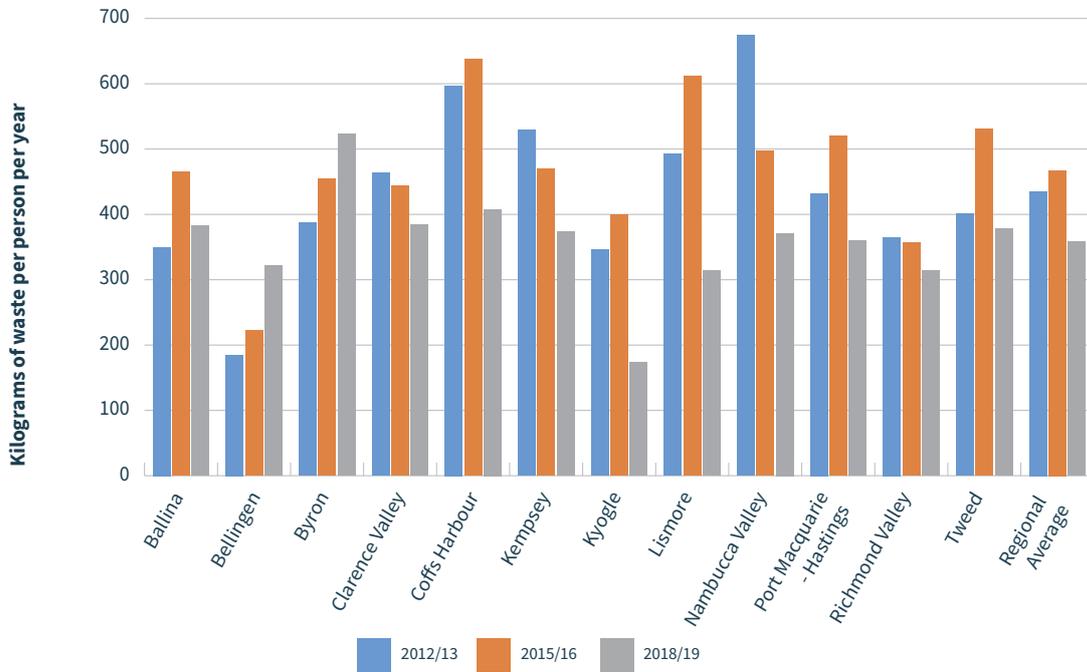


Photo: Bellingen threatened species tree planting day - R Dwyer

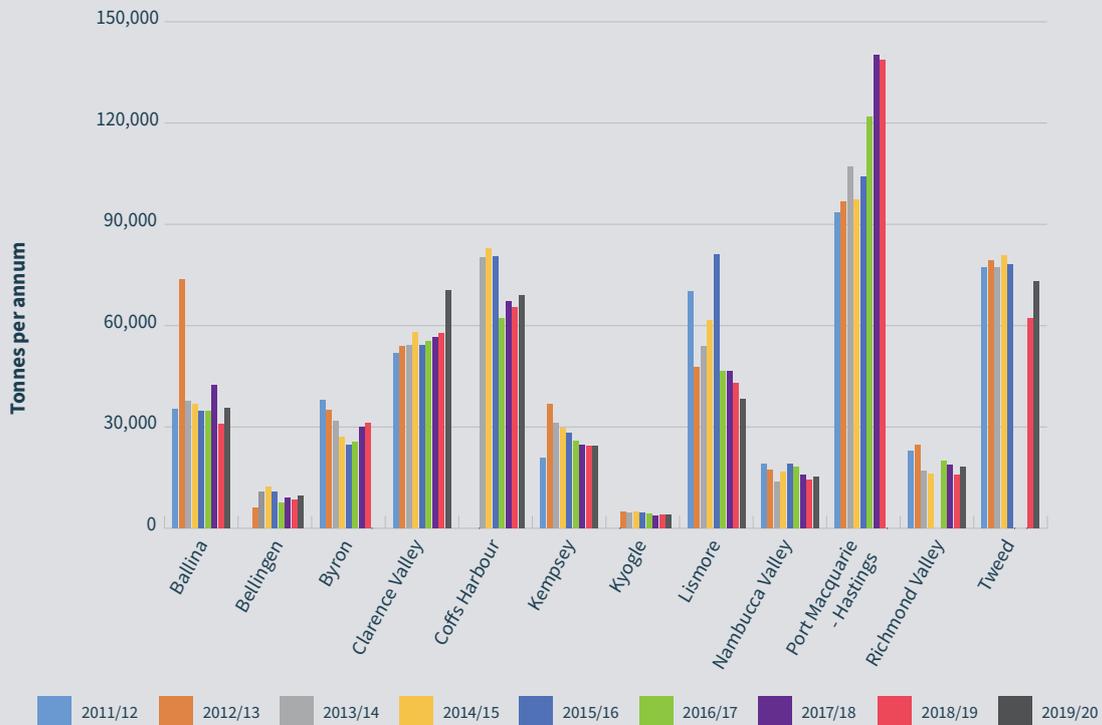
17

Regional State of the Environment Report Summary 2020

**Per capita domestic waste generated in 2013, 2016 and 2019 in kilograms kerbside collection only**



**Total waste generated in tonnes by year and LGA**



## 1.6 Environmental levy

KEY FACTS

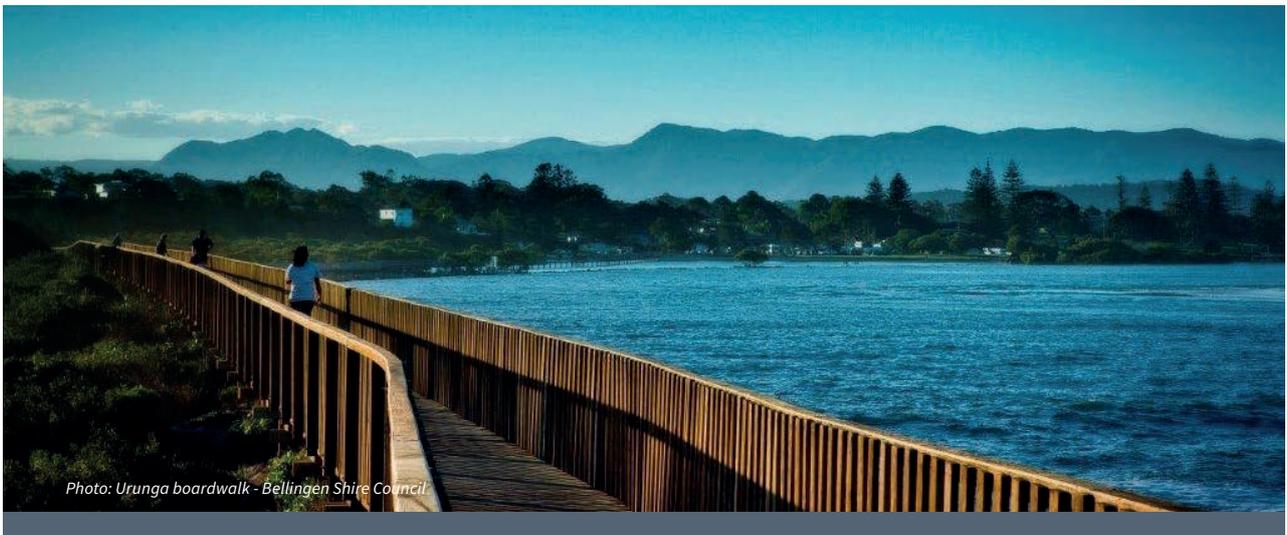


### 8 of 12

councils in the region have a levy on rates to fund environmental works and programs either conducted by council themselves or used to fund community and other projects to carry out necessary on-ground works. Some councils have other levys such as stormwater levys to fund other works that benefit the environment.

### Environmental Levy Funding 2020

LGA	\$ 2019 - 20
Ballina	\$323,100
Bellingen	\$246,900
Byron	\$401,164
Clarence Valley	no levy
Coffs Harbour	\$1,300,000
Kempsey	\$814,308
Kyogle	no levy
Lismore	\$578,260
Nambucca Valley	\$425,000
Port Macquarie - Hastings	\$875,800
Richmond Valley	no levy
Rous County	no levy
Tweed	no levy
TOTAL	\$4,964,532.00



19

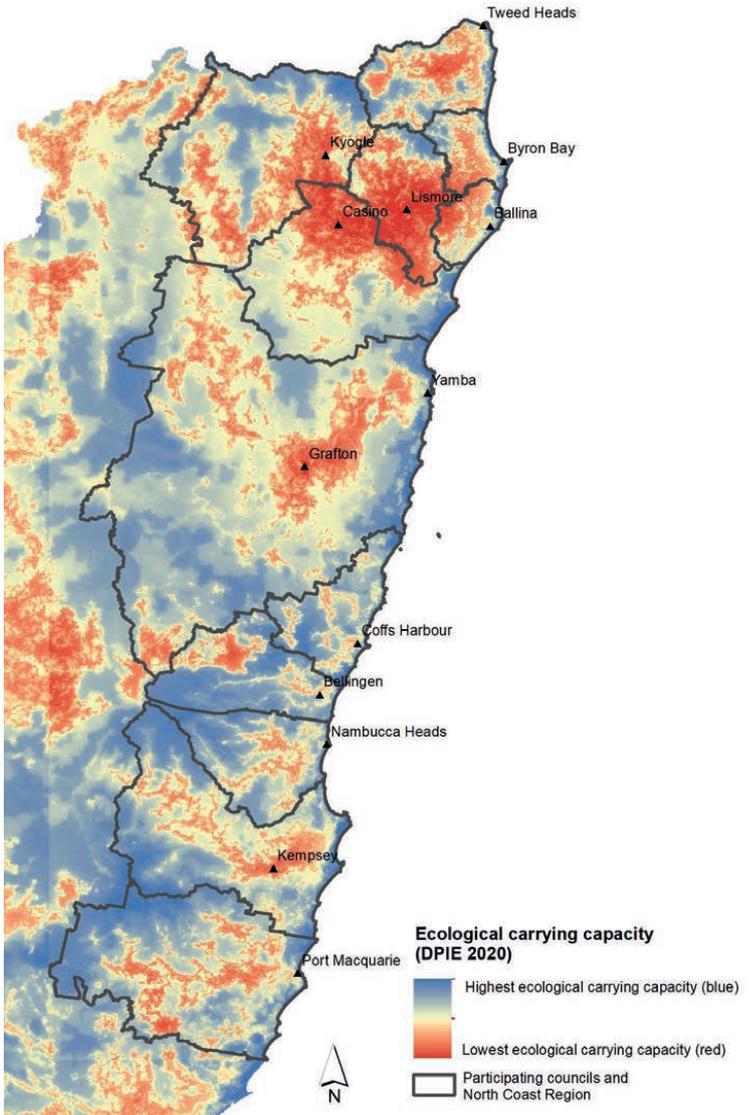
Regional State of the  
Environment Report  
Summary 2020

# 02 Biodiversity & Vegetation



Photo: Brett Vercoe

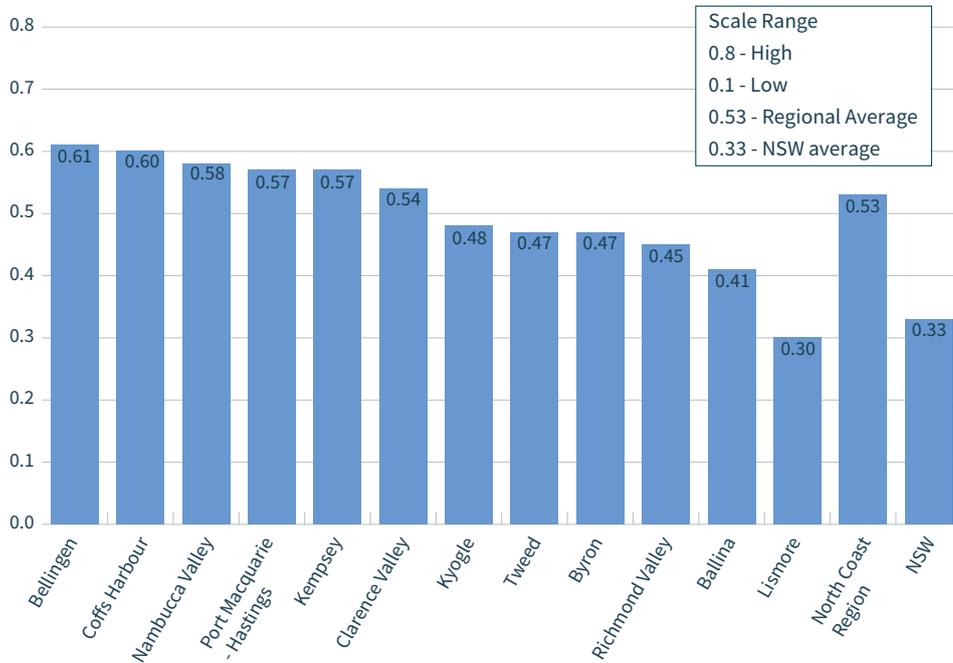
## 2.1 Ecologically functional landscapes



The data reported on in the 2012 and 2016 reports has not been updated since then. However, a new method for measuring habitat condition was developed in 2017 after the introduction of the NSW Biodiversity Conservation Act 2016 in order to monitor changes. The indicator reported on here is ecological carrying capacity, which is defined as “the ability of an area to maintain self-sustaining and interacting populations of all species naturally expected to occur there, given the habitat resources, such as food and water, and connections to other habitat, needed for persistence”. (DPIE 2020)

Results from this modelling are summarised below by LGA and for the region:

**Ecological carrying capacity**

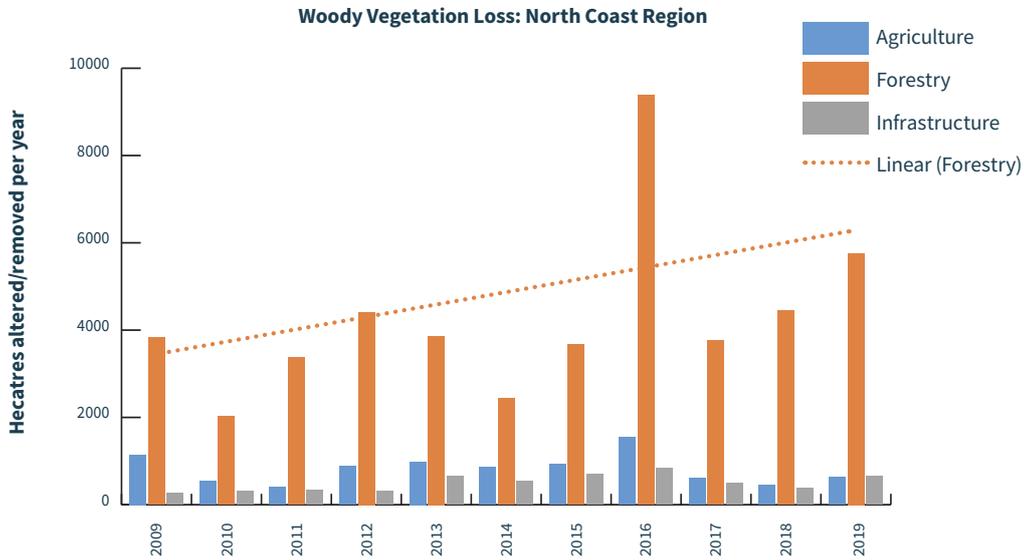


The modelling indicates the northern LGAs have a below-average score for ecological carrying capacity, with Lismore being the lowest at 0.30 – below the NSW average of 0.33 – primarily due to historical clearing and smaller protected areas. The southern LGAs are above the regional average and the NSW average, with the third highest values in the state (DPIE 2020).



Photo: Tiger quoll (top left) - Brett Vercoe, Yellow-bellied glider (bottom left) - Coffs Harbour City Council, Brush-tailed rock-wallaby (right) - Brett Vercoe

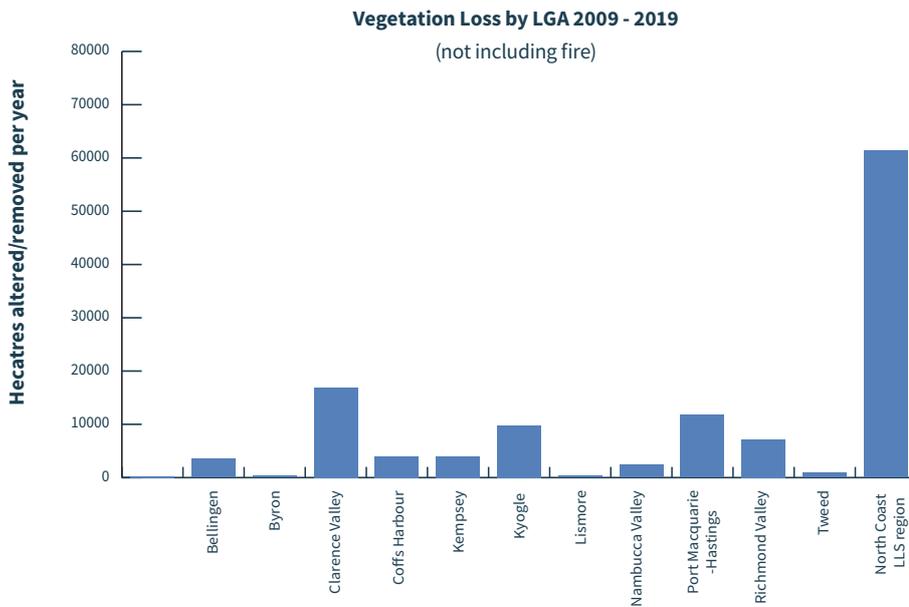
Net Vegetation Change



2016



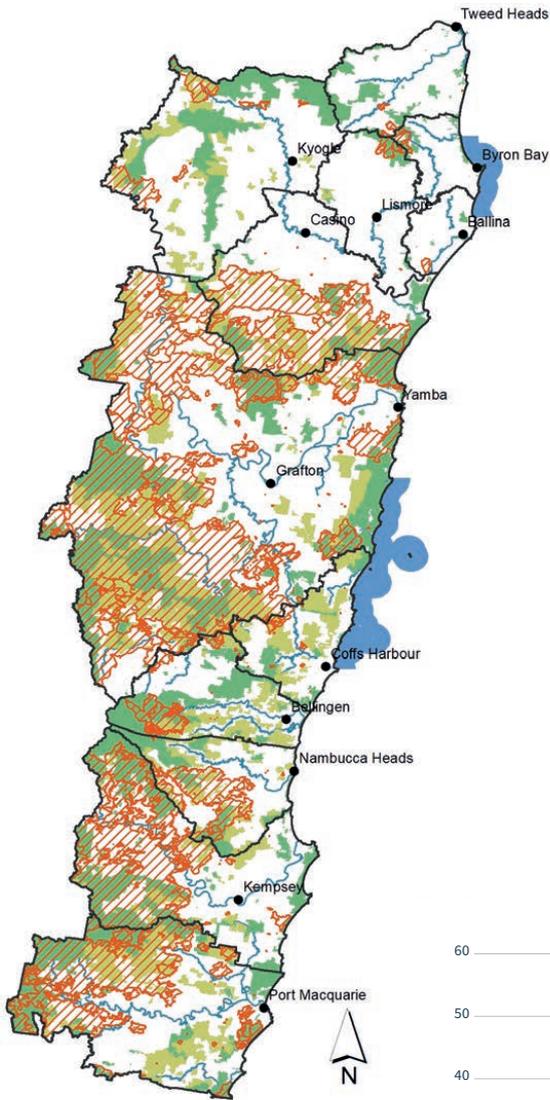
2016 saw a significant increase in vegetation clearing NSW-wide which has remained above the average of the previous 10 years since then, which was under a different legislative framework (DPIE 2021). The LGAs with the highest level of vegetation loss are Clarence Valley and Port Macquarie-Hastings, Kyogle, then Richmond Valley. A significant increase in vegetation loss was observed in these LGAs from 2016 with the change in legislation.



23

Regional State of the Environment Report Summary 2020

## Bushfires 2019-2020



- Legend**
- Participating councils and North Coast Region
  - Bushfire impacted area
  - National Parks
  - State Forests
  - NSW Marine protected areas
  - Main Rivers

KEY FACTS

In 2019/20  
**34%**  
 of entire north coast region was  
**BUSHFIRE-IMPACTED**  
 over 1 million hectares.



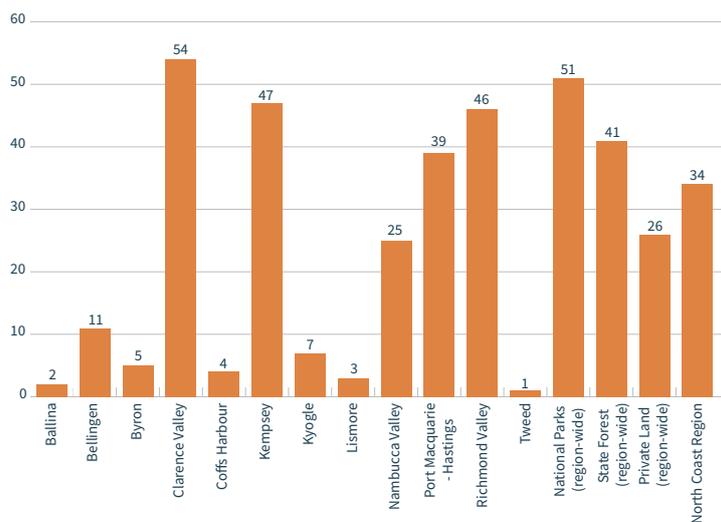
**51%**  
 of region's National Park area was  
**BUSHFIRE-IMPACTED**



The 2019-20 bushfires impacted 1,098,479 hectares of bushland in the North Coast region of NSW. Clarence Valley topped the region for bushfire impact with 562,603 hectares burned, or 54% of the LGA, followed by Kempsey with 160,072 hectares burned or 47% of the LGA, then Richmond Valley with 140,692 hectares or 46% burned, and Port Macquarie-Hastings with 142,283 hectares or 39% burned.

Mapping shows the extent of the bushfires, and the land tenure. 51% of the Region's National Park was impacted (337,300 hectares), 41% of the Region's State Forest (266,800 hectares), and 494,400 hectares or 26% was private land.

### % Land bushfire-impacted 2019-20



## Private Native Forestry

Private native forestry (PNF) is an approved form of forestry on private land. Landholders must apply for a PNF plan approval under the *Local Land Services Act 2013*. There continues to be concern that approvals are being given for areas designated as koala habitat under gazetted koala management plans, and for areas of rainforest, and that PNF is inappropriate in areas with very poor habitat particularly post the 2019-20 bushfires.

Data for the 2016-2020 period has not been made available by LLS for this report.

### Area of Private Native Forestry approvals by year and LGA (source: EPA 2016)

LGA	2007	2008	2009	2010	2011	2012	2013	2014	2015
Ballina	-	-	-	-	25	14	49	-	-
Bellingen	17	1,398	947	794	1,786	1,381	377	554	280
Byron	-	-	-	-	59	94	85	-	-
Clarence Valley	4,655	22,859	35,663	17,561	22,793	16,804	9,684	9,921	2,364
Coffs Harbour	32	881	1,100	1,229	610	797	604	570	11
Kempsey	1,950	4,460	2,789	2,190	2,076	2,345	3,182	1,649	91
Kyogle	1,728	3,016	4,022	3,287	3,079	3,628	1,241	2,433	12
Lismore	-	397	150	176	34	259	59	-	-
Nambucca Valley	785	1,091	2,094	1,415	1,765	1,383	714	704	267
Port Macquarie - Hastings	1,428	3,288	1,381	2,986	2,790	2,548	1,336	1,664	1,259
Richmond Valley	6,146	8,026	5,634	2,808	2,650	4,506	2,877	2,571	507
Tweed	-	139	124	215	11	79	274	20	-
<b>Total Area (Ha)</b>	<b>16,741</b>	<b>45,555</b>	<b>53,904</b>	<b>32,652</b>	<b>37,678</b>	<b>33,838</b>	<b>20,482</b>	<b>20,086</b>	<b>4,791</b>

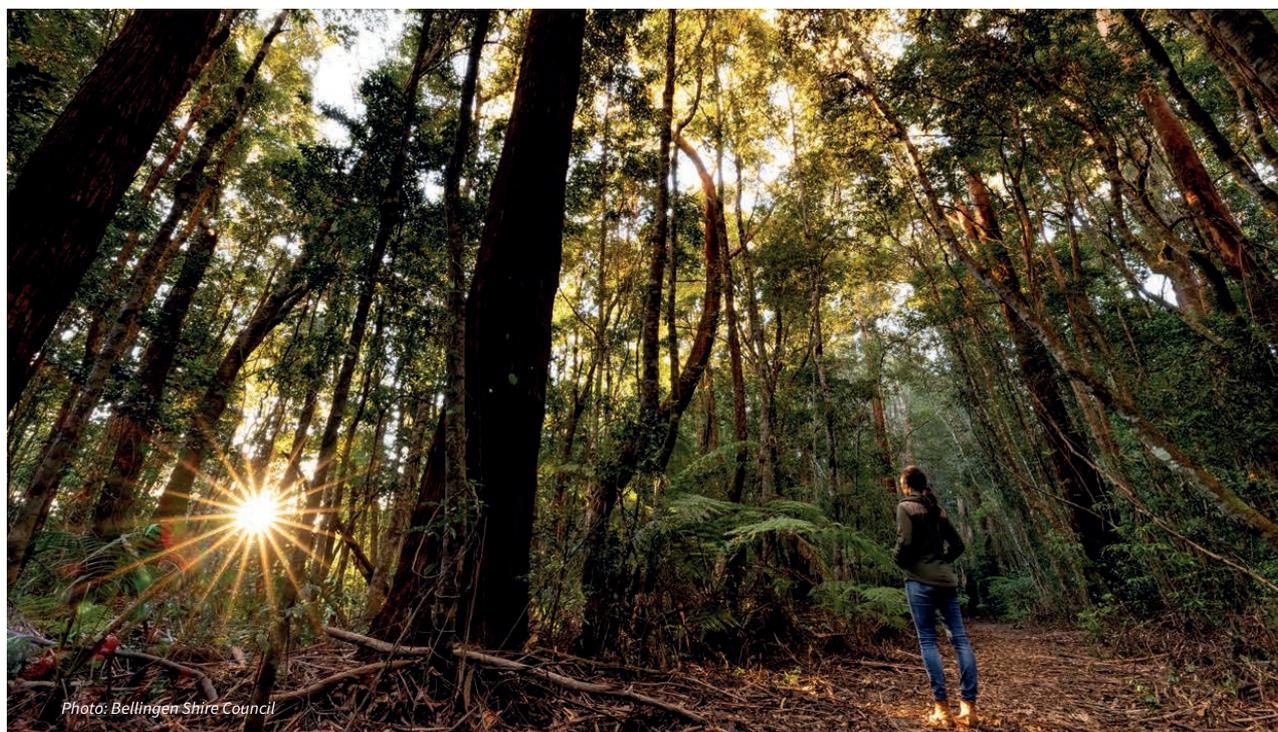


Photo: Bellingen Shire Council

25

Regional State of the Environment Report Summary 2020

## 2.2 Native Vegetation Restoration

**KEY FACTS**

**Landcare Volunteers**  
contribute the equivalent of  
**35**  
full time positions each year!



**325**  
**Landcare Groups**  
working on  
community properties



**5,500**  
**Landcare Members**  
Region-wide



Over **4,000** Hectares

of land rehabilitated annually in the Region



### External Grant Funding

is essential for habitat rehabilitation projects



### Councils, Landcare Groups & Local Aboriginal Land Councils

all collaborate on environmental projects rehabilitation projects



LGA or County Council	Annual average area restored (ha)	Annual average trees planted	Volunteer hours*
Ballina	775	5,540	9,000
Bellingen	210	1,800	500
Byron	265	2,500	9,000
Clarence Valley	500	2,000	2,500
Coffs Harbour	1050	3,000	12,000
Kempsey	200	500	2,000
Kyogle	50		2,300
Lismore	210	7,000	6,500
Nambucca Valley	260	1,000	2,000
Port Macquarie - Hastings	500	400	10,000
Richmond Valley	50		2,000
Tweed	100	1,500	7000

\* Volunteer hours are estimates based on approximate volunteer numbers and working bee days and may be underestimated

Each LGA manages its own public land, and works on both public and private land are achieved through the work of Councils and the various Landcare groups, the Local Aboriginal Land Councils and other community groups. Vegetation rehabilitation is dependent on external grant funding in most cases, from organisations such as North Coast Local Land Services, NSW Environmental Trust, NSW DPIE Fisheries, Saving our Species program, and the Australian Landcare Program among others. Works target riparian rehabilitation, weed control, revegetation, livestock exclusion fencing, wetland and dune rehabilitation, and threatened species habitat. Since the 2019 bushfires, regeneration works have also targeted affected areas of both private and public land. Volunteers and landholders provide a vast rehabilitation workforce, which is generally underestimated.

26

Regional State of the Environment Report Summary 2020

## 2.3 Conservation: reserves & agreements

### 2.3.1 Protection of Native vegetation

KEY FACTS

for the North Coast Region:

Over **8,000** hectares added to National Parks since **2016**

**21%** of the region is in National Park

**24%** is State Forest

**4%**

of private land is under environmental zoning through Council LEPs

**0.2%** of private land is under conservation agreements

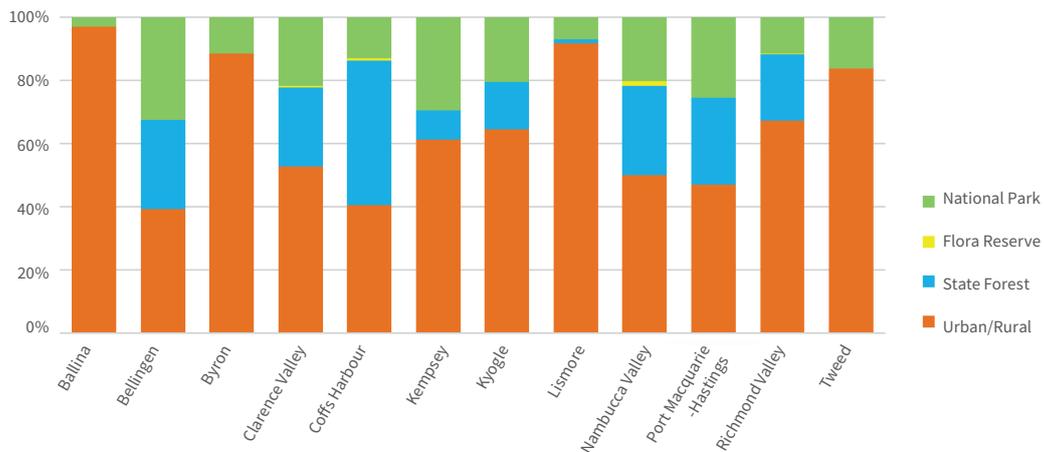
Up from **25,128** hectares in **2016**

to over **43,000** in **2020**

*Photo: Dorrigo National Park - Bellingen Shire Council*

With the area of both private and public forested land as well as National Parks impacted by the 2019 bushfires, the increasing area of private land under conservation agreements is very important. However, it represents a very small area (0.2%) of the total privately-owned rural land in the region.

#### Land use by LGA



### 2.3.2 Council land-use zoning

All LGAs have a Local Environmental Plan (LEP) which governs land use and includes areas of environmental protection. In 2012, the northern LGAs of Byron, Ballina, Kyogle, Lismore and Tweed had their environmental zones (E zones) deferred by the then Department of Planning and Environment. Since 2016, the affected LGAs have each worked to finalise their chosen option for environmental protection. In some cases, the area under environmental protection has reduced, in others it has remained the same. One council is in the process of proposing to use a biodiversity overlay in rural zones in place of environmental zones, which would still provide protections for riparian and other high biodiversity land.

#### Council Environmental Land-use Zoning by LGA in 2020

LGA	Area national parks estate (ha)	% LGA	Area environmental protection (ha)	% LGA	Change since 2012 %
Ballina	1,453	3.0	not finalised		
Bellingen	51,915	32.5	10,873	6.8	
Byron	6,570	11.6	2,290	4.0	
Clarence Valley	227,541	21.8	56,781	5.4	
Coffs Harbour	15,168	12.9	7,866	7	
Kempsey	99,645	29.5	12,092	3.6	
Kyogle	73,725	20.6	not finalised		Proposed biodiversity overlay
Lismore	9,128	7.1	377	0.3	
Nambucca Valley	30,273	20.3	1,784	1.2	
Port Macquarie - Hastings	93,523	25.4	5,871	1.6	
Richmond Valley	35,128	11.5	not finalised		
Tweed	21,467	16.3	13,613	10.3	
Reporting region	665,536	20.8	129,565	4.0	-0.28



Photo: Nest box installation post-bushfire - S Hessey

## 2.4 Native flora & fauna

KEY FACTS

**5** New

critically endangered species

**1** New

critically endangered community

**4** New

endangered species

Since our previous report in 2016 and the introduction of the *Biodiversity Conservation Act 2016*, the classifications for endangered species have been amended. To ensure our reporting is consistent with previous reports, the previous categories have been used.

Eight of the additions to endangered species listings in the region since 2016 have been flora, with one aquatic species – Whites seahorse.

Status in NSW	Total in North Coast Region	Change since 2016	Species	Relevant LGA
Critically endangered species - E4A	14	5 new flora	Scrub Turpentine - <i>Rhodamnia rubescens</i>	North Coast Region
			Native Guava - <i>Rhodomyrtus psidioides</i>	North Coast Region
			<i>Kardomia prominens</i> - a shrub	Clarence Valley
			Lenwebbia sp. Main Range - small tree restricted to higher altitudes	Tweed to Clarence Valley
			<i>Phebalium speciosum</i> - a shrub	Tweed, Lismore, Kyogle, Richmond Valley
Critically endangered community - E4B	2	1	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast	Most of North Coast region
Endangered population - E2	6	no change		
Endangered ecological community - E3	17	no change		
Endangered species - E1	150 - 38 fauna, 112 flora	3 new flora	<i>Gingidia rupicola</i> - a small herb	Coffs escarpment; Clarence Valley, Bellingen
			Magenta Lilly Pilly - <i>Syzygium paniculatum</i>	Port Macquarie-Hastings, Kempsey
			Knicker nut - <i>Caesalpinia bonduc</i> - recently discovered in the region	Port Macquarie-Hastings, Kempsey, Clarence Valley
Key Threatening Processes - KTP	37	No change		
<b>Aquatic Species</b>				
Critically endangered	2	no change	Grey nurse shark, marine brown alga <i>Neriea lophocladia</i>	
Endangered	6	1	Eastern freshwater cod, Oxleyan pygmy perch, Southern bluefin tuna, Scalloped hammerhead shark, Southern purple spotted gudgeon, Whites seahorse	North Coast Region

The Saving our Species program was introduced in 2016 with the new *Biodiversity Conservation Act 2016*. It currently has projects in all LGAs within the region covering 92 endangered or vulnerable species, populations and communities. Program actions include surveys and monitoring, vertebrate pest control, weed control, fire control, managing human disturbance, landholder engagement, and species translocations. Councils assist with implementation of species recovery and threat abatement plans through a range of strategic plans, operational practices, and environmental assessments for development.

## 2.5 Invasive species

### 2.5.1 Invasive weed species



In 2020, nearly **8,000 km** of high-risk pathways and **2,700** high-risk sites were treated for weeds in the region through the **Weeds Action Program**.



The **Biosecurity Act 2015** came into force in **July 2017**, and aims to prevent the introduction and spread of pests, diseases, weeds and contaminants.



Numerous **local control authorities** reported new weeds appearing during and after Pacific Highway upgrade works.

#### Key current weed threats are:

- Tropical soda apple – key region-wide weed threat – further resources needed after fires and floods
- Cockspur coral tree – increasing spread
- Grader grass – newly introduced since 2016 during the Pacific Highway upgrade

Biological controls are being used for salvinia, madeira vine and parramatta grass. Additional funding from various sources such as Local Land Services and bushfire recovery funding has allowed additional targeted weed control programs, particularly in bushfire-impacted areas. Ongoing riparian weed control is required to protect rivers and riverbanks.

2020 High risk weed sites & pathways	Bellingen	Clarence Valley	Coffs Harbour	Kempsey	Nambucca Valley	Port Macquarie-Hastings	Rous County Council*	Region total
High risk sites inspected (number)	113	817	420	275	32	258	1,500	3,302
High risk pathways inspected (km)	3,428	3,512	884	1,006	482	2,084	5,731	17,127
High risk sites treated (ha)	190	93	310	155	215	324	1,424	2,711
High risk pathways treated (km)	646	597	342	370	1,200	1,245	3,458	7,858

\* Rous County Council is the local control authority for Tweed, Byron, Ballina, Lismore, Kyogle and Richmond Valley LGAs

### 2.5.2 Invasive Fauna Species



Photo: Cow eating tropical soda apple - Geoff Foster



Photo: Cane Toad - Nigel Cotsell

#### Key Fauna Pest Species

Deer, pigs, wild dogs, foxes, feral cats, cane toads, indian mynas, rabbits and hares, carp, mosquito fish.

#### Pathogens

are of increasing concern in the area

#### Councils

are involved in managing vertebrate pests

From 1 July 2017, the management of pest animals came under the *Biosecurity Act 2015*.

In the North Coast region, key fauna pest species are deer, pigs, wild dogs, foxes, feral cats, cane toads, indian mynas, rabbits and hares, carp, mosquito fish.

Deer have reportedly increased their distribution and abundance by up to 60% in NSW since 2016, and have become an increasing issue in the north coast region, particularly in Port Macquarie-Hastings and Coffs Harbour LGAs.

Carp and goldfish sightings have increased in areas where they are not usually seen.

Feral cats are a continuing problem.

Fall army worm were detected in the north coast region in 2020.

Crazy ants were detected in Lismore in 2018.

Cane toads populations appear to be static with management containing their spread in the region.

Pathogens are of increasing concern in the area and include –

- Myrtle rust affecting plants from the family Myrtaceae.
- The frog fungus infection chytrid fungus.
- Phytophthora cinnamomi (root rot fungus) which causes native plant dieback.

Councils continue to manage vertebrate pests, often in conjunction with Local Land Services and the regional and local Landcare groups.

Actions include:

- Loan of traps for Indian mynas, cats, wild dogs, foxes, rabbits.
- Cane toad musters, exclusion fencing, tadpole/egg collections.
- Collaborating with Local Land Services and for wild dog and fox control.
- Carp musters in the Richmond Valley.
- Education campaigns.
- Regional feral deer program in Tweed, Byron and Kyogle LGAs
- Regional cat management issues paper in development with a number of stakeholders in the northern LGAs

31

Regional State of the  
Environment Report  
Summary 2020

# 03 Land Use & Soils



Photo: Lismore City Council

32

Regional State of the Environment Report Summary 2020



KEY FACTS

Photo: Lismore City Council



### Soil Condition

Is decreasing due to intensification of landuse.



### Land Use Mapping

Confirms intensification in the North Coast Region.

Since the 2016 report, landuse mapping was completed, and some new analyses conducted of soil acidification. There has been no comprehensive update of soil condition and land management within capability since our previous report in 2016.

33

Regional State of the Environment Report Summary 2020

### 3.1 Soil condition



A new study by the CSIRO has found the intensification of landuse from cropping and horticulture, with associated increased use of high nitrogen fertilisers, has increased soil acidity on the NSW North Coast, in areas that were previously unaffected. Overuse of fertilisers also creates increases in on-farm acidity and deficiencies in other soil nutrients, and off-farm with high inputs into waterways, into groundwater, and nitrous oxide emissions (McKenzie et al, 2017). Soil organic carbon levels are declining under current land management, and this region has the highest hillslope soil erosion rates in NSW, averaging 5.57 tonnes per hectare per year over the period 2000 to 2014. Salinity is another concern for soil quality in the North Coast region, with low lying areas north of the Richmond River to the Queensland border, and coastal areas in the south of the region at highest risk of very high salinity. Acid sulfate soils are being managed in the region, and there is an improvement due to remediation works conducted (McKenzie et al, 2017).

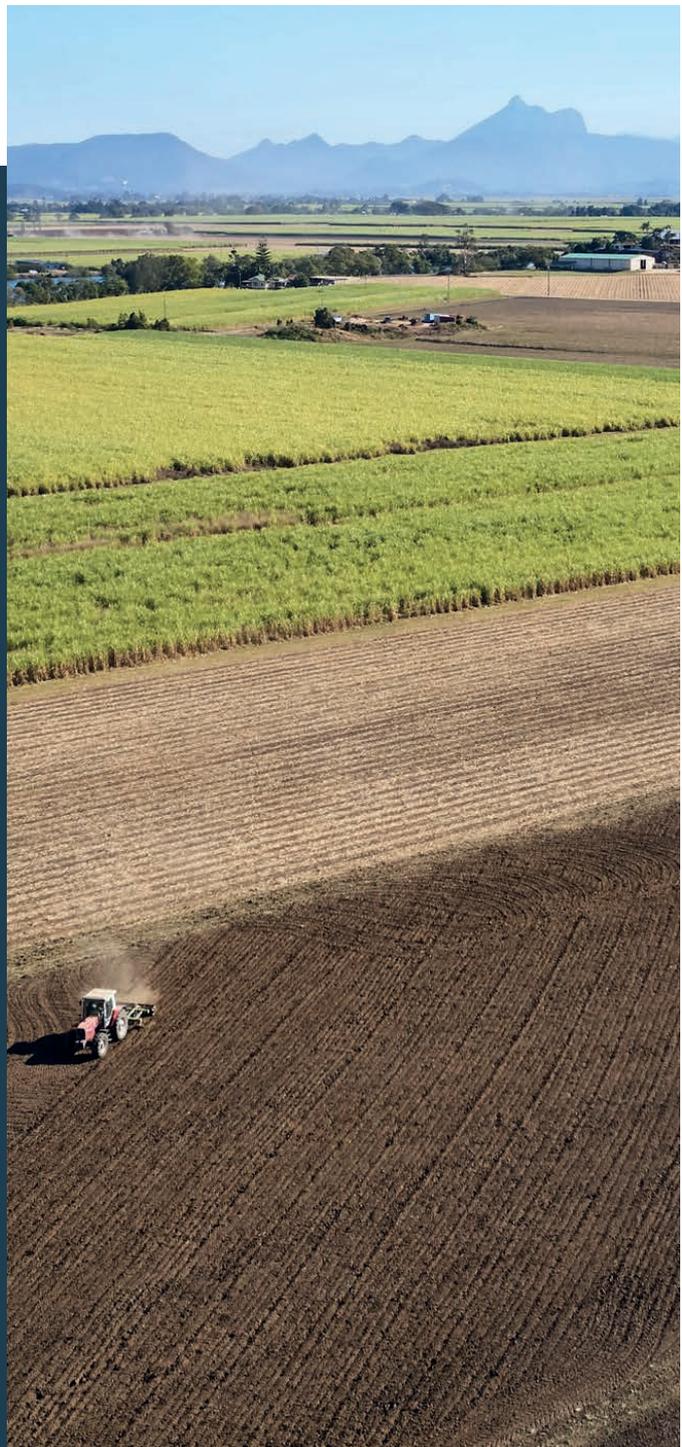


Photo: Ryan Fowler

### 3.2 Landuse

The landuse mapping completed by DPIE in 2016 used aerial imagery to classify landuse in the region. The figures below are similar to those from the 2013 landuse mapping and do not capture the recently observed substantial intensification of landuse since 2016. For example, in the Coffs Harbour region, bananas have been replaced by hothouses, which are a more intensive landuse requiring land modification, construction of hothouses, and large water, fertiliser and pesticide applications when compared to bananas, but are still considered as horticulture. Although land use practices have generally improved, the increase in intensity has increased pressure on soil condition.

Monitoring of land disturbance has shown an increase in disturbance from higher intensity land uses (NSW SOE 2018), which reflects what has been observed in the region with the transition from grazing and former lower intensity horticulture to intensive plant agriculture, particularly nuts, hothouse horticulture (cucumbers, tomatoes) and berries.



Photo: Dairy - Kyogle Council



Photo: Horticulture Coffs Harbour - Shane White

Land Use Summary 2016	Area (hectares)	% North Coast Region
Conservation/minimal use	1,306,657	40.79
Grazing	1,021,256	31.88
Forestry	542,241	16.93
Residential and farm infrastructure	86,378	2.70
Cropping (sugar, coffee, silage, cereals)	61,755	1.93
Intensive plant agriculture - IPA (includes transition land that was IPA)	31,858	0.99
Transport and communication	14,991	0.47
Services and utilities	9,526	0.30
Mining	1,628	0.05
Intensive livestock agriculture	1,581	0.05
Manufacturing/industrial	1,134	0.04

Monitoring of land disturbance has shown an increase in disturbance from higher intensity land uses (NSW SOE 2018).



### 3.3 Funded land & soil management activities

Data for soil improvements and erosion controls was not available for this summary. However it will be reported on in the main Regional State of the Environment 2020 report due in November 2021.

### 3.4 Acid sulfate soils

Acid sulfate soils (ASS) are found in all coastal LGAs in the region. Comprehensive mapping has identified and classified them, and the current status of management in each LGA is in the table below. Most LGAs manage ASS through their Local Environmental Plan (LEP) and Development Control Plans (DCP). Rous County Council is the Flood Mitigation Authority for the Richmond River floodplain, responsible for reducing the environmental impact of flood management infrastructure including those located in areas of acid sulfate soils. Sugar cane is often grown in areas of ASS and the industry self-regulates the management of ASS.

LGA	Acid Sulfate Soils Management
Ballina	Managed through Local Environmental Plan except for sugar cane
Bellingen	Managed through Development Control Plan
Byron	Managed through Development Control Plan
Clarence Valley	Managed through Local Environmental Plan and ongoing liaison with landholders who have had remediation works or control structures on their properties
Coffs Harbour	Managed through Development Control Plan
Kempsey	Managed through Local Environmental Plan and ongoing liaison with landholders who have had remediation works on their properties
Kyogle	NA
Lismore	NA
Nambucca Valley	Managed through Local Environmental Plan together with remediation undertaken by Council on private land with ongoing monitoring
Port Macquarie-Hastings	All ASS remediated in LGA
Richmond Valley	Managed through Local Environmental Plan except for sugar cane
Rous County Council	Works cooperatively with landowners and stakeholders to remediate historical disturbance of acid sulfate soils; has an Active Floodgate Management Program.
Tweed	Managed through Local Environmental Plan and ongoing liaison with landholders who have had remediation works on their properties



Photo: Craig Stehn



Photo: Lismore City Council



Photo: Bill Larkin

### 3.5 Mining

KEY FACTS



The area under active mining has reduced since 2016, from 399.6 hectares to 284.7 hectares in 2020, with the closure of a clay extraction site and 2 very small mineral mines.

The area under current exploration license has increased since 2016 from 168,061 ha to 303,414 ha in 2020. Exploration is not an approval to mine, but a search for what minerals may lie below the surface. If suitable minerals are found, then a separate comprehensive approvals process must be undertaken. The majority of exploration licences are not developed into active mines (NSW Mining 2021).

Activity	Year	Number	Area (Hectares)	Substances identified
Active mines	2016	8	399.6	Antimony, Gold, Silver, clay, dolomite, phosphate, limestone, gold, silver
	2020	4	284.7	Antimony, Gold, Silver, clay, dolomite, phosphate, limestone, gold, silver
Exploration licences	2016	30	168,061	Metallic minerals, non-metallic minerals, mineral sands
	2020	30	303,414	Metallic minerals, non-metallic minerals, semi-precious stones, mineral sands



Photo: Farmhouse - Lismore City Council

37

Regional State of the  
Environment Report  
Summary 2020

# 04 Water



*Photo: Bellingen Shire Council*

Since the 2016 report, the NSW Marine Estate Management Strategy (MEMS) 2018-2028 was released by NSW DPI to respond to priority threats to water quality, habitat and biodiversity of NSW coastal waters and estuaries.

## 4.1 Estuarine & freshwater rivers

### Comprehensive River Health Assessment



## All the region's waterways

have had comprehensive ecosystem health assessments conducted since 2016.

Most monitoring indicates slight declines in water quality, with increasingly high nutrients loads and reduced flows particularly during the dry years.

All 12 LGAs in the reporting region conduct some type of regular river health monitoring. Tweed conducts its own comprehensive water quality monitoring program, Byron conducts comprehensive monthly and event-based water quality parameters and bi-annual vegetation transects

in Belongil and Tallow Creeks, all other LGA's have had at least one round of the University of New England's Ecohealth program, which monitors water quality as well as riparian and geomorphic condition, macroinvertebrates and sometimes fish and zooplankton. Bellingen has taken a citizen science approach teaming up with Bellingen Riverwatch to take basic water quality metrics, but not nutrients, macroinvertebrates or riparian condition.

#### Key findings for all programs are:

- General slight decline in water quality
- Concern with increasing nutrient loads on many waterways
- Poor tidal exchange and infrequent natural ICOLL opening during the dry years
- Poor riparian vegetation and geomorphic condition are common

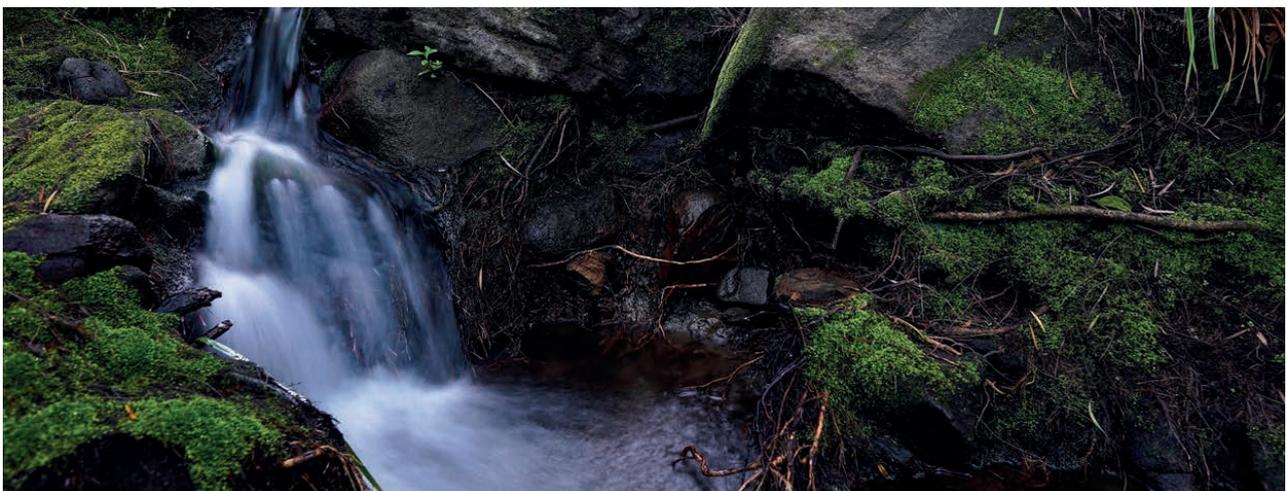


Photo: Upper Clarence Bonalbo - KyogleCouncil

Water quality monitoring by LGA

Council-led Water Quality Monitoring								
LGA	Catchment Unit		2018	2019	2020			
Tweed	Tweed estuary	Water quality assessed annually by Council for bacteria, Chlorophyll-a, total phosphorous, total nitrogen, turbidity, pH, dissolved oxygen	A	A	A			
	Tweed mid & upper estuary		B	C	B			
	Coastal Creeks		B	B	B			
	Cobaki-Terranora		A	A	A			
	Upper Cobaki-Terranora		D	D	D			
	Upper Catchment		B	B	B			
	Rous estuary		D	C	C			
Byron	Tallow Creek	A variety of water quality monitoring (monthly, event based and environmental health) by Council - no scorecard	Not graded but concerns with nutrient loads and low dissolved oxygen at times					
	Belongil Creek							
Bellingen	Bellinger & Kalang	Bellingen Riverwatch	Monthly monitoring of water temperature, pH, electrical conductivity (salinity) , dissolved oxygen, turbidity, available phosphate.					
Ecohealth program (University of New England)								
LGA	Catchment Unit	Assessment Year	Overall Grade	Water Quality	Riparian	Macro- Invertebrates	Geo- Morphic	Fish
Ballina, Byron, Kyogle, Lismore, Richmond Valley (combined Ecohealth 2015)	Wilsons River	Ecohealth 2015	F	F	D-	D	C-	
	Richmond River (main stem)	Ecohealth 2015	D-	F	D-	D	D+	
	Eden, Iron Pot Creeks, Shannon Brook	Ecohealth 2015	D+	D-	C-	D	C-	
	Bungawalbin, Myrtle, Sandy Creeks	Ecohealth 2015	D	D-	D	D-	C	
	Richmond - Emigrant, Macguires, North Creeks	Ecohealth 2015	D+	D	D-	C	D+	
	Clarence - Northern tributaries	Ecohealth 2015	C+	C+	D+	C-	-	A-
Clarence	Clarence River (main stem)	Ecohealth 2014	C+	C	D+	D+	-	A
	Mann-Nymboida-Boyd	Ecohealth 2014	C+	C+	D+	C+	-	B+
Coffs Harbour	Coastal tributaries (Orara)	Ecohealth 2014	C-	D	C+	F	-	A
	Coffs coastal catchments	Ecohealth 2012	C	C	C+	D-	C+	
		Ecohealth 2015	C-	C	C+	F	C+	B-
Bellingen	Bellinger	Ecohealth 2009	B-	B	C+	C+		
	Kalang		C+	B-	C	C-		
Nambucca Valley	Nambucca	Ecohealth 2018	C-	D	C-	D+	C	B-
Kempsey	Macleay	Ecohealth 2016	C-	D+	D+	D+	C	B-
Port Macquarie-Hastings	Hastings catchment	Ecohealth 2011	B-	C+	C-	C+		B
		Ecohealth 2015	C-	C-	D-	C-	B-	B
	Lake Innes/Lake Cathie	Ecohealth 2011	B-	C-	A-			B+
		Ecohealth 2015	C+	D-	B+		B+	
	Camden Haven catchment	Ecohealth 2011	C	C	C	C-		B
		Ecohealth 2015	C	D-	C	F	B	B

40

Regional State of the Environment Report Summary 2020

## Estuarine water quality



Photo: Nambucca Heads - Seen Australia

**Estuarine water quality** monitoring is conducted regularly by the NSW Department of Planning, Industry and Environment (DPIE). The program was initially conducted under the NSW Monitoring Evaluation and reporting strategy until 2015, and is now conducted as part of the Marine Estate Management Strategy (MEMS).

The 2018 sampling showed a decrease overall in the percentage of estuaries scoring A - Very good down from 28% in 2015 to 13% in 2018, with the majority (60%) scoring B - Good.

The poorest estuaries were in Byron LGA, scoring D, and Flat Top Point in the Solitary Islands Marine Park at Coffs Harbour scoring an F. The best were in Tweed with Cudgen Creek (A) improving steadily over the past years, Jerusalem Creek (Richmond Valley) and Dalhousie Creek (Bellingen) consistently scoring an A, and the Macleay also scored an A in 2018-19.

In response to increasing pressures on waterways, the MEMS has funded rehabilitation works in the region, with initial projects targeting the Richmond River catchment managed by Local Land Services and the Soil Conservation Service. At this stage MEMS funding is not directly available to Councils for on-ground rehabilitation works, however Councils are encouraged to integrate management actions into Coastal Management Programs (CMP) for future implementation.



✓ **Conducted regularly**  
by the NSW DPIE

✓ **2018 sampling**  
showed the majority (60%)  
scoring B - Good.

✓ **Best estuaries**  
were in Tweed with Cudgen Creek (A) improving steadily over the past years, Jerusalem Creek (Richmond Valley) and Dalhousie Creek (Bellingen) consistently scoring an A, and the Macleay also scored an A in 2018-19.



41

Regional State of the Environment Report Summary 2020

### Percentage of estuaries attaining each grade

	A	B	C	D	F
2009	0	61	26	10	3
2012	43	40	17	0	0
2015	28	41	28	3	0
2018	13	60	17	7	3

**Key**

- A  Very good
- B  Good
- C  Fair
- D  Poor
- F  Very poor



Location (north to south)	2009/10	2012/13	2015/16	2018/19
Tweed River	B			B
Cudgen Creek	B	C	B	A
Mooball Creek		B	B	
Brunswick River	C	C	C	D
Belongil Creek	C	C	C	D
Tallow Creek	B	A	B	B
Broken Head Creek			B	
Richmond River		B	C	C
Salty Lagoon		A	B	
Evans River	C			C
Jerusalem Creek	B	A	A	A
Lake Arragan	C	A		
Sandon River	B	A	A	B
Wooli River	B	A	B	B
Station Creek	B	A	A	B
Corindi River	B	A	B	B
Pipe Clay Creek	C	B	A	
Arrawarra Creek	D	B	B	B
Darkum Creek		B	A	C
Woolgoolga Lake	B	B	A	B
Flat Top Point	E	B	C	E
Hearnes Lake	D	A	C	B
Moonee Creek	B	A	B	B
Pine Brush Creek	C	B	B	B
Coffs Creek	D	C	C	C
Boambee Creek	B			C
Bonville Creek	B	B	B	B
Bellinger River	B			B
Dalhousie Creek		A	A	A
Oyster Creek	B			B
Deep Creek		B	A	B
Nambucca River	B	A	B	B
Macleay River	B			A
South West Rocks Creek	B			
Saltwater Creek (Frederickton)		B		
Korogoro Creek	C		C	
Killick Creek	C		C	
Hastings River	B	A	B	B
Cathie Creek		B	A	
Duchess Gully		C	C	B
Camden Haven	B			

42

Regional State of the Environment Report Summary 2020

## Marine and estuarine debris

KEY FACTS

A collaboration between universities, government agencies and community groups in NSW has comprehensively researched litter entering waterways, estuaries and beaches. This research is still in progress, but preliminary results indicate:

- Mangroves are the main debris collection areas – they are litter traps!
- Ocean beaches have far less litter than estuaries and waterways
- Plastic is the greatest litter type – over 91%
- Cigarette butts and fishing related debris are the next most littered items
- The plastic bag ban has resulted in measurably fewer plastic bags in waterways
- The container deposit scheme has shown benefits for the north coast with fewer bottles in waterways (Smith et al 2020 - NSW Container Deposit Scheme Monitoring Program - Key Littered Items Study – KLIS)

### 4.1.3 Aquatic macroinvertebrates

### 4.1.4 Fish condition

### 4.1.5 Riparian vegetation



No new information. Please see the Regional State of the Environment Report 2016 for details of previous condition.

## 4.1.6 Waste water treatment plant performance and onsite sewage management system performance

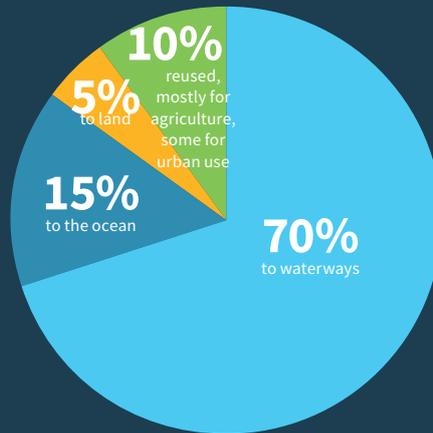


**Waste water reuse** is now at **10%** of the total treated waste water in the region up from **6.6%** in **2012**

Where does treated wastewater go:

KEY FACTS

Ballina is treating some wastewater to drinking water standards, and is reusing it for toilets and gardens in urban areas



Water shortages during the 2019 drought may prompt more reuse of wastewater for industry, agriculture – the largest water users

Kyogle and Coffs Harbour have the highest reuse, generally for agriculture

Lismore and Bellingen have the lowest reuse

Most LGAs had lower wastewater treatment volumes during the dry 2018-2019

43

Regional State of the Environment Report Summary 2020

Percent waste water discharged by location in 2020

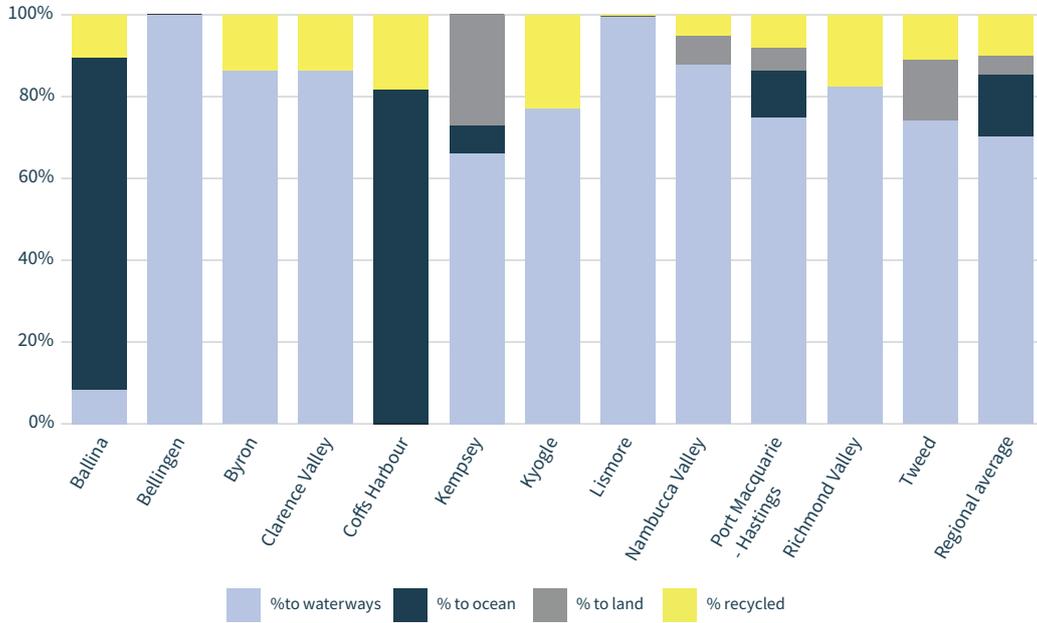


Photo: Nambucca Valley Council

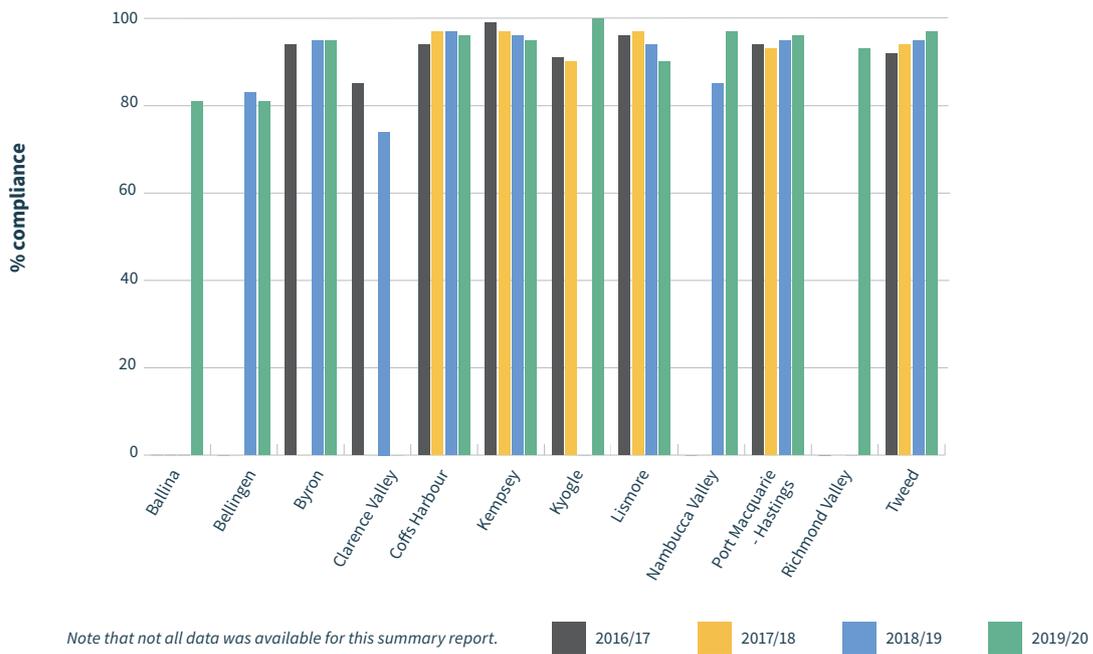
44

Regional State of the Environment Report Summary 2020

## On-site sewage management system performance

KEY FACTS

- For Councils with fully resourced inspections, compliance rates are generally over 90%
- When resourcing is an issue, only systems with complaints are inspected, leading to a high failure rate
- An estimated 10% of all systems are unregistered
- Some LGAs have audited all unregistered systems to register and document them
- Cost is an issue for residents needing to register an unregistered septic system



45

Regional State of the Environment Report Summary 2020

### 4.1.7 River restoration works & riparian vegetation

KEY FACTS

- All LGAs and Rous County Council are working to improve waterways and riparian condition, often in conjunction with local Landcare groups
- Many are reliant on external funding to conduct these works
- Funding provided through the Marine Estate Management Strategy has funded some substantial works on the Richmond River
- Habitat rehabilitation works are summarised in section 2.2. Of these works, over 60% are riparian habitats, indicating the importance of these habitats and the need for improvement as indicated by all the region's water quality studies. Information can be used to increase community awareness of environmental issues, and to guide natural resource managers in prioritising and addressing management actions.

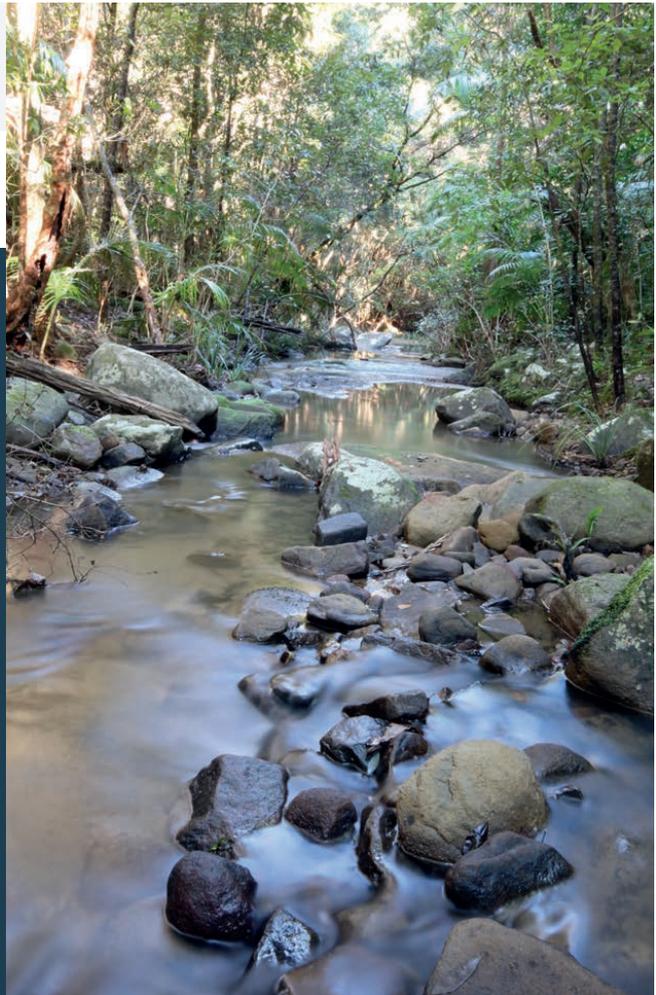


Photo: Coffs Harbour City Council

### 4.1.8 Stormwater improvement works & WSUD

KEY FACTS

- All LGAs in the reporting region have Water Sensitive Urban Design (WSUD) requirements for new developments
- Many are modifying stormwater drainage to include filtration devices, ponds, outlet protection, buffer strips, dispersal trenches, increasing natural vegetation, and stormwater storage
- Gross pollutant traps have been upgraded in many LGAs to capture litter and debris

### 4.2 Wetlands – no new information for this summary

See the Regional State of the Environment Report 2016 for details of previous wetland condition.

46

Regional State of the Environment Report Summary 2020

### 4.3 Groundwater

Groundwater is an essential water source for both ecological systems such as wetlands, streams and their surrounds, but also for rural landholders and towns. Some water sharing plans in the region now include groundwater, recognising the links between ground and surface water.

KEY FACTS

- Since 2016, all water sources in the North Coast region are covered by a Water Sharing Plan
- Four are due for review but have been extended by two years to allow for further resourcing and information gathering
- New mapping of high ecological value waterways and groundwater dependent ecosystems (GDE) completed
- Metering for licensed water users will be implemented in the coastal regions by 1 December 2023
- Natural Resources Access Regulator (NRAR) created in 2018 to be an independent water compliance unit
- Alstonville plateau has the majority of known GDEs in the region and has previously been an overallocated water supply area of concern
- At this stage there is no data on groundwater quality for the region

Water Sharing Plan (WSP) - North to south	Status	Commence date	Cease date
Brunswick Unregulated and Alluvial Water Sources 2016	In force	July, 2016	June, 2026
North Coast Coastal Sands Groundwater Sources 2016	In force	July, 2016	June, 2026
North Coast Fractured and Porous Rock Groundwater Sources 2016	In force	July, 2016	June, 2026
Richmond River Area Unregulated, Regulated and Alluvial Water Sources 2010	In force - 2 year extension	December, 2010	July, 2023
Tweed River Area Unregulated and Alluvial Water Sources 2010	In force - 2 year extension	December, 2010	July, 2023
Bellinger River Area Unregulated and Alluvial Water Sources 2020	In force	July, 2020	June, 2030
Clarence River Unregulated and Alluvial Water Sources 2016	In force	July, 2016	June, 2026
Coffs Harbour Area Unregulated and Alluvial Water Sources 2009	In force - 2 year extension	August, 2009	June, 2022
Hastings Unregulated and Alluvial Water Sources 2019	In force	July, 2019	June, 2029
Lower North Coast Unregulated and Alluvial Water Sources 2009	In force - 2 year extension	August, 2009	June, 2022
Macleay Unregulated and Alluvial Water Sources 2016	In force	July, 2016	June, 2026
Nambucca Unregulated and Alluvial Water Sources 2016	In force	September, 2016	June, 2027
North Coast Coastal Sands Groundwater Sources 2016	In force	July, 2016	June, 2026
North Coast Fractured and Porous Rock Groundwater Sources 2016	In force	July, 2016	June, 2026



Photo: Crescent Head Beach bridge - Paul Koch

47

Regional State of the Environment Report Summary 2020

## 4.4 Near-shore Marine

### Marine Water Quality

There is little comprehensive data on marine water quality for the region. However, new research underway by DPIE, CSIRO and supported by MEMS is investigating trends in ocean water quality.

Two LGAs – Ballina and Richmond Valley Council, continue to monitor beach and swimming water quality through the NSW Beachwatch program. "Coffs Harbour and Byron LGAs have recently rejoined the program.



Photo: Port Macquarie - Matt Cramer

Swimming Site	Site Type	Beach Suitability Grade			
		2016/17	2017/18	2018/19	2019/20
<b>Ballina Shire Council</b>					
Seven Mile Beach	Ocean beach	VG	VG	VG	VG
Lake Ainsworth North	Lake/Lagoon	-	P	P	P
Lake Ainsworth East	Lake/Lagoon	G	P	P	G
Lake Ainsworth South	Lake/Lagoon	G	G	G	G
Lake Ainsworth West	Lake/Lagoon	P	P	P	P
Shelly Beach	Ocean beach	G	G	G	G
Lighthouse Beach	Ocean beach	VG	VG	VG	VG
Shaws Bay North	Estuarine	G	G	G	G
Shaws Bay East	Estuarine	G	G	G	G
Shaws Bay East Arm	Estuarine	-	G	G	G
Shaws Bay East Beach	Estuarine	-	G	G	G
Shaws Bay West	Estuarine	G	G	G	G
The Serpentine	Estuarine	G	G	G	G
<b>Richmond Valley Council</b>					
Airforce Beach	Ocean beach	VG	VG	VG	VG
Main Beach	Ocean beach	VG	VG	VG	VG
Shark Bay	Ocean beach	VG	VG	VG	VG
Evans River	Estuarine	G	P	P	P
Elm Street Bridge North (Evans River)	Estuarine	G	G	G	G

**Key**  
 VG Very good  
 G Good  
 F Fair  
 P Poor  
 VP Very poor



Photo: Woolli River - Clarence Valley Council

Beachwatch monitoring confirms that ocean beaches are generally always good or very good for swimming and recreational use due to the constant tidal flushing. Estuarine sites are variable depending on the level of tidal flushing and impacts of stormwater pollution after rain. Lake/lagoon sites are generally good in dry weather, but they are highly susceptible to the impacts of wet weather during and for up to three days after rain.

48

Regional State of the Environment Report Summary 2020

## Rocky Reef Biota



Rocky reef biota are the flora and fauna that inhabit the reefs along the coast. There is little comprehensive state-wide information on the status of rocky reef biota, but due to the presence of two marine protected areas in the region, there is some continued local research. Since 2016, there has been:

- Coastal LiDAR surveys for the entire region from 200m inland out to 25m deep which gives far more detailed imagery of subtidal habitats in the near-shore
- A study of the effect of no-take marine reserve areas compared to other areas in NSW has shown commercially fished species such as pink snapper (*Chrysophrys auratus*) were significantly more abundant in no-take reserves than in fished areas. Other non-fished species remained in similar abundance regardless of zoning, indicating no-take reserves are a useful fisheries management tool
- Research into the impacts of climate change in ocean waters and modelling refuge areas for various species
- Research demonstrating that ocean waters south of 32°S are warming twice as fast as those north of 32°S.



*These will be further detailed in the full Regional State of the Environment 2020 report.*

*Photo: (top) Grassy Head - Paul Koch, (Bottom) Brett Vercoe*

## Marine Protected Areas (MPA)

There are two marine parks – Cape Byron and Solitary Islands – and one aquatic reserve – Cook Island – in the reporting region. As Lord Howe Island is not included in the reporting region, the Lord Howe Island Marine Park is not included.

Since the 2016 report, minor changes to sanctuary zones (complete no-take protection zones) in NSW marine protected areas were made in 2018 to allow shore-based recreational fishing from some ocean beaches and headlands. Six percent of the Region’s marine waters are completely protected from any extractive activity, with 17.7% zoned for low impact fishing activities.

Marine protected area 2020	Total reserve area (ha)	Area zoned for complete protection – no fishing (ha)	Area zoned for low impact fishing activities – recreational and commercial (ha)
Solitary Islands Marine Park	72,329	8,675	39,370
Cape Byron Marine Park	22,275	6,118	4,271
Cook Island Aquatic Reserve	74	29	45
<b>TOTAL</b>	<b>94,678</b>	<b>14,822</b>	<b>43,686</b>
% of North Coast Region marine area under protection (excl. Lord Howe Island)	38.3	6.0	17.7
TOTAL marine area of North Coast Region (excl. Lord Howe Island waters) (ha)	247,233		

## Coastal Management

All coastal LGAs are working towards preparation of Coastal Management Programs (CMPs) for their coasts and estuaries under the NSW Coastal Management Framework, which incorporates the new Coastal Management Act 2016, Coastal Management SEPP, and the Coastal Management Manual. The five-stage process is being worked through by all LGAs in the regional to either create new CMPs or update existing Coastal Zone Management Plans (CZMPs) to the new framework. The new framework encourages whole-of-catchment approaches incorporating other tenures such as National Parks and Crown Lands.

LGA/County Council	Number of CMPs	Coastal Management Status
Ballina	5	1 CMP finalised, 1 CMP in progress, 2 existing CZMPs for updating to CMPs collaboration with Rous County Council for the Richmond River CMP preparation
Bellingen	1	Scoping study in progress, 1 certified CZMP
Byron	5	Two Scoping studies completed for the open coast and ICOLLS. 1 not yet commenced. 1 in progress (Richmond River CMP being produced by Rous County Council and Ballina Council)
Clarence Valley	2	Coastal CMP scoping study complete and estuary CMP scoping study commencing
Coffs Harbour	5	3 in progress, 2 not yet commenced
Kempsey	5	4 in progress
Kyogle	1	Partnering with Rous County Council on the Richmond CMP
Lismore	1	Partnering with Rous County Council on the Richmond CMP
Nambucca Valley	1	At stage 4 - awaiting finalisation and certification
Port Macquarie-Hastings	1	Whole of LGA CMP at scoping stage
Richmond Valley	1	Partnering with Rous County Council on the Richmond CMP
Rous County	1	Richmond River CMP at Stage 1 - scoping study - on behalf of Ballina, Richmond Valley, Lismore and Kyogle LGAs, and parts of Byron and Clarence Valley LGAs. It will replace the existing Richmond River CZMP
Tweed	2	Tweed River Estuary CMP at stage 4, Tweed Coast CMP Stage 1 scoping study complete



*Photo: Coffs Harbour City Council*

References - please see the full  
Regional State of the Environment 2020 report

Published by  
North Coast Region State of the Environment  
2020 Working Group  
(on behalf of the participating councils)  
Coffs Harbour City Council  
Locked Bag 155, Coffs Harbour NSW 2450  
P: (02) 6648 4000  
E: [council@chcc.nsw.gov.au](mailto:council@chcc.nsw.gov.au)  
W: [coffsharbour.nsw.gov.au](http://coffsharbour.nsw.gov.au)  
Version 1 - October 2021  
Prepared by North Coast Region  
State of the Environment Report Working Group  
Designed by GP Design  
E: [info@giuliapanuccio.com.au](mailto:info@giuliapanuccio.com.au)

**Report No. 3.2 Introduction and Update from Zero Emissions Byron**

**Directorate:** Sustainable Environment and Economy

**Report Author:** Julia Adams, Sustainability Team Leader

5 **File No:** I2022/509

**Summary:**

10 This report has been jointly prepared by council staff and Zero Emissions Byron in relation to item 5 from **Resolution 22-168** – “A report on the role and relationship between Zero Emissions Byron and Council in relation to emissions reporting to be presented to the Climate Change and Resource Recovery Committee in June.”

**Resolved** that Council notes:

1. The annual emissions inventory and Council’s progress toward meeting the net zero emissions 2025 target (Attachment 1 - E2022/5746).
- 15 2. The progress update on the *Net Zero Emissions Action Plan for Council Operations 2025*.
3. The successful achievement of Resolution 17-086 to achieve 100% renewable energy, five years ahead of schedule.
4. An internal Councillor and staff workshop will be organised for the May Strategic Planning Workshop on carbon offsetting for Council’s operational net zero emissions target.
- 20 5. A report on the role and relationship between Zero Emissions Byron and Council in relation to emissions reporting to be presented to the Climate Change and Resource Recovery Committee in June.

25

---

**RECOMMENDATION:**

**That the Climate Change and Resource Recovery Advisory Committee notes the update report from Zero Emissions Byron.**

30

## Report

### Purpose of Zero Emissions Byron

To accelerate Byron Shire's transition to net zero emissions by continuously engaging our local community to increase their uptake of emission reduction activities. To champion, educate and inspire action aimed toward zero emissions locally.

### History and background

Zero Emission Byron (ZEB) was initiated in March 2015, at a public meeting with the CEO of Melbourne Think Tank, Beyond Zero Emissions, and the Byron Shire Mayor, Simon Richardson, and community members. ZEB was developed as a collaboration between the Byron Shire Community, the Byron Shire Council, Beyond Zero Emissions and the Centre for Social Change

In October 2016, ZEB was registered as a Public Company Limited by Guarantee. Each year, ZEB sends a statistical return to the Register of Environmental Organisations. A Registered Charity, it also has deductible gift recipient (DGR) status.

The first meeting was jointly initiated by the Mayor Simon Richardson and Beyond Zero Emission in and he sat on the inaugural board. Then for the first two years, through incubation with Council, the focus was on developing the internal structure and capacity; relationships with key stakeholders; the community emissions inventory for the Byron Shire region; the regional strategy for emissions mitigation; and initial projects.

In 2019, ZEB became an independent organisation that sits separately to Council as an independent and mature organisation, and other local not-for-profit and commercial organisation who advocate for environmental and renewable energy solutions to our local 'low carbon' future. To use an analogy, ZEB is like our Reserve Bank, sitting above but separately to everyone, not having projects of their own but overseeing and providing guidance to others.

### The group & wider network

ZEB consists of a volunteer board of six members who oversee governance, facilitate projects and head up five working groups. We employ two part time project workers for one day a week each. Other volunteers participate in working groups and assist with events.

ZEB's main areas of activity are:

- *Emissions tracking* – ZEB has commissioned a baseline report on community emissions in the Byron Shire and two updates. ZEB is responsible for both keeping track of and encouraging the reduction of our community's emissions, through the activities below:
  - *RePlant Byron Alliance* – ZEB has formed an Alliance to promote appropriate plantings of native trees for carbon sequestration, promote the uptake of appropriate burning regimes, developed formulas for calculating the

5 approximate carbon benefits of plantings, produced educational information, guides, videos and workshops. We have undertaken extensive plantings including a community forest project. Also, the biodiversity team at Council is using the Good Fire film to initiate more appropriate burning in the Shire. To view the Good Fire film, visit the website – <https://zerobyron.org/co2-drawdown-stories/>

- 10
- *Buildings* – we have produced educational flyers and video, energy saving information, and regularly promote the uptake of solar and battery tech for households and business. After the flooding we have been providing expert information on rebuilding with more flood resilience.

15

  - *Electric vehicles* – we have produced a series of 8 webinars with experts on the latest in EVs, produced Q & A material and regular updates. We have undertaken a comprehensive survey on needs for EV uptake in the local Northern Rivers region, shared with local Councils. We have held an EV Expo and plan another to be held at Bangalow Showgrounds on Sunday 11 September 2022, already attracting sponsors, including Council, and stallholder interest.

20

  - *Community engagement* – We maintain an extensive website with regular blog posts, local low carbon living directory, champion local low carbon living stories, maintain three Facebook pages and groups, Instagram, regular e-news, place topical articles in the media and on radio interviews. We also produce information flyers/posters such as ‘12 Actions You Can Take on Climate Change’. We hold stalls at community events and in the street. We also regularly promote other groups’ activities and events that align with our goal of carbon pollution reduction or carbon drawdown.

25

30 ZEB also participates in regional bodies, including the Sustain Northern Rivers Energy Working Group and Council’s Climate Change and Resource Recovery Advisory Committee, and undertake cooperative activities with Council. Other groups around Australia are using our educational material and seek our advice on matters of mutual interest.

### Upcoming Projects

- EV Expo at Bangalow Showgrounds on 11 September 2022
- Film night at Byron Community Centre 14 June 2022 on Regenerating Australia and showing some of our short films on Good Fire, & Native Plantings Sequester Carbon.

35

- Soil Carbon workshop at The Farm 7 June 2022
- Completion of Sustainable Buildings video
- Expansion of our Local Low Carbon Living Directory

## Strategic Considerations

### Community Strategic Plan and Operational Plan

<b>CSP Objective</b>	<b>CSP Strategy</b>	<b>DP Action</b>	<b>Code</b>	<b>OP Activity</b>
Community Objective 3: We protect and enhance our natural environment	3.2: Strive to become a sustainable community	3.2.1: Work towards Council's zero-emissions target	3.2.1.8	Report annually on sustainability partnerships, such as Cities Power Partnership.
Community Objective 3: We protect and enhance our natural environment	3.2: Strive to become a sustainable community	3.2.2: Support community environmental and sustainability projects	3.2.2.1	Provide coastal, environmental and sustainability information and encourage and support community activities and groups
Community Objective 3: We protect and enhance our natural environment	3.2: Strive to become a sustainable community	3.2.2: Support community environmental and sustainability projects	3.2.2.2	Participate in regional coastal, sustainability and environmental working groups and initiatives.
Community Objective 3: We protect and enhance our natural environment	3.2: Strive to become a sustainable community	3.2.2: Support community environmental and sustainability projects	3.2.2.9	Support community's emissions reduction efforts.

## 5 Recent Resolutions

- Resolution **17-086** – To achieve 100% net zero emissions by 2025 in collaboration with Zero Emissions Byron (ZEB).
- 22-168

## Legal/Statutory/Policy Considerations

Applicable Council Strategies and Plans:

- Net Zero Emissions Strategy for Council Operations 2025
- Net Zero Emissions Action Plan for Council Operations 2025
- Climate Change Adaptation Plan

## **5 Financial Considerations**

This is a project update report only.

### **Consultation and Engagement**

Zero Emissions Byron board members – phone and email correspondence.

**Report No. 3.3      Review Constitution of Climate Change and Resource Recovery Advisory Committee**

**Directorate:**                      Sustainable Environment and Economy

**Report Author:**                Michelle Chapman, Project Support Officer

5    **File No:**                        I2022/630

**Summary:**

Attached is the draft Constitution for the Climate Change and Resource Recovery Advisory Committee, for the Committee's review and recommendation for adoption.

10

**RECOMMENDATION:**

**That the Climate Change and Resource Recovery Advisory Committee recommends to Council to adopt the constitution at Attachment 1 (E2021/148037).**

**Attachments:**

15

- 1    DRAFT Constitution Climate Change & Resource Recovery Advisory Committee 2022, E2021/148037 , page 74 [↓](#) 

**Report**

5 The constitution is attached for the Committee’s review and endorsement, following Res 22-026 that resolved the proposed Resource Recovery Advisory Committee and the Climate Change Advisory Committee be combined.

Resolution 22-098 appointed Zero Emissions Byron representative and five community representatives to the Committee. It also resolved that Resilient Byron and Community Owned Renewable Energy Mullumbimby (COREM) be given another opportunity to nominate a representative.

10 Resilient Byron has now nominated their representative and COREM is yet to respond.

It is recommended, for this Committee, that the number of Councillors required for a quorum be amended from two to one. The wording at Point 7 has changed to:

“A quorum is to constitute at least half the number of members plus one (resulting half numbers go down), one of which is to be a Councillor.”

15 For the Committee’s noting, future meetings are scheduled for 29 September at 11.30am and 17 November 2022 at 4.30pm.

**Strategic Considerations**

**Community Strategic Plan and Operational Plan**

<b>CSP Objective</b>	<b>CSP Strategy</b>	<b>DP Action</b>	<b>Code</b>	<b>OP Activity</b>
<b>Community Objective 5: We have community led decision making which is open and inclusive</b>	5.2: Create a culture of trust with the community by being open, genuine and transparent	5.2.4: Support Councillors to carry out their civic duties	<b>5.2.4.5</b>	Implement and manage Code of Conduct training programs for Councillors, staff, and committee members

**Recent Resolutions**

- 20 • 22-026, 22-098

**Legal/Statutory/Policy Considerations**

Not applicable.

**Financial Considerations**

Not applicable.

**Consultation and Engagement**

Not applicable.



---

**BYRON SHIRE COUNCIL**

**CLIMATE CHANGE & RESOURCE  
RECOVERY ADVISORY COMMITTEE**

**DRAFT CONSTITUTION**

---

**INFORMATION ABOUT THIS DOCUMENT**

(INTERNAL USE ONLY)

<b>Date Adopted by Council</b>	TBC	<b>Resolution No.</b>	TBC
<b>Responsibility</b>	Director Sustainable Environment and Economy		
<b>Review Timeframe</b>	Each Term of Council		
<b>Last Review Date:</b>	December 2021	<b>Next Scheduled Review Date</b>	December 2024

***Document History***

<b>Doc No.</b>	<b>Date Amended</b>	<b>Details Comments eg Resolution No.</b>
E2021/148037	May 2022	Draft to Committee for endorsement following Res 22-026 & Res 22-098

***Further Document Information and Relationships/--***

<b>Related Legislation</b>	Section 355, Local Government Act (1993)
<b>Related Policies</b>	Code of Conduct 2016 Work Health Safety Policy Code of Meeting Practice Guide to Operations – Advisory Committee and Panels (E2016/85075)
<b>Related Procedures/ Protocols, Statements, documents</b>	

Constitution: Climate Change & Resource Recovery Advisory Committee

---

**Table of Contents**

1. Preamble ..... 4

2. Purpose ..... 4

3. Timeframe for Committee ..... 4

4. Responsible Directorate ..... 5

5. Membership ..... 5

6. Induction ..... 5

7. Quorum ..... 5

8. Confidentiality ..... 5

9. Election of Chairperson ..... 6

10. Voting ..... 6

11. Majority Decision ..... 6

12. Convening Meetings ..... 6

13. Agenda Preparation ..... 6

14. Conduct of Business ..... 6

15. Records of meetings ..... 7

16. Absence from Committee Meetings ..... 7

17. Project Reference Groups ..... 7

18. Section 377 Delegation ..... 7

19. Meeting Practice ..... 7

20. Miscellaneous ..... 7

Constitution: Climate Change & Resource Recovery Advisory Committee

---

## **1. Preamble**

The Climate Change & Resource Recovery Advisory Committee is an advisory committee of the Council and does not have executive power or authority to implement actions.

The role of the committee is to report to Council and provide appropriate advice and recommendations on matters relevant to this Constitution.

## **2. Purpose**

The purpose of the Climate Change & Resource Recovery Advisory Committee is:

1. To assist Council in the development, implementation and review of relevant sustainability, resource recovery and climate change mitigation and adaptation plans, policies and projects such as:
  - Council's Net Zero Emissions Strategy and Action Plan
  - Council's Towards Zero Integrated Waste Management and Resource Recovery Strategy
  - Councils Illegal Dumping and Litter Enforcement and Education Plan
  - Climate Change Adaptation Plan
  - Renewable energy projects
  - Local network trading and local network charges
  - Carbon reporting
  - Waste avoidance, resource recovery, circular economy and reuse programs
  - Other sustainability and resource recovery initiatives.
2. To support our community's drive towards zero emissions and zero waste to landfill.
3. To identify and report opportunities or concerns regarding resource recovery, waste management, sustainability and climate change adaptation and mitigation issues to Council including, but not limited to, funding opportunities, special events, government policy, practice or guidelines.

It is proposed that meetings can target specific issues related to resource recovery, waste management, sustainability and climate change mitigation and adaptation and that in order for the Committee to understand the issue and identify opportunities, experts on the subject can be invited to contribute.

It is also proposed that meetings can be held outside the Council building within environments that are relevant to that meeting's theme. For example, different formats could be used such as field days and workshops.

## **3. Timeframe for Committee**

The lifespan of the Climate Change & Resource Recovery Advisory Committee is for the term of Council 2022-2024.

Constitution: Climate Change & Resource Recovery Advisory Committee

---

#### **4. Responsible Directorate**

This committee is administered by the Sustainable Environment and Economy and Infrastructure Services Directorates. The Director or their delegates will attend these meetings and minutes will be taken by a member of their staff.

#### **5. Membership**

Council must appoint all advisory committee members. Appointment must take place prior to a member being conferred the responsibilities and rights as set out in this document.

Council may release individual members from the advisory committee at any time by a resolution of council. Council may also appoint any new members to a committee at any time by a resolution of council.

Membership is to include:

- 3 Councillors
- Up to 5 relevantly qualified community representatives
- 1 Zero Emissions Byron (ZEB) representative
- 1 Community-Owned Renewable Energy Mullumbimby (COREM) representative
- 1 Resilient Byron representative
- Byron Shire Council General Manager (or staff member delegate)

*Note: Staff members participating on the committee do not have any voting entitlements.*

#### **6. Induction**

All members will be required to participate in an induction process at the establishment of a new committee, and at any time a replacement voting member joins a committee. The induction will be scheduled prior to the first meeting of the committee and will cover topics such as this Constitution, the Code of Meeting Practice, Conflicts of Interest and Code of Conduct.

Replacement voting members will be inducted by experienced committee members at, or prior to, their first meeting.

#### **7. Quorum**

A quorum is to constitute at least half the number of members plus one (resulting half numbers go down), one of which is to be a Councillor. The General Manager or delegate, who must be a member of staff, is to attend the Advisory Committee meeting and is not counted in the quorum for the meeting.

#### **8. Confidentiality**

Members of the committee will, in those circumstances where confidential matters are subject to deliberation, maintain confidentiality.

Constitution: Climate Change & Resource Recovery Advisory Committee

---

## **9. Election of Chairperson**

The position of Chairperson is to be elected from Councillors comprising the committee but only in circumstances where the Mayor elects not to assume the position of Chairperson.

## **10. Voting**

- a) Each member of the committee (with the exception of staff members) is to have one vote, with the Chairperson to have a casting vote in addition to a deliberative vote.
- b) Members of the committee who are not Councillors may abstain from voting in any circumstances without such abstention being recorded in the negative.

## **11. Majority Decision**

A majority decision of the committee requires a majority of elected members to be present and voting on any item subject to the requirements of a quorum being met at the meeting.

## **12. Convening Meetings**

Meetings will be held as required, generally every quarter. An annual timetable of meetings will be prepared in advance and adopted by Council for the following 12 months.

A meeting of the committee may be convened in response to either the direction of the Mayor (or in the Mayor's absence the Deputy Mayor) in written form to the General Manager; or two Councillors in written form to the General Manager, or by resolution of the Council.

## **13. Agenda Preparation**

It is the responsibility of the chairperson to prepare the agenda in consultation with the relevant Director, setting out the terms of business to be considered.

The agenda is an organised list of the business, in order, that will be transacted at the meeting. An agenda for each meeting, containing a brief report on each item, is to be provided to committee members and available on Council's website at least 7 days prior to the meeting being held.

Each item of business to discuss at the meeting is required to be listed on the agenda and in written form. Verbal reports at the meeting are not an acceptable practice.

For some matters, it will be necessary to attach other relevant information to the agenda to inform and direct discussion. Such information is to be circulated with the agenda.

Committee members may request items for inclusion in future agendas, through the Chair.

## **14. Conduct of Business**

Constitution: Climate Change & Resource Recovery Advisory Committee

---

Each item of business is discussed in the order in which it appears on the agenda. No new matters will be introduced at the meeting. New items of business may be included in a future agenda as noted in clause 13 above.

### **15. Records of meetings**

- a) The minutes of meetings are to be circulated to members of the group within 7 days of the meeting so that members can provide feedback through the Chair on the draft unconfirmed minutes.
- b) Minutes of committee meetings will be kept and presented to Council at its next meeting via a report of the committee meeting.

### **16. Absence from Committee Meetings**

All committee members are required to advise the chair when they are unable to attend committee meetings. The absence of committee members from the meeting is to be recorded in the minutes. A committee member (other than the Mayor) ceases to be a member of a committee if the member:

- a) Has been absent from three consecutive meetings of the committee without having given reasons acceptable to the committee for the member's absence, or
- b) Has been absent from at least half of the meetings of the committee held during the immediately preceding year without having given to the committee acceptable reasons for the member's absences.

### **17. Project Reference Groups**

Project Reference Groups may be established by Council at the recommendation of the committee to address issues clearly identified by the committee.

Project Reference Groups operate in accordance with Council's adopted Constitution template for Project Reference Groups.

### **18. Section 377 Delegation**

The committee does not have any delegated functions pursuant to section 377 of the Local Government Act (1993) and does not have the power to direct staff.

### **19. Meeting Practice**

Meetings are to be conducted in accordance with this Constitution and, where required, reference to Council's Code of Meeting Practice.

### **20. Miscellaneous**

Constitution: Climate Change & Resource Recovery Advisory Committee

---

- a) **Insurance:** All group members are covered by the public liability policy of Council. This insurance does not preclude the Advisory Committee from due diligence and all Council policies must be adhered to.
- b) **Code of Conduct:** All group members to abide by Council's adopted Code of Conduct at all times.
- c) **Pecuniary Interest:** Pecuniary Interest may be defined as an interest that a person has in a matter, as a group member or employee of a company or other body, 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. Such other person includes the spouse or de-facto partner or relative of the group member.

Section 446 of the Local Government Act states that "a member of a council committee, other than a committee that is wholly advisory, must disclose pecuniary interests..."

Even though the Local Government Act provides an exemption to disclose pecuniary interests Council's preference is for all members to declare pecuniary interests where applicable.

- d) **Work Health Safety:** All group members are required to comply with the "Worker Responsibilities" as prescribed in the Work Health Safety Policy.

REPORTS OF COMMITTEES - INFRASTRUCTURE SERVICES

**Report No. 3.1 Introduction to Resource Recovery -  
Projects and Programs**

5 **Directorate:** Infrastructure Services  
**Report Author:** Danielle Hanigan, Manager Resource Recovery  
**File No:** I2022/642

**Summary:**

10 This report provides an introduction and overview of the key operations, projects, programs and key challenges within Council's Resource Recovery Department. The report also gives a brief overview of the flood recovery and clean-up operations that have taken place in the first part of 2022.

15

---

**RECOMMENDATION:**

**That the Climate Change and Resource Recovery Advisory Committee notes the report.**

20

## **Report**

5 The Resource Recovery Department is taking on the challenge of reducing waste and the impact it has on our environment and our community. To achieve this, we need to create a culture of avoidance, where reuse replaces single use and throwaway consumerism. This involves changing thinking and behaviour, moving our organisation and community to a circular economy model where waste is seen as a resource.

## **Key areas of responsibility**

### **Operational**

#### **10 Waste and Resource Recovery Collection**

- Kerbside domestic waste, recycling and organics bin collection in urban and rural areas
- Commercial bin collections.
- Customer service for all bin repairs, new services and general enquiries
- 15 • Manage disposal / processing Contracts for recycling, organics and residual waste
- Public place waste and recycling bins and collections, cigarette butt recycling receptacles and dog poo bag dispensers
- Community Recycling Stations (for problem waste such as batteries, light globes, mobile phones, smoke alarms, x-rays and printer cartridges)

20

#### **Byron Resource Recovery Centre (BRRC)**

- Operation and environmental management of the Centre which operates under two Environmental Protection Licences. EPL 6057 (Landfill) and EPL 13127 (Resource Recovery)
- 25 • The Centre operates primarily as a transfer station, with waste and materials brought into the centre, sorted and transferred to various locations for processing or landfilling. All residual waste is taken to the Ti-Tree Bioenergy Facility at Willowbank (SE QLD) whereby renewable energy is generated from the methane
- 30 produced within the landfill cell. This averages 20,000 tonnes per year.

The BRRC also houses: -

- Second hand Shop,
- Composting facility,
- 35 • Community Recycling Centre for collection of problem wastes
- Polystyrene processing

## Strategic

**Towards Zero: Byron Shire's Integrated Waste Management and Resource Recovery Strategy 2019-2029** focusses on 4 key objectives: -

- 5
1. Empower the community to increase avoidance, reuse and recycling activities;
  2. Maintain and enhance solutions to recover / treat / dispose of residual waste;
  3. Work with the business and tourism sector to reduce waste to landfill; and
  4. Support and lobby for NSW and Federal Government action to help reduce overall waste generation and disposal.
- 10

## Community Engagement and Education

Through designed campaigns and programs, community education and engagement focuses on resource recovery, avoidance, reuse, recycling, circular economy, litter and illegal dumping. A key element of education programs is to support and promote  
15 community based sustainability and circular economy initiatives through collaboration with community organisations and businesses.

## Programs

- Litter and Illegal Dumping Programs delivering the *Illegal Dumping Litter Education and Enforcement Plan*
- Circular Cafes – in partnership with North/East Waste
- Worn Up – uniform textiles recycling
- Byron Loves BYO
- Zero Waste Events
- School Education Programs – through North/East Waste
- Butt Free Byron Shire
- Recycle Right – kerbside bin education program
- Bruns - Bring It Back (reusables in place of single use takeaway containers)
- Lift the Lid – kerbside contamination reduction
- Scrap together - household organics education campaign ( commencing June  
30 2022)

- Source to Sea (EPA funded pilot to address litter in drains)

**Major Projects**

- Regional Waste Investment Review Project - working with 8 neighbouring Councils on regional solutions for recycling and residual waste
- 5 • Southern Landfill Closure and Rehabilitation Project
- Leachate Storage System Upgrade Project
- BRRC Stormwater Management Plan Implementation
- Second Life for Second Hand Shop – improvements and enhancements aimed at engaging the broader community and encouraging circular economy initiatives

10

**Key Challenges**

- Increased cost of recycling, organics and waste processing – has increased significantly over the past 5 years with the National Sword Policy driving up recycling costs, as well as increasing landfill levy and fuel costs which have increased costs to process waste materials
- 15 • Legacy issues relating to an aged, unlined landfill and aging leachate storage system – this is being addressed via the landfill closure, stormwater management and leachate storage replacement projects.
- 20 • Increased development and tourism significantly impacts the Resource Recovery Department – with many developments within the Byron CBD having outgrown their premises and the designated waste collection spaces, as well as an influx of new developments requiring assessment. A significant push to have developers undertake means to reduce their waste generation, and service waste within their property is a focus of the Team.
- 25 • The impact of Covid-19 has seen an increase in “takeaway culture” which has put increased strain on our public place bin collection system, and general litter. Programs such as Bruns Bring it Back and Byron loves BYO aim to increase reuse and reduce the amount of single use items being used by business and community, and therefore reduce waste generation
- 30 • Lack of robust legislation to guide manufacturing to ensure waste is designed out of products and packaging, and that the life of products is extended, with reuse and repair enabled.

35 **Flood Recovery**

Following the flood event of 28 February 2022, the Resource Recovery Team was tasked with the clean up, removal and disposal of flood waste from the kerbside as quickly and efficiently as possible. The clean up commenced 30 February – 2 days after the flooding

occurred. This continued following the subsequent event in late March. Resource Recovery staff worked on the ground advising residents of clean up actions in the absence of phone or internet communications in the initial days of the clean up.

- 5 As of end of April 2022, over 4,000 tonnes of incoming disaster waste was received at the BRRC. This was in addition to waste collected at the kerb and taken directly to the regional waste transfer sites that were established after the initial 2 weeks of the clean up at Alstonville and Coraki which is estimated at 2,000 tonnes.

- 10 The team worked with NSW Public Works Advisory ( PWA) to set up set up skip bin hubs in central locations for the drop off of flood waste to ease the burden on the BRRC and increase accessibility and safety for residents. Skip bins were also placed in rural locations to assist residents in specific areas. To date it is estimated an additional 5,000 tonnes of waste has been collected via skips which has been transported directly to South East Queensland.

**Diversion**

- 15 Of the 4,000 tonnes of flood waste that entered the BRRC, 250 tonnes of scrap metal was diverted including fridges and other whitegoods.

White goods, E-waste and hazardous wastes at skip bin hubs were collected separately for recovery and recycling.

- 20 13 tonnes of Problem Waste (CRC- Community recycling program) was collected and transported off site (BRRC) for recycling, this includes oils, paints, hazardous chemicals.

Worked with Repair Café to recover some furniture and whitegoods for repair.

**Community engagement**

Worked with community groups and organisations to assist with waste management and disposal options.

- 25 Fees for flood waste disposal at the BRRC have been waived for this period and this will continue upon application for those with genuine flood waste.

Bin banks have been established in rural areas to allow for domestic waste servicing for those with limited or no access. These are temporary measures and are constantly reviewed as roads are repaired and access restored for collection vehicles.

- 30 Communications on the clean up schedule, changes in various stages of the clean up and collection access have been ongoing through Councils Flood Updates and various platforms.

A claim for reimbursement is underway through Public Works Advisory

**Challenges**

5 There have been some challenges in working with multiple State Government agencies in the clean up and recovery. Delays in receiving clear and consistent direction in relation to the clean up of demolition waste, asbestos, hazardous waste and waste in waterways has been particularly problematic. Better future planning is needed to be able to streamline these processes in the future.

**Future considerations: resilience and rebuilding**

10 In order to reduce damage to homes/buildings, recover more resources, reduce waste to landfill and to have second hand/repaired items accessible to flood affected residents we need to future proof processes pre and post flood.

This includes but is not limited to:-

- 15 • building with flood resilient materials to reduce demolition waste – a lot of gyprock and flooring
- smart design of electrical outlets and appliances to save appliances
- processes that work with local groups to salvage and repair household items
- places for storage of items for residents so they are not left on the street
- education around separation on kerbside
- 20 • contractors hired for specific waste/resource streams
- strategic demolition to reuse building materials

25 **Further plans to mitigate these issues are underway and will be the subject of reports to subsequent meetings of the Climate Change and Resource Recovery Committee.**

**Strategic Considerations**

**Community Strategic Plan and Operational Plan**

## BYRON SHIRE COUNCIL

### REPORTS OF COMMITTEES - INFRASTRUCTURE SERVICES

3.1

<b>CSP Objective</b>	<b>CSP Strategy</b>	<b>DP Action</b>	<b>Code</b>	<b>OP Activity</b>
<b>Community Objective 1: We have infrastructure, transport and services which meet our expectations</b>	1.4: Provide a regular and acceptable waste and recycling service	1.4.1: Implement Integrated Waste Management and Resource Recovery Strategy	<b>1.4.1.1</b>	Implement 2021/22 action plan activities identified in the Waste Management Strategy
<b>Community Objective 1: We have infrastructure, transport and services which meet our expectations</b>	1.4: Provide a regular and acceptable waste and recycling service	1.4.2: Provide waste and resource recovery services	<b>1.4.2.1</b>	Implement Waste and Resource Recovery Collection Contract Management Plan
<b>Community Objective 1: We have infrastructure, transport and services which meet our expectations</b>	1.4: Provide a regular and acceptable waste and recycling service	1.4.3: Participate in regional waste management programs and initiatives	<b>1.4.3.1</b>	Maintain membership and participation in the North East Waste regional waste management group
<b>Community Objective 1: We have infrastructure, transport and services which meet our expectations</b>	1.4: Provide a regular and acceptable waste and recycling service	1.4.3: Participate in regional waste management programs and initiatives	<b>1.4.3.2</b>	Support the progression of a regional; alternative waste treatment facility in alignment of the adopted strategy and relevant resolutions

## BYRON SHIRE COUNCIL

### REPORTS OF COMMITTEES - INFRASTRUCTURE SERVICES

3.1

<p><b>Community Objective 1:</b> <b>We have infrastructure, transport and services which meet our expectations</b></p>	<p>1.4: Provide a regular and acceptable waste and recycling service</p>	<p>1.4.4: Ensure facilities and services meet statutory requirements</p>	<p><b>1.4.4.1</b></p>	<p>Maintain compliance with NSW Environmental Protection Licences for the Byron Resource Recovery Centre and Myocum Landfill</p>
<p><b>Community Objective 1:</b> <b>We have infrastructure, transport and services which meet our expectations</b></p>	<p>1.4: Provide a regular and acceptable waste and recycling service</p>	<p>1.4.4: Ensure facilities and services meet statutory requirements</p>	<p><b>1.4.4.3</b></p>	<p>Maintain compliance with the Federal Government's Emissions Reduction Fund contract conditions for the Myocum Landfill Gas Carbon Farming Initiative Project</p>
<p><b>Community Objective 1:</b> <b>We have infrastructure, transport and services which meet our expectations</b></p>	<p>1.4: Provide a regular and acceptable waste and recycling service</p>	<p>1.4.4: Ensure facilities and services meet statutory requirements</p>	<p><b>1.4.4.4</b></p>	<p>Delivery of stage 1 of the Capping Plan</p>

### Legal/Statutory/Policy Considerations

<p><b>Legislative responsibilities</b></p>	<p><b>Legislation</b></p>	<p><a href="#">Protection of the Environment Operations (Waste) Regulation 2014 - NSW Legislation</a></p>
	<p><b>Policies</b></p>	<p><a href="#">Waste Disposal Fees for Not-for-Profit Groups Policy - Byron Shire Council (nsw.gov.au)</a> <a href="#">Waste Disposal after a Natural</a></p>

# BYRON SHIRE COUNCIL

## REPORTS OF COMMITTEES - INFRASTRUCTURE SERVICES

3.1

		<a href="#">Disaster/Significant Storm Event Policy - Byron Shire Council (nsw.gov.au)</a>
	<b>Strategies and plans</b>	<a href="#">Towards Zero Integrated Waste Strategy 2019 to 2029 - Byron Shire Council (nsw.gov.au)</a> <a href="#">NSW Waste and Sustainable Materials Strategy 2041</a>

### Financial Considerations

Budget for waste related activities is funded through the Domestic and Non-Domestic Waste Reserve as well as Grant programs. It is not funded through the general Fund.

### 5 Consultation and Engagement

Resource Recovery Team

Executive Team