

Minutes Appendices

Ordinary Meeting

Thursday, 24 October 2024

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Minutes

Ordinary Meeting

Thursday, 26 September 2024

Sunshine Coast City Hall Chamber, 54 First Avenue, Maroochydore



ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

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Please Note: The resolutions as shown in italics throughout these minutes are the resolutions carried by the Council.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

1 DECLARATION OF OPENING

The Chair declared the meeting open at 9:00am.

2 WELCOME AND OPENING

Councillor J Natoli acknowledged the Traditional Custodians of the land on which the meeting took place.

Reverend Jeanette Jamieson-Ford from St Andrew's Anglican Church Caloundra read a prayer.

3 RECORD OF ATTENDANCE AND LEAVE OF ABSENCE

COUNCILLORS

Councillor R Natoli	Mayor (Chair)
Councillor J Broderick	Division 1
Councillor T Landsberg	Division 2
Councillor T Burns	Division 3
Councillor J Natoli	Division 4
Councillor W Johnston OAM	Division 5
Councillor C Dickson	Division 6 (via Teams)
Councillor E Hungerford	Division 7 (via Teams)
Councillor T Bunnag	Division 8
Councillor M Suarez	Division 9 (Deputy Mayor)
Councillor D Law	Division 10

COUNCIL OFFICERS

Acting Chief Executive Officer
Acting Group Executive Built Infrastructure
Acting Group Executive Business Performance
Acting Group Executive Civic Governance
Acting Group Executive Customer and Planning Services
Acting Group Executive Liveability and Natural Assets
Group Executive Economic and Community Development
Coordinator Meeting Management
Manager Audit, Assurance and Risk Advisory Services
Coordinator Financial Accounting
Chief Financial Officer
Manager Leasing & Land Management
Acting Coordinator Response Services
Head of Strategic Property
Principal Property Officer

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

4 RECEIPT AND CONFIRMATION OF MINUTES

Council Resolution

Moved: Councillor W Johnston

Seconded: Councillor J Natoli

That the Minutes of the Ordinary Meeting held on 29 August 2024 be received and confirmed.

Carried unanimously.

5 MAYORAL MINUTE

NIL

6 INFORMING OF CONFLICTS OF INTEREST

6.1 PRESCRIBED CONFLICTS OF INTEREST

NIL

6.2 DECLARABLE CONFLICTS OF INTEREST

NIL

7 PRESENTATIONS / COUNCILLOR REPORTS

NIL

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

8 REPORTS DIRECT TO COUNCIL

8.1 AUDIT COMMITTEE MEETING 2 SEPTEMBER 2024

File No: Council Meetings

Author: Manager Audit, Assurance and Risk Advisory Services
Civic Governance

Appendices: App A - Audit Committee Minutes 2 September 2024

Council Resolution (OM24/79)

Moved: Councillor J Broderick

Seconded: Councillor E Hungerford

That Council:

- (a) receive and note the report titled "Audit Committee Meeting 2 September 2024" and
- (b) endorse the Minutes of the Audit Committee Meeting of 2 September 2024 at Appendix A to this report.

Carried unanimously.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

**8.2 QUEENSLAND AUDIT OFFICE: SECOND INTERIM MANAGEMENT REPORT
FOR THE FINANCIAL YEAR ENDED 30 JUNE 2024**

File No: Council Meetings

Author: Coordinator Financial Accounting
Business Performance Group

Attachments: Att 1 - Queensland Audit Office Second Interim Report 2023-24

Council Resolution (OM24/80)

Moved: Councillor J Broderick

Seconded: Councillor E Hungerford

That Council receive and note the report titled "Queensland Audit Office: Second Interim Management Report for the financial year ended 30 June 2024".

Carried unanimously.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

8.3 AUGUST 2024 FINANCIAL PERFORMANCE REPORT

File No: Council Meetings

Author: Coordinator Financial Services
Business Performance Group

Attachments: Att 1 - August 2024 Financial Performance Report
Att 2 - August 2024 Capital Grant Funded Project Report

Council Resolution (OM24/81)

Moved: Councillor E Hungerford

Seconded: Councillor J Broderick

That Council receive and note the report titled "August 2024 Financial Performance Report".

Carried unanimously.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

8.4 BUDGET REVIEW 1 - 2024-25

File No: Council Meetings
Author: Chief Financial Officer
Business Performance Group
Appendices: App A - 2024-25 Amended Budget Financial Statements
App B - 2024-25 Minor Capital Works Program

Council Resolution (OM24/82)

Moved: Councillor E Hungerford
Seconded: Councillor J Broderick

That Council:

- (a) receive and note the report titled "Budget Review 1 - 2024-25"
- (b) adopt Appendix A as tabled, pursuant to sections 169 and 170 of the Local Government Regulation 2012, Council's amended budget for 2024-25 financial year incorporating:
 - (i) the statement of income and expenditure
 - (ii) the statement of financial position
 - (iii) the statement of changes in equity
 - (iv) the statement of cash flow
 - (v) the relevant measures of financial sustainability
 - (vi) the long term financial forecast
 - (vii) Council's 2024-25 Capital Works Program, endorse the indicative four-year program for the period 2026 to 2029, and note the five-year program for the period 2030 to 2034
- (c) note the following documentation applies as adopted 20 June 2024
 - (i) the Debt Policy
 - (ii) Revenue Policy
 - (iii) the total value of change, expressed as a percentage, in the rates and utility charges levied for the financial year compared with the rates and utility charges levied in the previous budget
 - (iv) the Revenue Statement
 - (v) the rates and charges to be levied for the 2024-25 financial year and other matters as adopted 20 June 2024
 - (vi) the Strategic Environment Levy Policy
 - (vii) the Strategic Arts and Heritage Levy Policy
 - (viii) the Strategic Transport Levy Policy
 - (ix) Prescribed Services Charge Plan (No. 2) 2024-25 Financial Year and
- (d) endorse the Minor Capital Works Program (Appendix B).

Carried unanimously.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

**8.5 DISPOSAL (LEASE) OF COMMERCIAL TENANCY AT CALOUNDRA
LIBRARY+ 1 OMRAH AVENUE CALOUNDRA**

File No: Council Meetings
Author: Senior Property Officer
Business Performance Group
Attachments: Att 1 - Aerial Map

Council Resolution (OM24/83)

Moved: Councillor T Landsberg
Seconded: Councillor J Natoli

That Council:

- (a) *receive and note the report titled "Disposal (Lease) of Commercial Tenancy at Caloundra Library+ 1 Omrah Avenue Caloundra" and*
- (b) *resolve that, under section 236 (1)(e) of the Local Government Regulation 2012, Council may dispose of a valuable non-current asset other than by tender or auction, this being the disposal by way of the grant of a lease of an interest in land for the Tenancy at Caloundra Library+ at 1 Omrah Av Caloundra legally described as Lot 22 RP883293, on the basis that:*
 - (i) *the lease has previously been offered to the market by public tender, and*
 - (ii) *a lease has not been entered into or secured via public tender as no tender was received.*

Carried unanimously.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

8.6 SYSTEMATIC INSPECTION PROGRAM - REGULATED DOGS

File No: Council Meetings

Author: Acting Coordinator Response Services
Customer & Planning Services Group

Attachments: Att 1 - Mandatory conditions for keeping a regulated dog

Council Resolution (OM24/84)

Moved: Councillor C Dickson

Seconded: Councillor W Johnston

That Council:

- (a) *receive and note the report titled "Systematic Inspection Program - Regulated Dogs" and*
- (b) *approve the following systematic inspection program for the Sunshine Coast Council area in accordance with the Animal Management (Cats and Dogs) Act 2008, section 113 (Approval of an inspection program authorising entry):*
 - (i) *to undertake a compliance inspection of the premises within the Sunshine Coast local government area where Council's Regulated Dog Register indicates a regulated dog is being kept, and*
 - (ii) *to undertake the program from 14 November 2024 to 13 November 2025.*

Carried unanimously.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

9 NOTIFIED MOTIONS

NIL

10 TABLING OF PETITIONS

10.1 PETITION – EXPLORER STREET, SIPPY DOWNS

Council Resolution (OM24/85)

Moved: Councillor C Dickson

Seconded: Councillor W Johnston

That the petition tabled by Councillor C Dickson to request “no parking” lines be installed in Explorer Street, Sippy Downs be received and referred to the Chief Executive Officer to determine appropriate action.

Carried unanimously.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

11 CONFIDENTIAL SESSION

CLOSURE OF THE MEETING TO THE PUBLIC

Council Resolution

Moved: Councillor W Johnston

Seconded: Councillor M Suarez

That the meeting be closed to the public pursuant to s254J(3)(h) of the Local Government Regulation 2012 to consider the following items:

11.1 Confidential - Not for Public Release - Land Acquisitions - Bli Bli

Carried unanimously.

RE-OPENING OF THE MEETING TO THE PUBLIC

Council Resolution

Moved: Councillor J Natoli

Seconded: Councillor W Johnston

That the meeting be re-opened to the public.

Carried unanimously.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

**11.1 CONFIDENTIAL - NOT FOR PUBLIC RELEASE - LAND ACQUISITIONS - BLI
BLI**

File No: Council Meetings
Author: Principal Property Officer
Business Performance Group

In preparing this report, the Chief Executive Officer recommends it be considered confidential in accordance with Section 254J (3) (h) of the *Local Government Regulation 2012* as it contains information relating to negotiations relating to the taking of land by the local government under the *Acquisition of Land Act 1967* (Qld) (the Act).

This report is confidential in respect to the content and timeframes of negotiations with land owners and recognising that, until a voluntary acquisition is settled or a compulsory land acquisition is gazetted, the acquisition has no certainty.

Public disclosure at this time would potentially impact adversely on the negotiation process and Council's ability to secure the land parcels at market value. Further, it would potentially impact the compulsory land acquisition process under the Act by prematurely releasing sensitive planning information that is still subject to change instead of as part of the resumption process under the Act, which formally commences with the serving of a Notice of Intention to Resume and associated background information, current at that time, to affected land owners.

Council Resolution (OM24/86)

Moved: Councillor M Suarez
Seconded: Councillor T Bunnag

That Council:

- (a) *delegate to the Chief Executive Officer authority to commence the process under the Acquisition of Land Act 1967 to acquire the following land at Bli Bli:*
 - (i) *approximately 157m² from Lot 4 on RP801928*
 - (ii) *approximately 105m² from Lot 34 on SP133164*
- (b) *note that if there is an objection to a Notice of Intention to Resume, a report on the objection will be presented to Council for it to consider and decide whether Council should amend the Notice of Intention to Resume, discontinue the resumption or make an application to the Minister to take the land under section 9 of the Acquisition of Land Act 1967*
- (c) *if no objections are received, delegates authority to the Chief Executive Officer to make an application to the Minister for Resources to take the land under section 9 of the Acquisition of Land Act 1967*

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

- (d) *delegate authority to the Chief Executive Officer to settle claims for compensation if the land is compulsorily acquired and*
- (e) *authorise the Chief Executive Officer to publicly release details relating to the site once the transfer of ownership of land has been registered with the Titles Registry.*

Carried unanimously.

ORDINARY MEETING MINUTES

26 SEPTEMBER 2024

12 NEXT MEETING

The next Ordinary Meeting will be held on 24 October 2024 in the Sunshine Coast City Hall Chamber, 54 First Avenue, Maroochydore

13 MEETING CLOSURE

The meeting closed at 10:26am.

Confirmed 24 October 2024.


CHAIR

Sunshine Coast Community Strategy 2019-2041

2024 Refresh and Action Plan 2024-2029



Edition September 2024

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Acknowledgements

Council wishes to thank all contributors
 and stakeholders involved in the
 development of this document.

Reference document

This document should
 be cited as follows:
 Sunshine Coast
 Community Strategy 2019-2041,
 2024 Refresh and
 Action Plan 2024-2029

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 future plans, activities, policies
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Traditional Acknowledgement

Sunshine Coast Council acknowledges the Sunshine Coast Country, home of
 the Kabi Kabi peoples and the Jinibara peoples, the Traditional Custodians,
 whose lands and waters we all now share.

We recognise that these have always been places of cultural, spiritual, social
 and economic significance. The Traditional Custodians' unique values, and
 ancient and enduring cultures, deepen and enrich the life of our community.

We commit to working in partnership with the Traditional Custodians and the
 broader First Nations (Aboriginal and Torres Strait Islander) communities to
 support self-determination through economic and community development.

Truth telling is a significant part of our journey. We are committed to better
 understanding the collective histories of the Sunshine Coast and the
 experiences of First Nations peoples. Legacy issues resulting from colonisation
 are still experienced by Traditional Custodians and First Nations peoples.

We recognise our shared history and will continue to work in partnership to
 provide a foundation for building a shared future with the Kabi Kabi peoples
 and the Jinibara peoples.

We wish to pay respect to their Elders – past, present and emerging, and
 acknowledge the important role First Nations peoples continue to play within
 the Sunshine Coast community.

Together, we are all stronger.

Acknowledgement of contributors

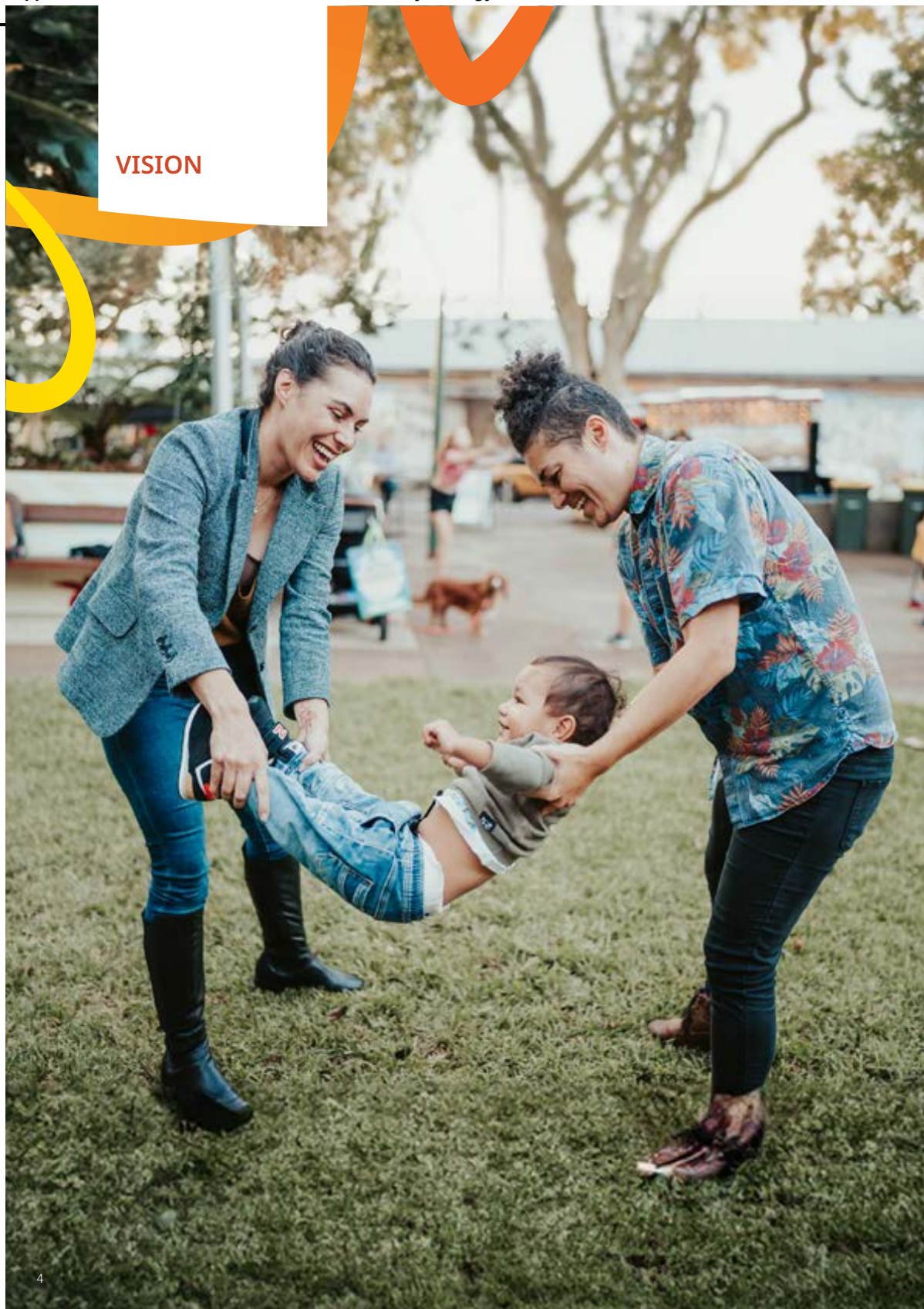
Council would like to recognise and thank all contributors involved in the
 development of the Sunshine Coast Community Strategy 2019-2041 as well
 as our community and partners who work with us to contribute to a thriving
 Sunshine Coast region. Council looks forward to working collaboratively to
 strengthen the fabric and vitality of our communities. Together we can build a
 more connected and inclusive community – a strong community for all.



Image: Dawn Awakening, Horizon Festival 2022. Photo: Nic Morley.

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Vision

Together we thrive

The Sunshine Coast community thrives through connection with people, places and spaces and staying true to our values as a welcoming, caring and vibrant community, with opportunities to participate for all.

In 2041:

We are a kind, caring community living sustainably within our Sunshine Coast Biosphere. At the heart of our communities are our people, who come together and look after each other. There is a strong sense of belonging and community spirit across our diverse coastal, hinterland and rural communities.

We respect, value and celebrate the culture of our First Nations people. We understand and acknowledge the enduring connection to Country of the Traditional Custodians – the Kabi Kabi peoples and the Jinibara peoples – and the contribution of the broader First Nations community.

Our community is as healthy as possible with good physical and mental health. We practise healthy lifestyles and limit risky behaviours that impact long-term health. We value and care for our environment and connect with nature to sustain and enhance our health and wellbeing.

We all have multiple fulfilling connections with others, contributing to our health and wellbeing and our sense of connection, belonging and inclusion within our local community. We are less likely to feel lonely and we can draw on support from others when we need it.

We value and celebrate diversity, in all its forms. We respect people who are different to ourselves. We are interested to learn about our different and shared experiences, and we are not afraid to talk about what makes us unique.

New residents to the Sunshine Coast are welcomed into our local community by friendly neighbours. They meet new people easily and are quickly integrated into community networks and activities. They make new friends and can participate fully in community life soon after moving in.

Everyone has equitable opportunities to participate. Prejudice, discrimination and attitudinal or environmental barriers that limit potential are removed.

We all have the capacity and willingness to actively contribute to our community. We come together to proactively identify priorities, learn from others and take collective action.

Our community is safe, with low levels of crime. Domestic and family violence is not tolerated. We also feel safe. This feeling of safety is supported through a sense of connection to others and the amenity of the built and natural environment.

Community places and spaces are inclusive and support our community to come together to connect, learn, share and collaborate. They also support our health and wellbeing.

Our transport network supports community connection and healthy lifestyles. We can get around with ease in ways that are affordable, sustainable and convenient.

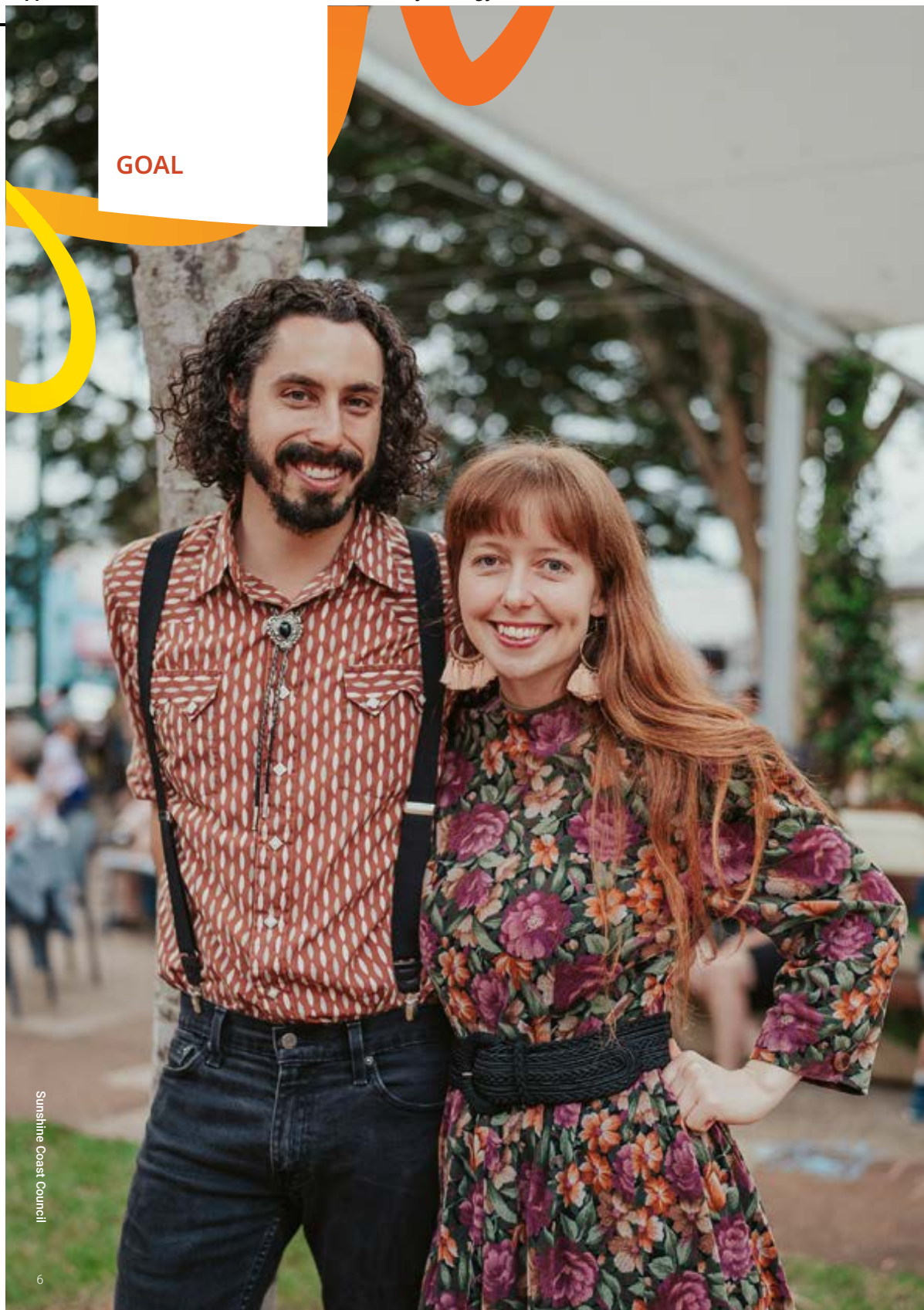
Housing is suited to the needs of our community and there are affordable options for everyone. Rates of homelessness are low. People experiencing homelessness are treated with dignity and compassion.

We are prepared and resilient to the effects of climate change, as well as other shocks and stressors that may impact our communities. We maximise our resilience through building strong connections with others and preparing ourselves for different possibilities. We take personal responsibility for our own safety and resilience, and for those around us, as much as we can.

We value our shared heritage and the individual heritage of the people who make up our community. We are creative, with world-class art, music and leisure experiences that showcase our rich culture and heritage.

We all have a vested interest and personal responsibility to contribute to the Sunshine Coast that we want to see in 2041.

GOAL



Goal

A strong community

A strong community is connected, everyone is included and treated with respect, and opportunities are available for all.



01 Healthy, active communities

Information, services and programs support physical and mental health and wellbeing.

Topics

1.1 Health and wellbeing



02 Vibrant communities

Community places and spaces, transport and housing provide the fundamental building blocks for a vibrant community.

Topics

2.1 Community places and spaces

2.2 Transport

2.3 Housing and homelessness support



03 Inclusive communities

Opportunities are available for everyone to participate and be involved.

Topics

3.1 Inclusion

3.2 Volunteering

3.3 Community engagement



04 Connected, resilient communities

Communities are connected, resilient and safe where people work collaboratively to achieve shared goals.

Topics

4.1 Community connection and resilience

4.2 Community safety



05 Creative, innovative communities

Creativity, heritage and First Nations culture are sources of connection, learning and pride.

Topics

5.1 Arts, heritage and First Nations culture

One vision – three strategies



Council's vision is supported by three long-term strategies that have been developed in consultation with our community. These regional strategies collectively provide the strategic framework and desired outcomes for Council to work collaboratively across our community, with business and other tiers of government to advance our vision as Australia's most sustainable region.

To achieve the vision for the region, it is critical to progress our community, environment and economic objectives, understanding that all three are integrated and critical to the success and overall sustainability and liveability of our region.

Strategic alignment

Sunshine Coast Community Strategy 2019-2041

The Sunshine Coast Community Strategy provides the strategic pathways towards a future where together we thrive. We thrive through connection with people, places and spaces and where we stay true to our values as a welcoming, caring and vibrant community, with opportunities for all to participate.

Environment and Liveability Strategy 2023

The Environment and Liveability Strategy provides strategic pathways to guide growth and shape the Sunshine Coast for future generations to 2041. It focuses on the natural environment and how it can be preserved and enhanced, as well as the liveability of the region. It enables a good quality of life for all residents, while supporting a strong economy in an accessible and well-connected built environment.

Regional Economic Development Strategy 2013-2033

The Regional Economic Development Strategy provides the strategic pathways to transition into a regional economy that is innovative, adaptive, resilient and climate ready. It encourages a more sustainable and equitable future economy, attracting investment and supporting local businesses to innovate, grow and enable diverse employment opportunities.



United Nations Sustainable Development Goals

As we advance our vision as Australia's most sustainable region – Healthy. Smart. Creative. the environmental, social, cultural and economic activities across the region must be carefully balanced to ensure we advance our vision sustainably.

The United Nations Sustainable Development Goals (UNSDGs) for peace, prosperity, people and planet provide a comprehensive and internationally recognised framework for us to collectively align

the way we each live, work, learn and play every day – and form an important foundation of the performance measurement framework of our Biosphere.

Council is demonstrating regional leadership by committing to embed the UNSDGs in our strategies, plans and associated progress reporting. Each Corporate Plan goal identifies how it contributes to the UNSDGs and, in doing so, assists to progress our Sunshine Coast Biosphere aim and objectives.

Sunshine Coast Council

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Photo: Nic Morley

Our global commitment

This strategy embeds the United Nations Sustainable Development Goals (UNSDGs) into its actions. The UNSDGs for peace, prosperity, people and planet provide a comprehensive and internationally recognised framework to collectively align the way we each live, work, learn and play every day. Specific UNSDGs (as highlighted) have been embedded into the Community Strategy to ensure alignment and provide for a sustainable future.

UNSDG 1 – The strategy seeks to contribute to poverty reduction through collective community and government action in topic areas such as community places and spaces, housing and homelessness support, transport and inclusion.

UNSDG 2 + 3 – The strategy identifies specific outcomes and actions related to food security, health and wellbeing, including prioritising both physical and mental health. The strategy also recognises the importance of other topic areas, such as community connection, safety, transport, inclusion and volunteering, that influence our health and wellbeing.

UNSDG 4, 5 + 10 – Inclusion and equity are core principles in the strategy and flow through all of the topic areas covered. Outcomes and actions related specifically to inclusion are outlined in the inclusion topic.

UNSDG 8 + 9 – The strategy recognises that inclusive opportunities for training and employment provide personal, community, business and economic benefits. It also acknowledges that the creative arts, heritage and First Nations culture can support both livelihoods and cultural vitality.

UNSDG 11 – The strategy includes outcomes and actions related to transport, community places and spaces, and housing and homelessness that contribute to an inclusive, safe and resilient region for all.

UNSDG 9 + 13 – The strategy includes an emphasis on improving the resilience of our communities. Increasing our adaptive capacity to prepare and respond to increasing climate risks is an important part of community resilience. The strategy also prioritises community connections, which improve our resilience to a multitude of shocks and stressors.

UNSDG 16 – The strategy includes outcomes and actions related to community safety as well as community engagement to help promote inclusive participation in decision-making.

UNSDG 17 – Collaboration and working in partnership with others are core principles of the implementation of the strategy.



In June 2022, our Sunshine Coast local government area was recognised by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) as a biosphere reserve – where responsible development and people living sustainably sit alongside active conservation.

Our region has joined a world-wide network of biosphere reserves to balance the environmental, social, cultural and economic needs of today, without compromising the ability to meet the needs of future generations.

Our region's international recognition as a special place where people are living, working, learning and playing

sustainably highlights the values of our region that we are seeking to protect and enhance, brings new opportunities and a range of possible benefits to our natural environment, community, lifestyle and economy.

Being recognised as a UNESCO Biosphere Reserve and maintaining this credential is our region's commitment to create a positive legacy for future generations. Every resident, visitor, business and government entity has a key role to play in maintaining and enhancing the Sunshine Coast Biosphere reserve for our children, grandchildren and all those who will enjoy the prosperity, beauty and liveability of our region into the future.

ABOUT THE SUNSHINE COAST

Sunshine Coast Council

12

1.1 Snapshot of our community



Population (2023) 365,942

The Sunshine Coast has experienced an average annual growth rate of **2.6%** over the past ten years (2013-2023). This is stronger growth than the Queensland average, at **1.6%**.



Average age 43 years

The Sunshine Coast has a higher median age compared to Queensland (at 38 years). **21.7%** of the population is 65 years and over, compared to **17%** in Queensland.



Future population (2041) >500,000

Future population growth is expected to be strong, increasing to more than **500,000** residents in 2041. Population ageing will continue with the median age increasing to 46 years, and **26.9%** of residents being 65 years and over.



First Nations People 8331

2.4% of our population are Aboriginal and/or Torres Strait Islander people, compared to **4.6%** in Queensland. The number of residents who identified as First Nations people increased by **2615** people between 2016 and 2021.



Residents born overseas 70,740

20.7% of Sunshine Coast residents were born overseas, compared to **22.7%** for Queensland. **6.1%** of residents speak a language other than English at home and **3.2%** follow a non-Christian religion.



Couples without children 30.2%

30.2% of households are couples without children, compared to **26.4%** for Queensland. **22.2%** of households are people living alone, and this proportion is expected to increase to **24.2%** in 2041. **10.5%** of households are one parent families.

Note: Statistics at 2021, unless otherwise noted.



Average weekly household income \$1595

The median weekly income for Sunshine Coast households was around **5%** lower than for Queensland (\$1595 compared to \$1675). **22.1%** of households earned less than **\$800** per week.



Severe socio-economic disadvantage 20,241

Overall, the Sunshine Coast has low levels of disadvantage. However, around **20,000** residents live in neighbourhoods considered to be severely disadvantaged (bottom 20% of Australian population).



People experiencing homelessness 1205

Estimates of people experiencing homelessness increased by around **50%** between 2016 and 2021. Homelessness rates are lower for the Sunshine Coast than for Queensland (**35/10,000** population, compared to 43/10,000 for Queensland).



People with severe disability 21,211

6.2% of our residents need assistance with core activities, compared to **6.0%** for Queensland. **33,328** residents (**11.8%**) are carers for someone with a disability or long term illness. This is up from **11.1%** in 2016.



Unemployment rate 4.4%

Low unemployment rate of **4.4%** in 2021 (**5.4%** for Queensland), but represents 7426 residents looking for work. Unemployment for young people (15-24 years) was higher at **8.9%**, compared to **11.1%** for Queensland.



Volunteering rate 15.7%

15.7% of residents spent time volunteering in 2021, compared with **14.1%** for Queensland. This was a significant decline from a volunteering rate of **20.7%** in 2016.



1.2 Drivers of change

Over the next 20 years the Sunshine Coast community will experience many challenges and opportunities. The Community Strategy has been shaped by considering the drivers of change across the six domains below.

Population

The Sunshine Coast community is growing and is expected to continue growing strongly to 2041. The proportion of older people in our community is also growing with the number of residents 75 years and older expected to more than double to 77,000 people in 2041.

This population growth and change will require continued focus on:

- **Healthy ageing:** More older people in our community will require a renewed focus on healthy ageing, both in terms of our physical and mental health, as well as the facilities, services and activities needed for support.
- **Maintaining our cohesive community:** With new residents moving to the region, we need to continue our efforts to be welcoming and inclusive. Strengthening our cohesive community will encourage a sense of belonging for new residents and contribute to community connection and resilience.
- **Maintaining liveability and connectivity:** Population growth will require new investment in facilities, services and activities to maintain levels of liveability and connectivity. We will also need to plan for population change that may impact service demands.
- **Housing our growing population:** Population growth and change may create availability and affordability challenges over the next 20 years. This is a complex issue to resolve and requires effort from all levels of government, but there are things we can do as a community to support people to find and maintain stable accommodation.

Population growth and change will bring new experiences, ideas and perspectives to the Sunshine Coast and drive our capacity to address new challenges and opportunities.

Community

The Sunshine Coast is a caring and safe community, however some residents are disconnected, isolated or excluded. About 15% of Sunshine Coast residents have two or fewer close friends, which impacts their quality of life. Residents continue to experience discrimination and other barriers to participation.

Community connection is essential to our health and our individual and collective resilience. It is also fundamental to addressing many of the challenges faced by our community and taking advantage of available opportunities. Residents identified several ongoing priorities we need to work on to strengthen our community, these include mental health, isolation, First Nations reconciliation, volunteer participation, community engagement, inclusion and community resilience. We are also managing challenges such as the rising cost of living, population growth, change in our urban and rural areas and the climate emergency.

Community connection and the elements needed to foster community connection such as trust and inclusion, will help us address many of our current and future challenges.

The community sector also facilitates connection and resilience and is an important partner in achieving our collective priorities.

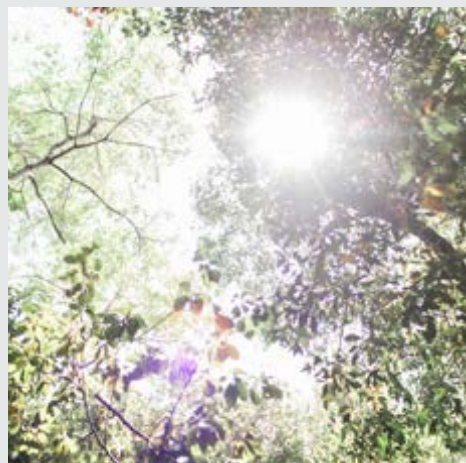


Climate

More frequent and significant disaster events are likely on the Sunshine Coast due to climate change. The number of days per year with extreme heat is increasing, sea levels are slowly rising and we will also experience more intense periods of heavy rain and storm events. Higher costs to insure, maintain and repair property will impact our community, as well as impacts to health such as emerging diseases and heat-related illnesses. Some residents, particularly young people, also feel anxious or distressed about global climate change.

We need to continue our focus on preparedness and resilience to adapt to changing conditions and return to normal quickly after disaster events. And more than just return to normal, we need to progressively improve our behaviours, resilience and adaptive capacity, so that we can prepare for increasing risks, new challenges and ongoing change.

Understanding our risks and taking individual responsibility for our own preparedness are important elements of community resilience. We can also build our network of community connections to enable sharing of resources, knowledge and support systems. Our community is more resilient when we are all connected to a network of family, friends, neighbours and organisations that we can call on when we need help or when we can provide assistance. As a community we can meet the challenges of a warming climate.



Environment

Our environment supports our health, lifestyle and sense of belonging. Productive soils, clean air and clean water are fundamental to our health. Access to nature contributes to our physical and mental health, including through the physical activities we undertake outdoors and through the benefits of relaxation and mindfulness. Aspects of our regional and local environment are also part of our sense of place and identity as Sunshine Coast residents. For some people, connection to the environment forms a fundamental part of their values, beliefs, culture and identity.

Climate change, urban expansion, habitat loss and fragmentation, invasive species and community access are impacting our local environment, including biodiversity and the functioning of our ecosystems. Our personal choices also have a significant impact on our local and global environment, including our waste, energy use and how we get around.

Increasing our use of public transport, riding and walking can help reduce our environmental impact. A more consolidated urban form and further investment in transport infrastructure can support this shift to active transport (riding and walking) and passenger transport (public transport, taxis, rideshare, etc.), however this will take time to be delivered. We can reduce our use of private vehicles now by combining trips, using online services, carpooling or moving closer to work to reduce our impact on the environment.

Our local and global environment is important for our physical and mental health, our lifestyle and our sense of place and identity. We can each take individual and collective action to reduce our environmental impact and ensure the sustainability of our region for future generations.



Technology

Artificial intelligence, self-driving cars, remote service delivery and other technological changes will continue to shape the way we live and work over the next 20 years.

For many residents, technology has increased the accessibility and convenience of services and has contributed to growing community connection. However, others are struggling to keep up, creating a 'digital divide'. People who do not use new technologies can be increasingly isolated from information, connection and opportunities to participate. Some new technologies can also contribute to feelings of isolation, low self-esteem, distraction and anxiety, particularly for young people.

New technologies can provide significant opportunities to grow a stronger Sunshine Coast community, however there are also challenges. Ensuring there are opportunities for everyone to participate and continuing to value and facilitate personal and group interactions is vital for inclusion and connection.



Economy

A strong and diversified Sunshine Coast economy is imperative to achieving a strong community, particularly at this time when housing affordability and cost of living are creating challenges for residents. It is crucial that the local economy continues to generate local, well-paid jobs that are available to all within our community as our region grows.

Having well-paid employment increases our ability to meet our own needs and the needs of our families. A higher income can be used to pay for healthier food, a variety of healthy activities and health care. Having a steady income also reduces stress, which can have both mental and physical health impacts. Having a job close to home also reduces time spent commuting to and from work, and therefore contributes to our quality of life.

A range of broad economic conditions influences employment, however physical, attitudinal and organisational barriers continue to restrict access to employment for some residents. Discrimination is one significant barrier that we can overcome as a community to broaden employment access.

All businesses, and particularly social enterprise and the impact sector, can positively contribute to our most pressing community priorities and are important partners in building strong and thriving communities.

ABOUT THE COMMUNITY STRATEGY



2. About the Community Strategy

2.1 Purpose

The Community Strategy provides a long-term framework outlining how the Sunshine Coast community and Council will work together to advance our shared goal of a strong community through to 2041. The strategy outlines what Council will (and can) do as a local government and how it will go about doing it.

The Community Strategy sets out a vision, goal and five outcomes we want to achieve. It also outlines principles and methods for how we will work together to achieve the goal of a strong community.

The 2024 refresh of the Community Strategy advances the previous work undertaken by Council and our community partners over the past decade. It builds on the strong foundation created by the Social Strategy (2015) and first Community Strategy (2019 edition).

2.2 How the Community Strategy was developed

The Community Strategy was developed with extensive community input. Those who contributed did so with enthusiasm, wisdom and great ideas. Council asked residents what a strong community means to them, and the vision, goals and priorities in this strategy are shaped around this input.

Community input was gathered through:

- Online and face-to-face surveys
- Stakeholder forums
- Focus groups and key sector networks
- Engagement with schools
- Pop-ups stalls
- Social media
- Internal and external stakeholder advisory group meetings.

Thousands of Sunshine Coast residents provided input and ideas that have shaped the Community Strategy, both for the original 2019 version and again for this 2024 refresh.

Diverse community voices were vital to ensuring this strategy reflects our collective aspirations for the Sunshine Coast.

Further to this, significant research into best-practice community development initiatives and analysis of trends and forecasts have informed the development of the Community Strategy.

2.3 Community views

Community priorities in 2023/24 include:

- Housing and homelessness support
- Cost of living pressure
- Community places and spaces
- Transport.

As well as:

- Activities and facilities for young people
- Further recognition of First Nations people
- Inclusion of diversity, in all its forms
- Personal and community connection.

Our community values:

- Connection to each other and to our community
- Inclusion through embracing diversity and equity
- Collaboration
- Liveability and sustainability, including a balance between our natural and built environment.

Our community wants Council to:

- Advocate to and work with other levels of government to improve the transport network, housing affordability and homelessness support
- Increase access to health and wellbeing programs, information and infrastructure
- Support the activation of our places and spaces, and more events and activities for people of all ages and abilities to participate and connect
- Support an inclusive, caring community that is connected, looks after each other and values diversity
- Be more visible in our community and provide a diversity of ways to engage that enables people to influence matters that impact them.

2.4 Role of Council

Council, as the level of government closest to our community, plays an important role in supporting a strong community. Council contributes to a strong community by:

- Providing inclusive places and spaces for people to connect and participate
- Delivering and maintaining local transport networks that allow people to get around and connect with others and services
- Setting the requirements for development that support new housing and service delivery and limit exposure to risks
- Advocating for investment and legislative changes from other levels of government for health and emergency services, major roads, public transport, schools and universities, etc.
- Partnering with others to provide programs and services to help people connect, build their capacity to respond to local issues, keep informed and improve their wellbeing
- Engaging with our community to understand local priorities and seeking to achieve suitable outcomes together
- Providing information and resources to help people access support, activities and connection.

Council cannot achieve the goal of a strong community alone. We all need to take an active role, including individuals, households, community groups and associations, place-based communities, interest-based communities, community-sector organisations, businesses and government agencies.

We all have a role to play and personal responsibility to build a strong Sunshine Coast community together.






2.5 Council implementation

Council will contribute to achieving the outcomes of the Community Strategy through the implementation of rolling five-year action plans, which will in turn guide Council's annual operational planning.

Challenges and opportunities in our community will inevitably shift and change over time. For this reason, the Community Strategy must be dynamic and versatile, reflecting community priorities as they evolve. Council will therefore review the Community Strategy every five years so that it remains current and can achieve its stated purpose.

2.6 Measuring impact

We will use the following measures to track progress towards our shared goal of a strong community. We all have responsibility for contributing to the outcomes we want to see in our community and we will need to work together to achieve these targets.

Target	Baseline	Latest	2041 Target
Residents in agreement that the Sunshine Coast is a strong community	NA	68%	75%
 01 Healthy, active communities			
1.1 Resident who rated their health as good, very good or excellent as a ranking within Regional Queensland (Health of Queenslanders, Queensland Government)	#2	#4	#1-3
 02 Vibrant communities			
2.1 Residents in agreement that Council's community infrastructure meets community need	NA	56%	60%
2.2 Personal travel by active transport and passenger transport (a) (Queensland Household Travel Survey, Queensland Government)	15%	12% ●	30%
2.3 Residents in agreement that they can find the type of accommodation they need	37%	35% ●	40%
 03 Inclusive communities			
3.1 Residents in agreement that it is a good thing for a society to be made up of people from different cultures	85%	84%	90%
3.2 Residents who volunteered for an organisation in the preceding twelve months (b) (ABS Census)	21%	16%	20%
3.3 Residents in agreement that there are opportunities to have a say on community issues that are important to them	70%	51% ●	70%
 04 Connected, resilient communities			
4.1 Residents in agreement that they live in an active community where people get involved in local issues and activities	77%	57% ●	75%
4.1 Residents in agreement that they can get help from friends, family, neighbours or community organisations when they need it	93%	87%	90%
4.2 Residents in agreement that they feel safe all the time on the Sunshine Coast	77%	62% ●	75%
 05 Creative, innovative communities			
5.1 Cultural vitality	TBD	TBD	TBD

Note: ● = well below target / tracking lower. (a) Latest travel data may still reflect altered travel behaviour shaped by COVID-19 restrictions and concerns. Target to be achieved at 2041. (b) Volunteering rates were impacted by COVID-19 risks and restrictions for latest data. **Source:** Sunshine Coast Council Community Connections Survey (biennial) unless noted otherwise.

PRINCIPLES AND METHODS

3. Principles and methods

The following principles and methods inform Council and community decision-making, action and how we work together to achieve our shared goals.

3.1 Principles

Local (place-based)

The Sunshine Coast is one regional community made up of many local communities. Each local community has its own unique sense of identity and its own priorities, strengths and challenges. These local differences are valued and harnessed for the benefit of each community, and this collectively strengthens our region.

Collaborative

Collaboration takes full advantage of the depth of lived experience, knowledge, expertise and other assets in our communities. Fostering relationships and ongoing communication that build trust and reciprocity are important for effective collaboration. Collaboration, transparent communication, trust and relationships are hallmarks of the way we work to achieve our goals.

Evidenced

Our actions will be driven by evidence gathered through research, data analysis and community knowledge. We will also draw upon evidence from outside the region. Evidence-based decision-making will maximise our effectiveness, ensure our resources are used efficiently, and increase the likelihood that we achieve our desired outcomes.

Equitable

A focus on equity ensures resources and opportunities are shared in a way that helps everyone, especially those who may need more support. The principles of equity and fairness are fundamental to achieving a strong community.

Outcome-focused

We will focus our efforts on initiatives that contribute to achieving our shared goals. Progress towards achieving our goals will be regularly measured and communicated. This approach requires transparency and trust to learn and improve together to maximise positive outcomes.

3.2 Methods

Encourage community involvement

As a community we will encourage and cultivate active participation and support community-led initiatives to achieve our shared goals.

Council will embrace, encourage and facilitate community participation and community-led initiatives to improve decision-making, deliver responsive services and enhance outcomes.

Grow collective capacity

As a community we will draw upon the depth of lived experience, knowledge and other assets in our community to grow our collective capacity.

Council will support collective capacity building by learning from others, engaging with community leaders and facilitating community connection and opportunities for collective learning, where needed.

Partner and collaborate

As a community we will partner and collaborate to learn from each other, explore opportunities and take collective action.

Council will learn from others and explore opportunities to work together to innovate and maximise effectiveness.

Invest in community-led initiatives

As a community we will cultivate a strong and trusting network of relationships to grow investment in community-led initiatives.

Council will support the contribution community organisations make in achieving positive community impact through co-investment.

Advocate together

As a community we will collectively advocate for the needs of our community, including for additional investment, for legislative change or to instigate action.

Council will contribute to collective advocacy to other levels of government alongside our community, where this is aligned and likely to be effective.

OUTCOMES



4. Outcomes



01 Healthy, active communities

Information, services and programs support physical and mental health and wellbeing.

Topics

1.1 Health and wellbeing



02 Vibrant communities

Community places and spaces, transport and housing provide the fundamental building blocks for a vibrant community.

Topics

2.1 Community places and spaces

2.2 Transport

2.3 Housing and homelessness support



03 Inclusive communities

Opportunities are available for everyone to participate and be involved.

Topics

3.1 Inclusion

3.2 Volunteering

3.3 Community engagement



04 Connected, resilient communities

Communities are connected, resilient and safe where people work collaboratively to achieve shared goals.

Topics

4.1 Community connection and resilience

4.2 Community safety



05 Creative, innovative communities

Creativity, heritage and First Nations culture are sources of connection, learning and pride.

Topics

5.1 Arts, heritage and First Nations culture

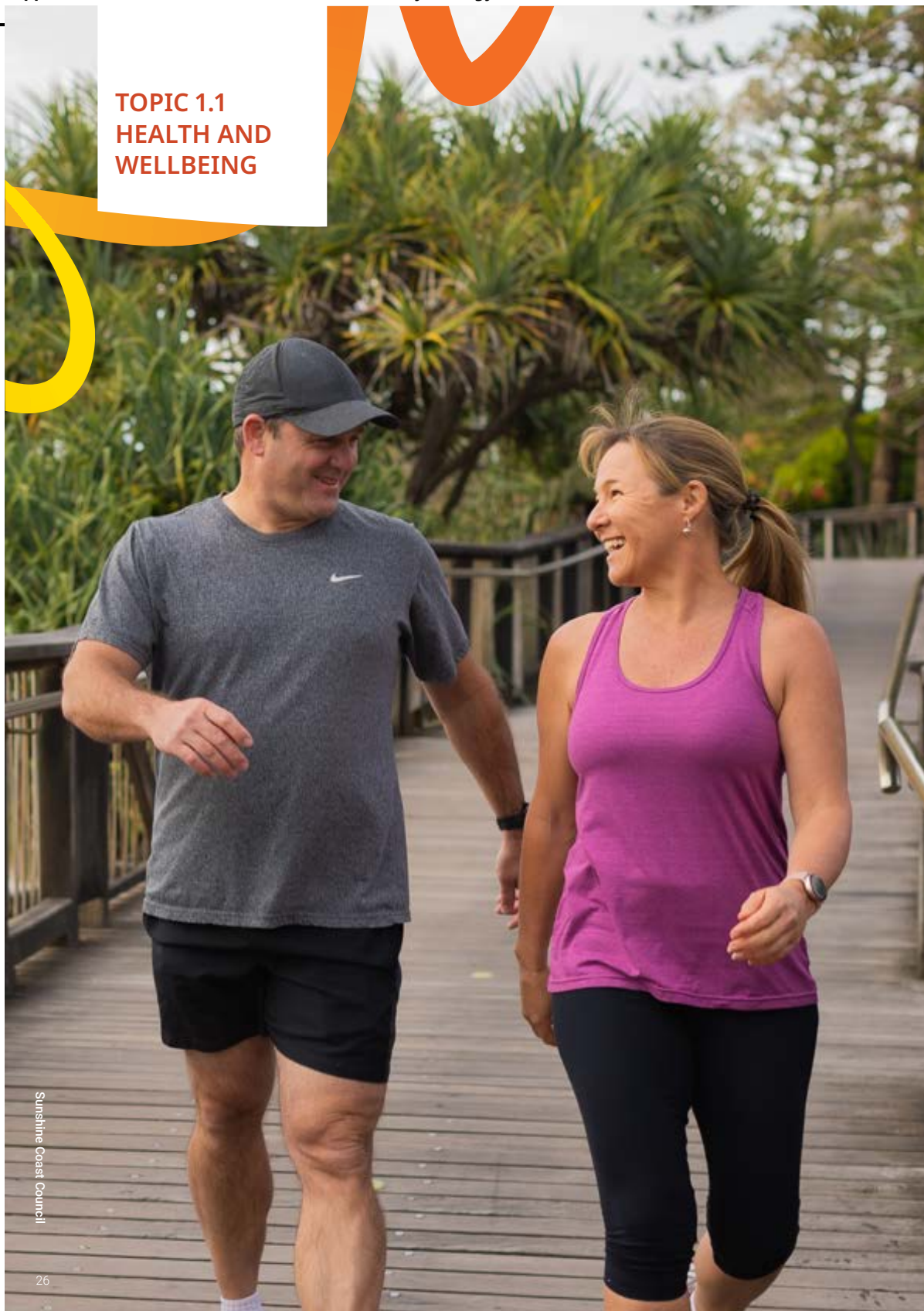
Each topic in this section includes:

- **Introduction:** Information about the topic and why it is important to achieving a strong community.
- **Related topics:** References to other topics or Council documents that can be read for information related to the topic.
- **Community priorities:** A summary of priorities identified by our community in 2023.
- **Council's role:** The roles that Council has in relation to the topic.
- **Examples of Council's current activities:**
A selection of current Council activities related to the topic to demonstrate ongoing Council initiatives.
- **Related Council documents:** References to other Council documents related to the topic.
- **UNSDG alignment:** References to relevant United Nations Sustainable Development Goals (UNSDGs) aligning to the topic.
- **Outcome statements:** The desired future state we seek to achieve collectively as a community and Council through to 2041.
- **Council actions (2024-2029):** Actions that Council will complete over the next five years.
- **Community actions:** Actions that community members can take to contribute to the topic. These actions are based on ideas from Sunshine Coast residents.

The outcomes and topics overlap and are interconnected. For example, being and feeling safe is important for health and wellbeing. Actions can contribute to multiple outcomes and topics concurrently.

All of the outcomes and topics are important and require our attention. The order of outcomes and topics does not imply that one outcome or topic is more important than others.

**TOPIC 1.1
HEALTH AND
WELLBEING**



Sunshine Coast Council

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Topic 1.1 Health and wellbeing

How does health and wellbeing contribute to a strong community?

Health is more than simply the presence or absence of illness, it includes elements of physical, mental and social wellbeing that contribute to our quality of life, happiness and fulfilment. Physical and mental health are inextricably linked and are equally important. Having the highest attainable standard of health is seen as a fundamental human right.

Health outcomes are influenced by our personal characteristics and behaviours, our physical environment and our social and economic environment. Some aspects of our health cannot be changed, however there are opportunities to proactively influence many aspects of our health through personal or community action. Changes to our personal behaviours, such as our levels of physical activity, diet, alcohol consumption, smoking, risk-taking behaviour, sleep and stress management, can significantly improve our health. We can also influence social and economic factors at a community level, including health services, job opportunities, crime and perceptions of safety, transport options and the natural and built environment, and particularly social connection and discrimination.

Being as healthy as possible maximises our ability to participate in our community and improves our quality of life. Physical activity reduces the risk of heart disease, stroke, dementia and some cancers. Team sports have the benefits of physical activity, but also build trust, contribute to a sense of belonging and provide opportunities for diverse connections. Eating well improves concentration and memory, reduces the risk of heart disease, stroke and some cancers and is especially important for the growth and development of children. Good mental health contributes to overall wellbeing, including being able to respond to life's daily challenges, improved confidence, healthier relationships, better productivity and greater participation in community.

As the Sunshine Coast community grows and changes over the next 20 years, our health and wellbeing will require continued attention. With the expected growth and ageing of our population, demand for health services will increase and we will need a renewed focus on healthy ageing. New technologies may offer more convenient and efficient options for delivery of health services, but they also present new health challenges. Use of social media, for example, can contribute to feeling down, difficulty concentrating and low self-confidence.

Being as healthy as possible maximises participation and contributes to achieving a strong community. There are many actions we can take individually and together to maximise our physical and mental health.

Related topics

- For places and spaces that support health and wellbeing refer to 2.1 Community Places and Spaces and the Environment and Liveability Strategy.
- For initiatives that promote walking and riding refer to 2.2 Transport.
- For personal and community connections refer to 4.1 Community Connection and Resilience.
- For creative and cultural expression refer to 5.1 Arts, Heritage and First Nations Culture.
- For access to nature refer to the Environment and Liveability Strategy.
- For socio-economic factors influencing health and wellbeing refer to other topics in the Community Strategy and the Regional Economic Development Strategy.

Community priorities

- Affordable, inclusive and convenient health and wellbeing activities, programs and community sport
- Additional focus on mental health, including youth mental health, healthy ageing and suicide prevention
- Increase access to trusted information about health and wellbeing.
- Reduce risky alcohol use, drug use, smoking and vaping
- Convenient and affordable access to health services (primarily provided by the private sector and supported by the Queensland Government and Australian Government)



#4 region in Regional Queensland

for self-rated health
(2021/22, Chief Health Officer Data, Sunshine Coast HHS)



84% of residents
rated their health
as good, very good or excellent
(2023, Community Connections Survey)



53% of residents
had been sunburnt
in the previous 12 months
(2019/20, Chief Health Officer Data, Sunshine Coast HHS)



52% of resident children (5-17 years)
had been sunburnt in
the previous 12 months
(2021-22, Chief Health Officer Data, Sunshine Coast HHS)



39% of residents
consumed alcohol at
levels risky to health
(2021-22, Chief Health Officer Data, Sunshine Coast HHS)



31% of residents
had 5 or more mentally
unhealthy days in the
previous month
(2021-22, Chief Health Officer Data, Sunshine Coast HHS)

Council's role

Council primarily influences health and wellbeing by funding and managing subsidised health and wellbeing programs, providing sporting and recreation infrastructure, maintaining open spaces and natural areas, supporting sports clubs, facilitating food security, and sharing information and resources.

Health services, disability support and residential care are funded and delivered by the Queensland Government, Australian Government, community sector and/or private sector.

Examples of Council's current activities

- Funding and managing the Healthy Sunshine Coast program which provides free and low-cost health and wellbeing activities
- Funding lifeguard services delivered by Surf Life Saving Queensland (SLSQ) at 21 beaches
- Supporting community networks and agencies
- Sharing information about health and wellbeing services and activities
- Supporting community gardening on Council-owned land
- Providing information and resources to support sporting clubs.



Outcome statements

1.1.1 Everyone has access to information, services and programs to improve their physical and mental health and wellbeing:

- a) Information is available to residents to improve their health and wellbeing.
- b) Everyone has access to a diverse range of affordable health and wellbeing activities.

- c) Everyone has access to affordable healthy food.
- d) People work to improve their own health and wellbeing and that of their families, where possible.
- e) Organisations work collaboratively to share health information and local research.

Council actions (2024-2029)

- a) Expand Council's Healthy Sunshine Coast program to deliver a broad range of low cost, convenient and inclusive health and wellbeing activities.
- b) Support community sporting clubs to access programs that improve inclusion.
- c) Advocate and partner to improve access to mental health services and programs (including youth mental health and healthy ageing).
- d) Collaborate to undertake and share health information and research focusing on health challenges (such as healthy ageing, suicide prevention, youth mental health, skin cancer risk, alcohol/drug consumption, smoking/ vaping, etc.).
- e) Promote and support food security and healthy eating initiatives such as community gardens, food sharing programs, farmer's markets and growing food at home.

Community actions

Ideas from residents on ways everyone can contribute to the health and wellbeing of our community:

- Try to live a healthier and more active lifestyle, taking advantage of our amazing Sunshine Coast beaches, parks and reserves.
- Grow our own food and share it with our friends and neighbours.
- Encourage our children to participate in community sport so they can be more active, meet new friends and value community participation.
- Join with others from our community to advocate for additional health services.

**TOPIC 2.1
COMMUNITY
PLACES AND
SPACES**



Sunshine Coast Council

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Topic 2.1 Community places and spaces

How do community places and spaces contribute to a strong community?

Community places and spaces include:

- Social infrastructure that support a strong community, such as community venues, libraries, cultural facilities, aquatic facilities, indoor sports and recreation facilities, lifeguard facilities and cemeteries
- Open spaces, such as beaches, parks, pathways, recreation trails and sports grounds
- Civic spaces and streetscapes that contribute to a sense of place and can be used for meeting people, collaborating and events.

Community places and spaces contribute to a strong community as they provide important spaces where residents can come together, learn new things, connect with each other, improve their health and wellbeing, access a range of information and engage in a range of events, activities and programs. They also provide natural amenity and access to green spaces.

Community places and spaces are fundamental building blocks that support and facilitate building collective community capacity, social capital and community resilience. They contribute to a unique sense of place, community pride and a sense of belonging.

Trends influencing the use of community places and spaces over the next 20 years include:

- Population growth and demographic change, including population ageing and increasing diversity
- Climate change, including the warming climate and increasing climate risks
- New technologies
- Trends in sports participation and physical activity
- Compliance and increasing community expectations
- Increasing urban densities and decreasing opportunities for access to natural spaces
- Trends in community management
- Increased use of open and civic spaces for activities and social connection.

Considering the current and future needs of our community will ensure we continue to enjoy the broad range of benefits that our community places and spaces offer.

The Community Strategy is mainly focused on the use and management of community places and spaces. For the planning, design and delivery of community places and spaces, please also refer to the Environment and Liveability Strategy.

Related topics

- For planning, design and delivery of community places and spaces refer to the Environment and Liveability Strategy.
- For other elements of inclusive and welcoming communities refer to 3.1 Inclusion.
- For initiatives that utilise community places and spaces refer to 1.1 Health and Wellbeing, 4.1 Community Connection and Resilience and 5.1 Arts, Heritage and First Nations Culture.

Community priorities

- Upgraded and additional community facilities to meet the needs of our growing and diverse population (primarily facilitated through the Environment and Liveability Strategy)
- More focus on activation, utilisation, maintenance and promotion of current facilities
- Safety, inclusion, accessibility and affordability of facilities
- First Nations design and naming, and First Nations cultural spaces
- Activities and spaces for young people.



Council's role

Council manages and supports community access to community places and spaces, including community venues, libraries, cultural facilities, sports facilities, cemeteries, parks, recreation trails and pathways.

Council facilitates and delivers community places and spaces primarily through the Environment and Liveability Strategy. Council also advocates to other levels of government to provide additional investment where required.

The private sector and community sector also deliver and manage community places and spaces.

The Queensland Government and Australian Government are responsible for delivering and managing schools, TAFE and universities, hospitals and emergency services.



Examples of Council's current activities

- Upgrading community places and spaces
- Managing several Council-owned facilities
- Maintaining directories of spaces available for community hire
- Managing permits required to use parks and civic spaces and streetscapes
- Managing community use and leasing arrangements with community and sporting groups for Council-owned land and facilities
- Activating community places and spaces via a mix of Council and community-led events, activities and programs
- Managing the use of facilities for safe refuge and during evacuation.

Related Council documents

- Environment and Liveability Strategy
- Libraries Plan
- Creative Arts Plan
- Regional Arts Infrastructure Framework
- Recreation Parks Plan
- Recreation Trail Plan
- Sport and Active Recreation Plan
- Regional Facilities Plan for Difficult to Locate Sports
- Aquatic Plan
- Skate and BMX Plan
- Cemetery Plan
- Asset Management Plans
- Sunshine Coast Design Strategy.



Over 100

Council and community provided venues



8 Council library branches



9 aquatic centres



59 sports grounds



19 patrolled beaches
(depending on time of year)



495 amenity reserves



379 playgrounds



28 skate parks



18 cemeteries



Outcome statements

2.1.1 Our community has access to community places and spaces that meet their needs:

- a) People have access to safe, accessible, inclusive and welcoming community places and spaces that meet the needs of their community.
- b) Community places and spaces contribute to a unique sense of place and community pride.

2.1.2 Community places and spaces are vibrant with activity:

- a) Community places and spaces are activated with a range of events, activities and programs and are well utilised by the community.

- b) The social and economic benefits of community places and spaces are maximised through appropriate management and operational models.
- c) Community groups can sustainably manage identified community places and spaces.
- d) The operation and management of identified community places and spaces supports their utilisation as places of refuge or evacuation centres.
- e) Community places and spaces are maintained to support their purpose.

Note: Council planning, design and delivery of community places and spaces is primarily influenced through the Environment and Liveability Strategy. The Environment and Liveability Strategy should be read in conjunction with the Community Strategy to understand the full scope of Council action in this area.

Council actions (2024-2029)

- a) Ensure new and expanded venues that will host Brisbane 2032 Olympic and Paralympic Games events are designed and delivered with inclusion and community legacy at the forefront.
- b) Develop a Community Venues Plan that outlines future requirements for community venues and considers appropriate management models and leasing arrangements to maximise use, provide equitable access and meet changing community needs.
- c) Investigate innovative ways to support increased community use of community leased venues.
- d) Simplify processes for community-run events and local activation initiatives.

Community actions

Ideas from our community on ways we can contribute to community places and spaces:

- Participate in the activities run at community places and spaces in our neighbourhood.
- Help a local sporting club or community group apply for grants to upgrade their sporting facility or meeting space.
- Join with others from our community to advocate for additional funding for community places and spaces.
- Report vandalism or suspicious behaviour around facilities.

**TOPIC 2.2
TRANSPORT**



Sunshine Coast Council

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Topic 2.2 Transport

How does transport contribute to a strong community?

Transport includes the infrastructure, systems and services that residents and visitors use to get around. This includes the infrastructure, systems and services that support driving, public transport, walking, riding and various mobility services such as taxis, rideshare and car sharing programs.

Transport is a fundamental building block of a strong community, allowing residents to access employment, services and facilities, to meet people and to maintain relationships. However, not everyone has equitable access to transport. Lower-income households, people with disability, older people and people living on the outskirts of towns and in rural areas generally face access challenges.

Currently, we overwhelmingly rely on our private vehicles to get around. While driving is expected to remain a dominant transport mode, embracing public transport, walking and riding can provide many community benefits. Public transport, walking and riding contribute to better physical and mental health and are generally more affordable transport options. They also benefit our community by reducing road congestion and emissions of greenhouse gases.

We can take personal and collective action to improve equitable access to transport and to maximise community benefits. We can reduce our personal vehicle use by taking public transport, going to a closer activity, sharing a ride and replacing shorter trips with walking or riding. We can also assist neighbours with transport barriers by picking something up for them or helping them complete a task online instead of travelling. As a community, we can also advocate for more investment in public transport, walking and riding infrastructure.

Future trends influencing our transport network over the next 20 years include:

- Continued strong population growth and the form of urban development
- More residents with mobility impairment due to population ageing
- Ongoing focus on environmental sustainability and carbon emissions reduction
- Adoption of new technologies, such as personal mobility devices, electric-powered vehicles, connected and autonomous vehicles, and smart mobility technologies
- Infrastructure and service investment, including new mass transit options
- Market-driven transport services and products
- Evolving car ownership trends and travel preferences.

Ongoing planning and increased and timely investment from all levels of government will be critical to ensuring our transport system supports the liveability of our region to 2041. There are also actions that we can take individually and together to contribute to the efficiency, equity and sustainability of our transport network.

Related topics

- For other elements of inclusive and welcoming communities refer to 3.1 Inclusion.
- For planning of transport networks and related infrastructure also refer to the Integrated Transport Strategy.



2400km
of sealed roads
and 590km of gravel roads



1214km
of pathways



5km of dedicated
off-road cycleway
69km of on-road
cycle network



25 weekday
bus routes



Ride to school program run in
11 schools with over
2100 students registered.



Council's role

All levels of government contribute to the delivery of transport infrastructure. Council delivers local roads, bus stops, and walking and riding connections. The Queensland Government and Australian Government deliver major roads and public transport infrastructure (and riding infrastructure on major roads), and the Queensland Government manages public transport.

Council advocates to other levels of government to provide additional investment where required.

Council delivers behaviour change programs that encourage a reduction in private vehicle use and improve road safety.

Community priorities

- More public transport investment, including passenger rail and mass transit, to support a shift away from private vehicle use (primarily delivered by the Queensland Government)
- Reliability, affordability, accessibility and safety of the public transport network (primarily delivered by the Queensland Government)
- Additional focus on congestion and the cost of getting around
- Additional investment in road infrastructure and improved traffic management (major road infrastructure primarily delivered by the Queensland Government)
- Transport options for vulnerable or isolated population groups.

Examples of Council's current activities

- Delivering new and upgraded local roads, bus stops and paths for walking and riding
- Providing and regulating parking
- Funding and managing the Council Link service for seniors and people with disability to access services and shops
- Delivering programs and initiatives that promote and encourage use of passenger transport and active transport
- Developing maps that show accessible footpaths for people of all abilities.

Related Council documents

- Integrated Transport Strategy
- Active Transport Plan
- Parking Management Plan
- Road Safety Plan.



Outcome statements

2.2.1 Our transport network connects people and places, enhances sustainability, supports future population growth and serves the economy:

- a) People have access to an integrated, reliable, safe, sustainable and inclusive transport network.
- b) Our transport network provides increased travel choice and mobility for all.

- c) Our transport network supports efficient movement of people and goods.
- d) Our transport network prioritises walking, riding and passenger transport and encourages a shift to these modes of travel.
- e) Parking is delivered and managed to balance lifestyle, economic activity and improvements in passenger transport.

Council actions (2024-2029)

- a) Review and update the Integrated Transport Strategy.
- b) Continue to invest, plan and advocate for identified priority transport projects and supporting infrastructure which supports future growth and preserves the liveability and lifestyle of our region.
- c) Prioritise investment in walking and riding infrastructure to deliver a connected, safe, healthy and sustainable active transport network.
- d) Promote active and public transport options and encourage behaviour change to reduce private vehicle use.
- e) Investigate expansion of community transport services to improve convenience and access to additional locations and services.

Community actions

Ideas from our community on ways everyone can contribute to our transport network:

- Reconsider when and how often we travel.
- Minimise our personal car travel.
- Use public transport more as the network starts to improve.
- Ride responsibly on shared paths so that pedestrians feel safe.
- Join with others from our community to advocate for more investment in our transport network.

**TOPIC 2.3
HOUSING AND
HOMELESSNESS
SUPPORT**





Topic 2.3 Housing and homelessness support

How does housing and homelessness support contribute to a strong community?

Access to safe and secure housing is a basic human right and is a fundamental base from which to build a strong community.

The population of the Sunshine Coast is expected to continue growing strongly over the next 20 years and we will need to find additional housing for around 8000 new residents each year. This new housing needs to be suitable for residents and provide choice. Social housing, student accommodation, independent living units, residential care and crisis and transitional accommodation are also part of the mix of housing needed.

Continuing to meet this ongoing housing demand will be a challenge. Housing availability and affordability are issues already, and the existing mix of housing is not well suited to the current or expected future population. In addition, neighbourhoods of the Sunshine Coast are typically low-density residential areas, and we therefore spend more time and money just getting around.

Access to diverse housing options in higher density areas provide a range of benefits, including:

- Local areas with more population have more opportunities for connection and greater social capital
- Housing diversity increases the diversity of residents in an area (including by income and life-stage) which contributes to more diverse connections and strengthens community inclusion and resilience
- People can stay in their own neighbourhood throughout their life helping to maintain social networks and access to services
- Smaller dwellings may better suit small households, can be more affordable for low-income households and can be located closer to services and employment centres reducing transport costs
- More efficient public transport networks can be provided which supports affordable access to employment and services.

A lack of affordable housing, combined with rising rental and purchase prices, has driven an increasing number of individuals and families into housing insecurity and homelessness. Other drivers can also include mental illness, domestic and family violence, family breakdown, loss of employment and substance abuse. The challenges faced by people experiencing homelessness may be complex, and they require additional support and focus. Ensuring the safety, dignity and respect of people while experiencing hardship is something that we can all contribute to in some way. Access to affordable and secure housing is inextricably linked to our health and wellbeing, and ability to participate in community and economic life.

Where and how we accommodate our growing population will have significant impacts for the future liveability, vibrancy and resilience of the Sunshine Coast. How we engage with and support people experiencing homelessness is also indicative of our caring and compassionate community.

The Community Strategy is mainly focused on access to housing for everyone in our community. For priorities related to supply of land/housing, the settlement pattern and development, please refer to the Environment and Liveability Strategy and the Planning Scheme.



1.1% residential vacancy rate
(2022/23, SQM Research)



47.1% of renting households pay \$450 or more per week, compared to 32.8% in South East Queensland and 25.7% in Queensland
(2021, ABS Census)



The rate of homelessness is 35 per 10,000 population, compared to 43 per 10,000 population for Queensland
(2021, ABS Census)



Related topics

- For planning and regulation of housing refer to the Environment and Liveability Strategy and the Planning Scheme.
- For other elements of inclusive and welcoming communities refer to 3.1 Inclusion.

Community priorities

- More focus on housing choice, including diversity and affordability, social housing, emergency accommodation, and higher density development (mainly influenced through the Environment and Liveability Strategy and the Planning Scheme)
- Review of state and federal government regulations and incentives
- Amenities and facilities to improve safety and dignity for people sleeping rough
- Increased support and services for people experiencing homelessness.

Council's role

All levels of government influence housing supply and demand through regulation and policies. The Queensland Government and Australian Government also fund social housing, emergency accommodation and residential care. The private sector and community sector deliver and manage most forms of housing.

Council influences settlement patterns and housing form through advocacy and collaboration with other levels of government and the private sector, and utilising Council's legislative planning role through the Planning Scheme.

Council supports education and community-led initiatives that respond to housing and homelessness challenges, and advocates for our community to other levels of government.

Homelessness support services are funded by the Queensland Government and Australian Government and are mostly delivered by the community sector. Council works in partnership with these services and community organisations to enhance preventive and crisis responses.

Council manages civic spaces and streets to ensure the safety and amenity for people experiencing homelessness, residents and visitors. Those experiencing homelessness are provided access to information, amenities and other appropriate support services.



2.0% of dwellings across the Sunshine Coast were social housing, in comparison to **3.1%** for Queensland (2021, ABS Census)

Examples of Council's current activities

- Identifying surplus Council-owned land suitable for affordable housing with a strong focus on key workers
- Supporting community-led initiatives to provide temporary transitional accommodation with appropriate wrap-around support services
- Publishing the Housing and Homelessness Directory
- Raising awareness and understanding of homelessness and its causes through the voices of lived experience
- Developing an internal guideline for interacting with people experiencing homelessness
- Offering discounts to fees and concessions for community organisations that deliver affordable housing
- Advocating to other levels of government for regulatory changes and additional resources and support.

Related Council documents

- Environment and Liveability Strategy
- Planning Scheme
- Housing and Homelessness Action Plan
- Responding to Homelessness Policy and Guideline.



Outcome statements

- 2.3.1 Our community has access to accommodation that meets their needs with low rates of homelessness:
- a) People have access to affordable and diverse accommodation that meets their needs.
 - b) Universal and inclusive design is integrated into housing and tourist accommodation.
 - c) People have the capacity and support to maintain long-term housing.

- 2.3.2 People experiencing homelessness are supported, safe and included:
- a) Facilities, services and support are available to assist people experiencing homelessness.
 - b) People are aware of the facilities, services and support available.
 - c) People work together with people experiencing homelessness to improve outcomes.
 - d) People understand the challenges and causes of homelessness and demonstrate compassion towards people experiencing homelessness.

Note: Delivery of housing and accommodation by the private and community sector is primarily influenced by Council through the Environment and Liveability Strategy and the Planning Scheme. These documents should be read in conjunction with the Community Strategy to understand the full scope of Council action in this area.

Council actions (2024-2029)

- a) Implement actions identified in the Housing and Homelessness Action Plan.
- b) Continue to facilitate and support community-led initiatives to improve outcomes for people experiencing homelessness.
- c) Collaborate to undertake and utilise research (including lived experience) and build awareness and understanding of homelessness.

Community actions

Ideas from our community on ways we can contribute to housing and homelessness support:

- Volunteer to support people experiencing homelessness.
- Join with others from our community to advocate for more investment in social housing.
- Investigate renting out a spare room.
- Try to learn from people who have had an experience of homelessness.

**TOPIC 3.1
INCLUSION**





Topic 3.1 Inclusion

How does inclusion contribute to a strong community?

Inclusive communities recognise, respect and embrace diversity, in all its forms. Inclusion goes beyond tolerance, towards acceptance, understanding and celebrating difference. Fundamental to inclusion is recognition of the inherent value of each member of our community, and the need for everyone to have equitable access and opportunity. Our community is stronger when everyone feels valued, can participate in all aspects of community life and can reach their potential.

The Sunshine Coast community suggested that our diverse community includes:

- People of different ages - children, young people, middle-aged people and older people
- Women and men, people with non-binary gender, transgender and intersex people, and people with diverse sexuality
- First Nations people
- Culturally and linguistically diverse people, new migrants and people of different faiths
- People with physical and non-physical disability
- People who are frail or terminally ill
- Long-term residents and new residents from within Australia
- Lower socio-economic households and people experiencing homelessness.

These multiple characteristics of our personal identities influence our experiences of the Sunshine Coast. Often, barriers exist that limit our participation based on one or more of these personal characteristics. One of these barriers is discrimination, but other barriers include lack of information, physical access, perceptions of safety, cost, communication barriers, lack of culturally appropriate activities, negative stereotypes and stigma, and distrust of government services.



The Sunshine Coast is home to residents who were born in **170 different countries** (2021, ABS Census)

There are many benefits of reducing participation barriers for a more inclusive community:

- Resources and opportunities are shared in a way that helps those who need the most support
- More diverse social connections increase social capital and community resilience
- Improved physical and mental health due to increased connection, employment and sense of belonging
- Improved actual and perceived safety and greater community cohesion
- Improved adaptability and resilience to community challenges by drawing on varied talents and perspectives
- More resilient businesses and economy through participation, increased productivity and innovative thinking
- Sense of belonging encourages greater contributions to community life and facilitates collaboration
- New perspectives contribute to a more compassionate and understanding community.

We all contribute to fostering an inclusive Sunshine Coast.

Related topics

- Inclusion is a core element of a strong community and therefore has linkages to all other topics in the Community Strategy.
- For inclusion in the natural and built environment and business sector see the Environment and Liveability Strategy and Regional Economic Development Strategy.



Residents spoke
110 different languages,
including German, Spanish,
Mandarin, Afrikaans and
Portuguese (2021, ABS Census)



2.4% of residents are
First Nations people
(2021, ABS Census)



5.5% of residents are new
migrants (migrated from overseas
in the previous ten years)
(2021, ABS Census)



21% of residents were
born overseas, including
8.3% residents were born
in non-core anglosphere countries
(2021, ABS Census)



Community priorities

- Creating a welcoming region
- More awareness, education and activities, events and programs to recognise, respect and value diversity, in all its forms
- Accessibility of facilities, housing and transport
- Recognition of First Nations people and closing the gap
- Promotion of inclusion and diversity in all forms.

Council's role

Council works to promote and foster diversity and inclusion and opportunities for all. Council delivers a range of services, programs and activities that everyone can participate in. Council raises awareness and education about the importance of inclusion and is working to reduce barriers and improve access and inclusion.

Council also supports not-for-profit organisations that deliver community-led initiatives through targeted investment. Many community and private sector organisations support inclusion in our community. The Queensland Government and Australian Government also provide support to organisations that contribute to inclusion.

Examples of Council's current activities

- Ongoing commitment to reconciliation and strengthening collaboration and partnerships with local First Nations communities through the Reconciliation Action Plan
- Facilitating Council's Multicultural Advisory Group
- Delivering awareness campaigns and information that prevent discrimination, including the Shine a Light on Racism campaign
- Coordinating the Migrant Work Ready and Migrant Business Ready programs
- Coordinating delivery of All Access Day at the Beach
- Facilitating Young Leaders Academy made up of young people – the future leaders of the Sunshine Coast
- Supporting Harmony Day events and activities.

Related Council documents

- Reconciliation Action Plan
- All Abilities Action Plan.



Outcome statements

3.1.1 Everyone feels valued, respected and welcomed:

- a) People are aware and embrace the value of diversity, in all its forms.
- b) Reconciliation is progressed with First Nations people.
- c) Newcomers are welcomed and connected into our community.
- d) Barriers to participation are minimised or eliminated.
- e) People feel they belong and contribute to community life.

Council actions (2024-2029)

- a) Implement actions identified in the Reconciliation Action Plan in partnership with Traditional Custodians and First Nations people.
- b) Implement actions identified in the All Abilities Action Plan.
- c) Develop and implement a Youth Action Plan to guide Council action on the priorities of young people.
- d) Utilise the Welcoming Cities Standard to become a more welcoming and cohesive community.
- e) Collaborate and partner to deliver events, activities and programs that promote and support best-practice diversity and inclusion.
- f) Develop and promote local stories showcasing the diversity of people and places of the Sunshine Coast.
- g) Support initiatives that strengthen social enterprises and for-impact businesses to address community priorities.

Community actions

Ideas from residents on ways everyone can contribute to inclusion in our community:

- Provide a positive welcome to new residents in our neighbourhood.
- Treat other people with respect.
- Keep an open mind to new ideas and the future of the Sunshine Coast.
- Learn about people from different backgrounds by participating in events, activities and programs.
- Provide opportunities for young people to be involved.

**TOPIC 3.2
VOLUNTEERING**





Topic 3.2 Volunteering

How does volunteering contribute to a strong community?

Volunteers donate their time for the common good and without financial gain. They can donate their time to organisations or work alongside other community members on shared priorities. This topic focuses on the work volunteers do for groups, clubs or organisations, often referred to as formal volunteering.

Organisations that engage volunteers are managing multiple current trends that are impacting volunteering:

- Formal volunteering rates declined across the Sunshine Coast during the COVID-19 pandemic and have been slow to fully recover to normal levels
- Rising cost-of-living pressures are making the costs associated with volunteering more of a burden
- Traditional volunteers, who volunteer on a consistent, regular and ongoing basis, are getting older and may be difficult to replace with new volunteers who are preferring more flexible, ad-hoc and episodic volunteering
- Significant new global challenges have potentially shifted interest to priorities beyond our region
- New technologies allow volunteers to be involved in ways that are convenient and informal, such as working on a project from home when they have time
- Organisations want to improve management and safety standards through training, health and safety policies, etc. However this can be burdensome for organisations and volunteers alike and can create barriers to participation.

Volunteering provides significant benefits to volunteers themselves and to the community generally:

- Volunteers gain new work experience and skills which may increase their employability
- Volunteers benefit from a new sense of purpose which can improve life satisfaction and health
- Volunteers grow the number and diversity of their personal connections which reduces isolation and improves health – this contributes to increased social capital and community resilience and better health outcomes for our community
- Our community benefits from thousands of hours of effort to deliver services, programs and activities that otherwise may not be possible.

Volunteering is an important part of a strong community. With the donation of their time and skills, volunteers contribute to community priorities and help create a more connected and resilient community.

Related topics

- For other forms of community involvement refer to 3.3 Community Engagement and 4.1 Community Connection and Resilience.



15.7%
of the Sunshine Coast population
volunteered
in the preceding twelve
months (2021, ABS Census).

This was a significant
decline compared to
20.7% in 2016
likely due to Covid-19
restrictions and concern
about Covid-19 at the time.



Community priorities

- Additional promotion of opportunities for volunteering
- Focus on encouragement, support, recognition and celebration of volunteers
- Support for organisations that engage volunteers to improve systems, processes and provide flexible opportunities.

Council's role

Council engages volunteers to deliver programs focused on community, cultural and environmental outcomes.

Council also supports community volunteering through awareness and promotion, recognition of volunteers and investing in organisations that engage volunteers.

Examples of Council's current activities

- Providing information about volunteering on Council's website
- Providing volunteering opportunities through libraries, galleries, museums, environmental programs, parks and gardens, community festivals and events
- Supporting community-led volunteering programs
- Recognising volunteers through awards
- Undertaking research on volunteering in collaboration with others
- Investing in not-for-profit groups for community-led projects, events and activities with broad community benefit and to strengthen the ability of groups to respond to community needs.

Related Council documents

- Sunshine Coast Council Employee Code of Conduct.



Outcome statements

3.2.1 Residents volunteer to support community needs:

- a) Information about volunteering opportunities is clear and easy to find.
- b) Volunteers and potential volunteers have the capabilities required to contribute to community priorities.
- c) Organisations that engage volunteers have the skills and capacity to attract, manage and retain volunteers.
- d) Volunteers are recognised and rewarded for the work they do.

Council actions (2024-2029)

- a) Improve initiatives recognising residents who contribute to community, including volunteering.
- b) Collaborate to deliver training to assist volunteering organisations improve volunteering recruitment, retention and management.
- c) Collaborate to deliver a Sunshine Coast Volunteer Showcase to raise awareness of volunteering opportunities and offer training and recognition of volunteers.

Community actions

Ideas from residents on ways we can contribute to our community through volunteering:

- Help out a neighbour, if they need support.
- Volunteer to help keep a local community group, sporting club or facility going.
- Pick up rubbish to maintain our community places and spaces.

**TOPIC 3.3
COMMUNITY
ENGAGEMENT**





Topic 3.3 Community engagement

How does community engagement contribute to a strong community?

Community engagement is the active participation of residents in decision-making processes on matters and issues that are important to us and our region. Diverse perspectives and community participation enable better understanding of community needs, values, and local knowledge and ensure that decision-making is well informed.

It helps in strengthening relationships and partnerships and building trust between community and government so we can work together to respond to local issues, challenges and aspirations, and so that government can provide and support better services, programs and facilities. With increased transparency and a range of meaningful and tailored ways to engage, community members can have a say in shaping the future of the Sunshine Coast.

The flow on effect is an increase in trust and improved governance to make better, more sustainable, equitable decisions that improves liveability and community cohesion. Community engagement can be supported through inclusive, representative, transparent and well-planned community involvement.

The following trends may influence how people engage in decision-making over the next 20 years:

- New technologies will offer more convenient and accessible options for engagement, but also create barriers to participation for some
- Hybrid methods of community engagement – with both online and in-person options – will continue to be needed to enhance inclusive participation
- Significant global social, environmental and economic challenges and opportunities will continue to attract community interest and involvement
- A lack of interest and participation in local community engagement may grow due to perceptions that individual input is not reflected in decisions or does not lead to meaningful change
- The number of voices involved in community engagement may remain low or decrease, increasing the need for community engagement that is inclusive and representative of community views.

Community engagement plays a vital role in achieving a strong community. It promotes better-informed decisions, responsive services and enhanced outcomes for all.

Related topics

- For other forms of community involvement refer to 3.2 Volunteering and 4.1 Community Connection and Resilience.



51%
of residents agreed that
there are opportunities
to have a say on community
issues that are important to them
(2023, Community Connections Survey).

Around 30%
of residents neither
agreed nor disagreed.

Community priorities

- More opportunities to be involved in Council community engagement processes, including for people with lived experience
- Promotion of opportunities to be involved in Council community engagement processes
- Council to utilise more inclusive, diverse and authentic community engagement approaches with a local focus
- More transparency, accountability and communication about how community input has influenced Council decision-making.

Council's role

Council regularly invites community input into our projects, programs, services and initiatives. Council encourages this by implementing best-practice engagement activities to inform decision-making that is responsive to community aspirations.

Council shares information and resources and communicates opportunities for the community to get involved in matters that impact our region. Council also collaborates and works in partnership with other organisations and agencies to deliver community engagement projects where relevant.

Residents and groups initiate community-led engagement processes to address or advocate for issues and opportunities in their communities.

Examples of Council's current activities

- Undertaking inclusive community engagement for a variety of projects to influence decision-making
- Upgrading Council's online engagement platform, 'Have Your Say', to increase functionality
- Undertaking surveys to understand community priorities and satisfaction with Council.

Related Council documents

- Community Engagement Policy
- Excellence in Engagement Framework
- Inclusive Engagement Guideline.

Outcome statements

3.3.1 Our community is engaged and heard on matters that are important to them:

- a) People actively participate in community matters and decision-making processes.
- b) People have opportunities to contribute meaningfully to matters that impact them and our region.
- c) Information and ways to participate are available in a range of formats to meet the needs of our diverse community.
- d) People's contributions into community engagement processes are valued.
- e) Community engagement outcomes inform decision-making and planning processes.
- f) Information on how community engagement outcomes have informed decision-making and planning processes is shared.

Council actions (2024-2029)

- a) Review Council's Excellence in Engagement Framework to further embed and model leading engagement practice.
- b) In collaboration with First Nations people, develop guidelines for engaging with First Nations individuals and groups to ensure their meaningful contribution into decision-making.
- c) Deliver the Young Leaders Academy developmental program to foster civic engagement and community leadership.
- d) Review and strengthen Council use of community advisory and reference groups and participatory engagement processes.
- e) Develop a guide on how to co-design solutions in collaboration with people with lived experience to improve inclusive and authentic engagement.
- f) Explore a periodic regional community engagement program to understand community priorities and opinions on key issues.
- g) Develop a Brisbane 2032 Olympic and Paralympic Games Community Engagement Plan that encourages community participation in opportunities that create a lasting positive legacy for our community.

Community actions

Ideas from our community on ways we can enhance community engagement:

- Participate in community engagement opportunities thoughtfully and respectfully.
- Share opportunities for community engagement with people we know and groups we're involved in.
- Get involved in a local residents' association.
- Help a neighbour or friend participate, who might otherwise find it difficult.
- Vote responsibly in Council elections.
- Engage with our local Councillor to let them know about things that are needed in our community.

**TOPIC 4.1
COMMUNITY
CONNECTION
AND RESILIENCE**





Topic 4.1 Community connection and resilience

How does community connection and resilience contribute to a strong community?

This topic covers three related concepts:

Community connection

Social connection is a fundamental human need. Our personal relationships with family, friends and neighbours help us feel connected. Participation in community social, sporting, cultural and leisure activities, life-long learning programs, helping and socialising with neighbours, volunteering and attending community events builds friendships, connections and networks within the community. Feeling connected reduces social isolation and loneliness and contributes to a sense of belonging and purpose. When people are connected and have stable, supportive relationships, they are more likely to make healthy choices and can better cope with stress, anxiety and depression. It also increases levels of empathy, trust and cooperation. Strong community connections also support information sharing and capacity building.

Community resilience

Social networks and relationships are also important in times of adversity. When everyone in our community has a diverse range of connections, we all have someone to call on in times of need. This improves our personal and collective resilience to a broad range of potential challenges. Having a network of trusted neighbours or local community members is important for resilience because people who are close-by are more likely to be able to help in a difficult situation.

In the context of disasters, emergencies and climate change, community resilience is focused on how we prepare for significant events to reduce their disruptive impact. To do this, we need to seek out information to be aware of our current and future risks and take responsibility to prepare ourselves with our families, friends and neighbours. Our community networks also need to include emergency services, infrastructure providers and community organisations to maximise disaster resilience.

Collective action

Joining with others to take collective action can help achieve shared goals and contribute to the betterment of communities. This requires a willingness and capacity to join with others within our community. It also requires reaching out through our networks to find other people who are interested in pursuing joint action. Collective action is more likely to be effective at creating positive social change.

Many complex social trends are influencing community connection, resilience and collective action:

- Changing family structures and ageing populations are affecting forms of support and interaction, while also providing new opportunities for diverse intergenerational connections
- Mobility and economic factors are reducing time available to connect with and be involved in local communities
- New technologies are offering alternative avenues for community connection that are more convenient and accessible, but in some instances, also leading to social isolation and fragmented online communities
- Social institutions, including faith groups and neighbourhood associations, are responding to the changing needs of the community by adapting their services and offering new ways to participate
- The Sunshine Coast is a 'community of communities' with strong local identities that emphasise and support local community connection and sense of belonging.

Community connection, resilience and collective action are fundamental elements of a strong community. They contribute significantly to the health of our community and how we adapt to change and prepare and respond to disruptive events. Almost any opportunity or challenge that we face as a community can be pursued or addressed more effectively when we work together.



57% of residents agreed that they live in an active community where people get involved in local issues and activities (2023, Community Connections Survey).



87% of residents agreed that they can get help from friends, family and neighbours when they need it (2023, Community Connections Survey).



76% of residents agreed that their neighbours are willing to help them and others (2023, Community Connections Survey).



8.5 close friends per resident on average (2023, Community Connections Survey).



42% of residents are somewhat or very confident that their local area will be able to adapt to the effects of climate change in their lifetime (2024, Living on the Sunshine Coast Survey)



43 facilities can function as evacuation centres or places of shelter.



6 disaster activations per year on average for severe weather and flood events.



Related topics

- Community connection and resilience is a core element of a strong community and therefore has linkages to all other topics in the Community Strategy
- For disaster management, adaptation and resilience refer to the Environment and Liveability Strategy.

Community priorities

- More affordable local events, programs and activities and promotion of these initiatives to provide opportunities for people to come together and enhance sense of belonging
- Social connections for people who are isolated
- Hazard and preparedness information and education, with more targeted emergency alerts and warning messages
- Investment in resilient infrastructure and better coordination of government services
- Long-term planning and recovery, including mental health.





Council's role

Council supports community connection through community development initiatives that bring people together, strengthen groups and provide information and support.

Council is responsible for managing disaster events through its Local Disaster Management Group and improving awareness and information related to disaster preparedness. Through a community development approach and reviewing Council's organisational capacity, Council contributes to the resilience and adaptive capacity of the community, as well as to community response and recovery following events.

The community sector, with funding provided from a range of sources, manages community centres, neighbourhood centres and other meeting spaces, and delivers events, activities and programs which contribute to community connection and resilience.

Examples of Council's current activities

- Delivering community events, activities and programs
- Investing in community groups to facilitate and deliver local events, activities, and programs that support community connection
- Facilitating community development through connection, facilitation and support
- Providing 'At Home in My Neighbourhood' resources that encourage neighbourhood scale events and connection
- Involvement in local and regional disaster management groups
- Ensuring Council infrastructure and service delivery is climate resilient.

Related Council documents

- Local Disaster Management Plan
- Disaster Recovery Sub-Plan
- Regional Climate Action Roadmap.

Outcome statements

4.1.1 People are connected to each other and their community:

- a) People have many, diverse connections to reduce social isolation and to call upon in times of need.
- b) Local community events, activities, programs and services support and strengthen connections between people and their communities.

4.1.2 People work together to proactively identify, research and respond to community priorities:

- a) People lead collective action to proactively identify, research and respond to current and emerging community priorities.
- b) Local organisations support collaborative, community-led initiatives aligned to community priorities.

4.1.3 Our community is adaptive and resilient to increasing climate risks, disasters and emergencies:

- a) Government agencies, infrastructure providers, businesses and community members work collaboratively to build adaptive capacity and resilience.
- b) People have access to the information and resources necessary to continually increase their own adaptive capacity and resilience.
- c) People maximise their self-reliance by taking personal responsibility to understand their risks and take appropriate action.

Council actions (2024-2029)

- a) Collaborate, partner and invest to build community connections through the delivery of free and low-cost initiatives within local communities and neighbourhoods.
- b) Support residents and community organisations to deliver collaborative, community-led responses to identified community priorities.
- c) Support residents and community organisations to plan for and respond to the impacts of climate change and natural hazards and minimise associated risks.
- d) Partner to support local community-led resilience, adaptation planning and recovery activities.
- e) Continue to expand and promote Disaster Hub, including the ability to provide more personalised information and notifications.
- f) Improve inclusion at Council evacuation centres and raise awareness of these centres and their inclusion features.

Community actions

Ideas from our community on ways everyone can contribute to community connection and resilience:

- Build strong relationships with our neighbours.
- Join with others in our community to take meaningful action on shared challenges and opportunities.
- Hold a neighbourhood party to get to know our neighbours.
- Participate in local events and activities.
- Contribute to social media groups by suggesting positive, constructive actions that we could take together.
- Learn about different risks in our neighbourhood.
- Put together an emergency plan for our household to prepare for different scenarios.
- Learn more about and adopt sustainable living practices.

**TOPIC 4.2
COMMUNITY
SAFETY**



Topic 4.2 Community safety

How does community safety contribute to a strong community?

Community safety refers to the ability for people to go about their daily life without fear or risk of harm or injury. To feel and be safe are seen as basic human rights and are important underlying requirements for a strong community. Being safe and feeling safe enables people to participate in community life, to feel included and to have a sense of belonging. When people feel safe in their homes and can freely engage in local neighbourhoods and community places and spaces, it creates a sense of wellbeing, promotes liveability and enhances community pride. Our safety also contributes to a willingness to trust other people and particularly people who are different to ourselves. A lack of community safety therefore limits opportunities for collaboration, and stifles innovation and entrepreneurship.

The primary focus is on crime prevention which works to remove or reduce the risk and fear of crime and negative perceptions of places and people. Perceptions of community safety, real or perceived, can impact on the way people feel and how they interact and participate in their community. Fear of crime can be as detrimental to community functioning as high rates of crime. One of the most effective ways to reduce fear of crime is through activities that encourage community cohesion and connection. Community safety is therefore closely related to other aspects of a strong community, such as community connection, resilience and inclusion. There are actions that we can take as a community to improve community safety in our region.

With new technologies and our ageing population, online safety and elder abuse may be growing areas for crime prevention. Our work to maintain and promote community safety needs to consider these and future trends and remain flexible to ongoing change.

This topic also includes a focus on domestic and family violence, which is any violent, threatening or controlling behaviour, or behaviour intended to cause fear, related to an intimate or family relationship. Any form of violence, including domestic and family violence, is unacceptable on the Sunshine Coast.

Related topics

- For road safety refer to 2.2 Transport.
- For the design of community places and spaces to maximise safety refer to 2.1 Community Places and Spaces.
- For safety during disasters and emergencies refer to 4.1 Community Connection and Resilience.

Community priorities

- Addressing perceived safety issues, such as youth crime, road and pedestrian safety, online safety, beach safety and elder abuse, as well as graffiti, vandalism and attitudes about population groups
- Additional services for people experiencing domestic and family violence, such as emergency accommodation, services and support (primarily provided by the Queensland Government)
- Awareness, education and prevention programs targeting perpetrators of domestic and family violence and improving attitudes towards women
- Investment in lighting and closed-circuit television (CCTV) surveillance, and community responses, such as Safety Houses and Neighbourhood Watch
- Additional police presence and engagement, more investment in police facilities and harsher penalties (primarily provided by the Queensland Government).



Council's role

Community safety is a shared responsibility of all levels of government and the community.

Council coordinates and supports crime prevention and community safety initiatives, including facilitating connections between partners, raising awareness, and supporting initiatives that promote community connection. Council also provides and maintains safe community places and spaces, supports safe urban design, and creates and enforces local laws. Council undertakes targeted education and raises awareness of domestic and family violence and supports community-led initiatives.

The Queensland Police Service is the lead agency for crime prevention and law enforcement.



62% of residents agreed that they feel safe all the time on the Sunshine Coast (2023, Community Connections Survey).



75% of residents agreed that they trust most of the people in their neighbourhood (2023, Community Connections Survey).



6487 total reported offences per 100,000 population in Sunshine Coast LGA, compared to a rate of 10,999 per 100,000 offences for Queensland (2022/23, QGSO Regional Profile).

Examples of Council's current activities

- Guiding safe design of new developments through implementation of crime prevention through environmental design principles (CPTED)
- Facilitating community connections through supporting and delivering programs
- Undertaking long-term community development work regarding neighbourhood safety
- Collaborating and supporting community partners in crime prevention initiatives
- Managing graffiti removal
- Installing CCTV surveillance systems
- Supporting community-led initiatives focused on domestic and family violence prevention
- Raising awareness and supporting education to prevent domestic and family violence.

Related Council documents

- Community Safety Policy
- Urban Public Lighting Plan.



Outcome statements

4.2.1 The Sunshine Coast is safe and is perceived as safe:

- a) Organisations, agencies and community members share information, deliver initiatives and work collaboratively to improve safety.
- b) Community connection and the sharing of information and stories support improved perceptions of safety.

4.2.2 Our community is safe from domestic and family violence:

- a) Services are available to assist people experiencing, or at risk of, domestic and family violence.
- b) Organisations and agencies work collaboratively to prevent domestic and family violence through education and other initiatives.
- c) Our community is aware and educated about domestic and family violence.
- d) People lead collective action to reduce and prevent domestic and family violence.

Council actions (2024-2029)

- a) Promote community programs aimed at improving safety and perceptions of safety.
- b) Raise awareness of services and accommodation options available for people experiencing domestic and family violence.
- c) Continue strong messaging that builds knowledge and awareness of domestic and family violence, its prevention and supports.

Community actions

Ideas from our community on ways everyone can contribute to community safety:

- Report criminal or suspicious activity to authorities.
- Get to know our neighbours and local community.
- Treat everyone the way we would like to be treated.
- Have a conversation with our mates about managing anger and respecting other people.
- Declare our home a violence-free zone.
- Challenge unacceptable behaviour when we witness it.

**TOPIC 5.1 ARTS,
HERITAGE AND
FIRST NATIONS
CULTURE**



Sunshine Coast Council

64

Image: *NOISE* by Dancenorth Australia, Horizon Festival 2023. Photo: Nic Morley.



Topic 5.1 Arts, heritage and First Nations culture

How do the arts, heritage and First Nations culture contribute to a strong community?

The arts encompass many forms of creative expression and storytelling, including; literature, music, theatre, dance and other performing arts, such as circus, comedy and puppetry, visual arts and crafts, screen, including film, television and online, and emerging and experimental arts.

Heritage is the cultural, historical and natural aspects of community we inherit from the past and we want to protect for the future. As well as physical objects, heritage includes intangible elements, such as languages and traditions. As residents of the Sunshine Coast, we all have a shared history of this place, but many of us also have a personal history of other places and cultures that we bring.

First Nations people have an ongoing culture that includes language, creative expression, storytelling and connection to the past. First Nations culture is the oldest continuing culture in the world, being passed down from generation to generation for the past 60,000 years. The Sunshine Coast region overlaps two First Nations communities, each with their own culture, language, beliefs and practices. The unique values, and ancient and enduring cultures of the Traditional Custodians deepen and enrich the life of our community.

Arts, heritage and First Nations culture contribute to learning, community connection and our sense of identity. They can help us engage with significant current and future community challenges, such as climate change, inclusion and connection, and help us view these challenges from new perspectives. They can support community connection by bringing people together, sharing experiences and sparking conversation. They can also contribute to our unique sense of identity, pride in our community and opportunities for employment. For these reasons, arts, heritage and First Nations culture are important contributors to the achievement of a strong Sunshine Coast community.

Related topics

- For other elements of health and wellbeing refer to 1.1 Health and Wellbeing.
- For places and spaces that support arts, heritage and First Nation culture refer to 2.1 Community Places and Spaces.
- For other elements of inclusive and welcoming communities refer to 3.1 Inclusion.

Community priorities

- Expansion, development and promotion of arts and cultural programs, experiences and fit-for-purpose spaces
- Preservation and promotion of heritage and culture
- Increased promotion and education of First Nations culture.

Council's role

Council funds and delivers events, activities and programs that acknowledge or celebrate creativity, heritage and First Nations culture. Council invests in creative arts, heritage and First Nations organisations that deliver initiatives for the community. Council also assists the development of the creative arts sector by supporting community leaders, connecting and promoting sector participants and sharing information and resources.



4.1 out of 5

is the region's average cultural vitality score (2022/23, Council Data).



88% of residents

agreed that they were proud to be part of the Sunshine Coast community (2023, Community Connections Survey).



78% of residents

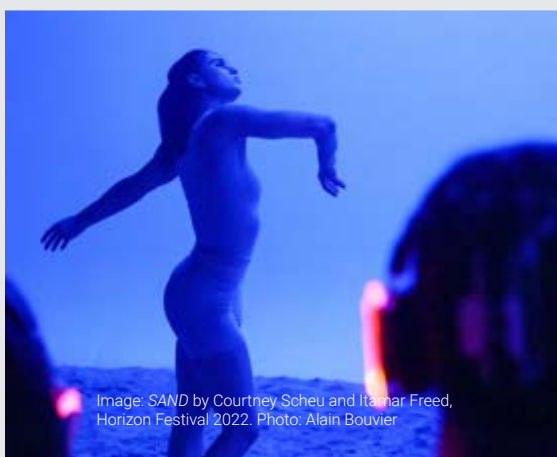
agreed that the Sunshine Coast has a unique identity that sets us apart (2023, Community Connections Survey).

Examples of Council's current activities

- Delivering the Horizon Festival and other arts programs and experiences
- Investing in and supporting creative arts and heritage organisations to deliver initiatives and programs
- Designing and delivering development programs for the creative arts and heritage sector
- Delivering heritage programs including talks, exhibitions, films and educational initiatives
- Building respect for First Nations cultures and facilitating First Nations-led initiatives
- Investing in community-led arts and heritage initiatives.

Related Council documents

- Creative Arts Plan
- Heritage Plan
- Reconciliation Action Plan.



Outcome statements

5.1.1 People value our rich and diverse histories, heritage and First Nations culture:

- a) The ancient and ongoing culture of the Kabi Kabi peoples and Jinibara peoples, and broader First Nations community, is valued, shared and celebrated.
- b) Our diverse histories and heritage are explored, shared and celebrated.
- c) Our diverse histories, heritage and First Nations culture contribute to community connection, identity and pride.

5.1.2 Our community values artistic expression, creativity and innovation:

- a) Creatives, artists and the creative arts sector are professional, skilled and connected.
- b) Arts audiences thrive through genuine participation and a diversity of meaningful and tailored experiences.
- c) Artistic expression, creativity and innovation are embedded in the identity, culture and experience of the Sunshine Coast.

Council actions (2024-2029)

- a) Collaborate with Kabi Kabi peoples and Jinibara peoples to ensure local First Nations history and ongoing culture is protected, respected and celebrated.
- b) In collaboration with First Nations people, develop and implement a First Nations Arts Strategy to support and expand the First Nations creative arts sector, including youth-focused creative development.
- c) Support the development of local artists and arts content that can be profiled, experienced and exported to build capacity, strengthen engagement and cultivate identity.
- d) Work with heritage community organisations to grow capacity, sustainability and professionalism.

Community actions

Ideas from our community on ways everyone can be involved in arts, heritage and First Nations culture:

- Learn about the Traditional Custodians of the land where we were born and where we live.
- Keep an eye out for local arts and cultural activities to participate in.
- Support arts groups as a participant or as a volunteer.
- Invite a friend to a cultural activity as an opportunity to do and learn new things together.
- Learn about the local history of our neighbourhoods.

**ACTION PLAN
2024-2029**



5. Action Plan 2024-2029

Council will work towards completing the following actions between 2024 and 2029. These are new actions and will be completed in addition to ongoing Council activities.

New Council Actions	Council Role	2024-25	2025-26	2026-27	2027-28	2028-29	Resources	Council Branch Responsibility (Lead)
0.1 Actions Related to all Outcomes								
a) Develop a Community Advocacy Plan that summarises opportunities and challenges related to the Community Strategy to inform joint Council and community advocacy initiatives.	Direct Action Advocate	•		•			Achievable within existing resources	Community Planning and Development
b) Develop and implement a Local Community Planning Program that supports local communities to develop their own community action plans.	Collaborate / Partner			•	•	•	Subject to securing additional resources	Community Planning and Development
c) Continue to deliver community forums that strengthen community networks, information sharing and collaboration outcomes.	Direct Action Collaborate / Partner		•	•	•	•	Achievable within existing resources	Community Planning and Development
Outcome 1. Healthy, Active Communities								
1.1 Health and Wellbeing								
a) Expand Council's Healthy Sunshine Coast program to deliver a broad range of low cost, convenient and inclusive health and wellbeing activities.	Direct Action	•	•	•	•	•	Subject to securing additional resources	Community Planning and Development
b) Support community sporting clubs to access programs that improve inclusion.	Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Sport and Community Venues
c) Advocate and partner to improve access to mental health services and programs (including youth mental health and healthy ageing).	Advocate Collaborate / Partner	•	•				Achievable within existing resources	Community Planning and Development
d) Collaborate to undertake and share health information and research focusing on health challenges (such as healthy ageing, suicide prevention, youth mental health, skin cancer risk, alcohol/drug consumption, smoking/vaping, etc.).	Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
e) Promote and support food security and healthy eating initiatives such as community gardens, food sharing programs, farmer's markets and growing food at home.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development / Parks and Gardens / Economic Development

New Council Actions	Council Role	2024-25	2025-26	2026-27	2027-28	2028-29	Resources	Council Branch Responsibility (Lead)
Outcome 2. Vibrant Communities								
2.1 Community Places and Spaces								
a) Ensure new and expanded venues that will host Brisbane 2032 Olympic and Paralympic Games events are designed and delivered with inclusion and community legacy at the forefront.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Sunshine Coast Program – Brisbane 2032
b) Develop a Community Venues Plan that outlines future requirements for community venues and considers appropriate management models and leasing arrangements to maximise use, provide equitable access and meet changing community needs.	Direct Action Collaborate / Partner		•	•			Subject to securing additional resources	Environment and Sustainability Policy / Sport and Community Venues / Property Management
c) Investigate innovative ways to support increased community use of community leased venues.	Collaborate / Partner			•	•	•	Subject to securing additional resources	Property Management / Sport and Community Venues
d) Simplify processes for community-run events and local activation initiatives.	Direct Action	•	•	•			Achievable within existing resources	Customer Response
2.2 Transport								
a) Review and update the Integrated Transport Strategy.	Direct Action Collaborate / Partner Advocate	•	•				Achievable within existing resources	Urban Growth Projects
b) Continue to invest, plan and advocate for identified priority transport projects and supporting infrastructure which supports future growth and preserves the liveability and lifestyle of our region.	Direct Action Collaborate / Partner Advocate	•	•	•	•	•	Subject to securing additional resources	Urban Growth Projects
c) Prioritise investment in walking and riding infrastructure to deliver a connected, safe, healthy and sustainable active transport network.	Direct Action Collaborate / Partner	•	•	•	•	•	Subject to securing additional resources	Urban Growth Projects
d) Promote active and public transport options and encourage behaviour change to reduce private vehicle use.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Urban Growth Projects
e) Investigate expansion of community transport services to improve convenience and access to additional locations and services.	Direct Action Collaborate / Partner	•					Subject to securing additional resources	Community Planning and Development

New Council Actions	Council Role	2024-25	2025-26	2026-27	2027-28	2028-29	Resources	Council Branch Responsibility (Lead)
2.3 Housing and Homelessness Support								
a) Implement actions identified in the Housing and Homelessness Action Plan.	Direct Action Collaborate / Partner Advocate	•	•	•	•	•	Achievable within existing resources	Urban Growth Projects / Community Planning and Development
b) Continue to facilitate and support community-led initiatives to improve outcomes for people experiencing homelessness.	Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
c) Collaborate to undertake and utilise research (including lived experience) and build awareness and understanding of homelessness.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
Outcome 3. Inclusive Communities								
3.1 Inclusion								
a) Implement actions identified in the Reconciliation Action Plan in partnership with Traditional Custodians and First Nations people.	Direct Action Collaborate / Partner Advocate	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
b) Implement actions identified in the All Abilities Action Plan.	Direct Action Collaborate / Partner Advocate	•	•	•	•	•	Subject to securing additional resources	Community Planning and Development
c) Develop and implement a Youth Action Plan to guide Council action on the priorities of young people.	Direct Action Collaborate / Partner Advocate	•	•	•	•	•	Subject to securing additional resources	Community Planning and Development
d) Utilise the Welcoming Cities Standard to become a more welcoming and cohesive community.	Direct Action Collaborate / Partner Advocate	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
e) Collaborate and partner to deliver events, activities and programs that promote and support best-practice diversity and inclusion.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development / Arts, Heritage and Libraries
f) Develop and promote local stories showcasing the diversity of people and places of the Sunshine Coast.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development / Arts Heritage and Libraries
g) Support initiatives that strengthen social enterprises and for-impact businesses to address community priorities.	Collaborate / Partner Advocate	•	•	•	•	•	Achievable within existing resources	Economic Development

New Council Actions	Council Role	2024-25	2025-26	2026-27	2027-28	2028-29	Resources	Council Branch Responsibility (Lead)
Outcome 3. Inclusive Communities continued								
3.2 Volunteering								
a) Improve initiatives recognising residents who contribute to community, including volunteering.	Direct Action Collaborate / Partner	•	•				Achievable within existing resources	Community Planning and Development / People and Culture / Environmental Operations
b) Collaborate to deliver training to assist volunteering organisations improve volunteering recruitment, retention and management.	Direct Action Collaborate / Partner	•	•	•	•	•	Subject to securing additional resources	Community Planning and Development / Environmental Operations
c) Collaborate to deliver a Sunshine Coast Volunteer Showcase to raise awareness of volunteering opportunities and offer training and recognition of volunteers.	Direct Action Collaborate / Partner			•	•	•	Subject to securing additional resources	Community Planning and Development
3.3 Community Engagement								
a) Review Council's Excellence in Engagement Framework to further embed and model leading engagement practice.	Direct Action		•	•			Achievable within existing resources	Community Planning and Development
b) In collaboration with First Nations people, develop guidelines for engaging with First Nations individuals and groups to ensure their meaningful contribution into decision-making.	Direct Action Collaborate / Partner	•	•				Achievable within existing resources	Community Planning and Development
c) Deliver the Young Leaders Academy developmental program to foster civic engagement and community leadership.	Direct Action Collaborate / Partner	•	•				Achievable within existing resources	Community Planning and Development
d) Review and strengthen Council use of community advisory and reference groups and participatory engagement processes.	Direct Action Collaborate / Partner			•	•		Achievable within existing resources	Community Planning and Development
e) Develop a guide on how to co-design solutions in collaboration with people with lived experience to improve inclusive and authentic engagement.	Direct Action Collaborate / Partner		•	•			Achievable within existing resources	Community Planning and Development
f) Explore a periodic regional community engagement program to understand community priorities and opinions on key issues.	Direct Action		•				Subject to securing additional resources	Community Planning and Development
g) Develop a Brisbane 2032 Olympic and Paralympic Games Community Engagement Plan that encourages community participation in opportunities that create a lasting positive legacy for our community.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Sunshine Coast Program – Brisbane 2032

New Council Actions	Council Role	2024-25	2025-26	2026-27	2027-28	2028-29	Resources	Council Branch Responsibility (Lead)
Outcome 4. Connected, Resilient Communities								
4.1 Community Connection and Resilience								
a) Collaborate, partner and invest to build community connections through the delivery of free and low-cost initiatives within local communities and neighbourhoods.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
b) Support residents and community organisations to deliver collaborative, community-led responses to identified community priorities.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
c) Support residents and community organisations to plan for and respond to the impacts of climate change and natural hazards and minimise associated risks.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Environment and Sustainability Policy
d) Partner to support local community-led resilience, adaptation planning and recovery activities.	Direct Action Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development / Disaster Management
e) Continue to expand and promote Disaster Hub, including the ability to provide more personalised information and notifications.	Direct Action	•	•	•	•	•	Achievable within existing resources	Disaster Management
f) Improve inclusion at Council evacuation centres and raise awareness of these centres and their inclusion features.	Direct Action Collaborate / Partner	•	•	•	•	•	Subject to securing additional resources	Disaster Management / Sport and Community Venues / Community Planning and Development
4.2 Community Safety								
a) Promote community programs aimed at improving safety and perceptions of safety.	Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
b) Raise awareness of services and accommodation options available for people experiencing domestic and family violence.	Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
c) Continue strong messaging that builds knowledge and awareness of domestic and family violence, its prevention and supports.	Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development

New Council Actions	Council Role	2024-25	2025-26	2026-27	2027-28	2028-29	Resources	Council Branch Responsibility (Lead)
Outcome 5. Creative, Innovative Communities								
5.1 Arts, Heritage and First Nations Culture								
a) Collaborate with Kabi Kabi peoples and Jinibara peoples to ensure local First Nations history and ongoing culture is protected, respected and celebrated.	Deliver Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Community Planning and Development
b) In collaboration with First Nations people, develop and implement a First Nations Arts Strategy to support and expand the First Nations creative arts sector, including youth-focused creative development.	Deliver Collaborate / Partner Advocate	•	•				Achievable within existing resources	Arts, Heritage and Libraries
c) Support the development of local artists and arts content that can be profiled, experienced and exported to build capacity, strengthen engagement and cultivate identity.	Deliver Collaborate / Partner Advocate	•	•	•	•	•	Achievable within existing resources	Arts, Heritage and Libraries
d) Work with heritage community organisations to grow capacity, sustainability and professionalism.	Deliver Collaborate / Partner	•	•	•	•	•	Achievable within existing resources	Arts, Heritage and Libraries





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Sunshine Coast Biosecurity Plan 2024



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Reference document

This document should
 be cited as follows:

Sunshine Coast Biosecurity Plan 2024.

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Traditional Acknowledgement

Sunshine Coast Council acknowledges the Sunshine Coast Country, home of the Kabi Kabi peoples and the Jinibara peoples, the Traditional Custodians, whose lands and waters we all now share.

We recognise that these have always been places of cultural, spiritual, social and economic significance. The Traditional Custodians' unique values, and ancient and enduring cultures, deepen and enrich the life of our community.

We commit to working in partnership with the Traditional Custodians and the broader First Nations (Aboriginal and Torres Strait Islander) communities to support self-determination through economic and community development.

Truth telling is a significant part of our journey. We are committed to better understanding the collective histories of the Sunshine Coast and the experiences of First Nations peoples. Legacy issues resulting from colonisation are still experienced by Traditional Custodians and First Nations peoples.

We recognise our shared history and will continue to work in partnership to provide a foundation for building a shared future with the Kabi Kabi peoples and the Jinibara peoples.

We wish to pay respect to their Elders – past, present and emerging, and acknowledge the important role First Nations peoples continue to play within the Sunshine Coast community.

Together, we are all stronger.



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4

Cat's claw creeper vine threatens the unique biodiversity of the Sunshine Coast

1. Introduction

Biosecurity is a broad term referring to measures taken to manage harmful organisms. Everyone in Queensland has a general biosecurity obligation (GBO) under the *Biosecurity Act 2014* to take measures to reduce biosecurity risks. To assist the community and land managers to meet their GBO, the *Biosecurity Act 2014* requires local governments to prepare a Biosecurity Plan to manage priority invasive plants and animals.

Invasive plants and animals significantly impact the values of the Sunshine Coast local government area (the Sunshine Coast). They can degrade natural bushland and aquatic environments, reduce the productivity and viability of agriculture areas, reduce the scenic amenity and function of community open spaces, cause harm and health issues for people and pets, damage infrastructure, and increase overall land management costs.

Managing invasive plants and animals is often a challenging task due to their inherent adaptive and resilient attributes and the often limited control options available to manage their impact and spread. To ensure effective and efficient invasive species management, it is essential that the priority invasive species are targeted with the most feasible management approaches.

Objectives

The Sunshine Coast Biosecurity Plan 2024 aims to provide a framework for effective management of priority invasive plants and animals in the Sunshine Coast Council Local Government Area, in accordance with the Queensland Government *Biosecurity Act 2014*.

This objective is achieved by outlining the highest priority invasive species for the Sunshine Coast and defining reasonable and practical measures to manage them.

This plan provides a framework to assist the community and land managers to understand and meet their GBO and *Biosecurity Act 2014* legislative responsibilities relating to priority invasive plants and animals. The objectives for invasive plant and animal management on the Sunshine Coast are outlined in Figure 1 and emphasise the importance of a shared responsibility and a long-term commitment.



Figure 1. Sunshine Coast Biosecurity Plan 2024 objectives.

Scope

The Sunshine Coast Biosecurity Plan 2024 applies to all land and waters within the boundary of the Sunshine Coast Council Local Government Area (the Sunshine Coast), including land owned and managed by government, utilities, and individuals.

The *Biosecurity Act 2014* requires Queensland local governments to prepare a Biosecurity Plan to manage prohibited and restricted invasive plants and animals in its local government area.

This plan does not consider invasive diseases, parasites, viruses, insects (including fire ants), marine species, or noxious fish.

Biosecurity Queensland coordinates the prevention and response to all invasive biosecurity matters outside the scope of this plan, with assistance from Council where and when required.

All prohibited and category 1 and 2 restricted biosecurity matter outside the scope of this plan (including aquatic diseases, parasites, and viruses; animal diseases, parasites, and viruses; marine animals and plants; noxious fish; matter affecting plants, and tramp ants) must be reported to Biosecurity Queensland.

Public health risks from mosquitoes and biting midges are dealt with through Council's mosquito and biting midge surveillance and treatment programs.

A Collaborative Approach

The Sunshine Coast Biosecurity Plan 2024 has been prepared in consultation with relevant industries, community groups, state government departments, natural resource management groups and other stakeholders with a strong interest in invasive species management.

While Council has facilitated the development of this plan as a requirement under the *Biosecurity Act 2014*, this plan guides the invasive plant and animal management responsibilities of the entire Sunshine Coast community.

Invasive Species Impacts

Globally, invasive species are causing dramatic changes to natural ecosystems and human food production systems and are threatening our general wellbeing. It is estimated the global economic cost of invasive species and their control exceeds A\$654 billion each year, with costs having at least quadrupled every decade since 1970¹. The current annual cost of invasive species in Australia is conservatively estimated to be around A\$25 billion and it has increased up to six-fold every decade².

The Sunshine Coast Biosphere is internationally recognised for its natural environments, productive agricultural areas, and connected community which all contribute to the liveability of the region. Invasive plants and animals can have significant impacts on these environmental and liveability values, and these impacts are likely to be made worse by future population growth and climate change.

The following are considered to be the primary potential impacts from invasive plants and animals on the Sunshine Coast:

Invasive Plant Impacts

- Natural ecosystems (land and water)
 - Transform natural ecosystems and reduce natural habitats
 - Inhibit regeneration of natural ecosystems
 - Harm, poison, or toxic to native animals
- Agricultural areas
 - Cause illness or injury to livestock
 - Outcompete desirable production species
 - Reduce water quality in waterways and waterbodies
- Community and residential areas
 - Reduce open space function and values
 - Cause human health issues
 - Increase risk of fire



Invasive Animal Impacts

- Natural ecosystems (terrestrial and aquatic)
 - Prey on, outcompete, and displace native animals
 - Physically degrade natural habitats
 - Carry diseases and parasites that can infect native animals
- Agricultural areas
 - Outcompete, prey on, threaten, or injure livestock
 - Carry diseases and parasites that can impact livestock
 - Disturb soil and vegetation and damage infrastructure
- Community and residential areas
 - Carry diseases and parasites that can impact humans
 - Cause traffic hazards
 - Nuisance behaviours and impact infrastructure

Climate Change

Queensland can expect higher temperatures, more bushfires, reduced overall rainfall, more intense downpours, and more intense tropical cyclones due to climate change³. It is expected that climate change will result in invasive species causing more overall impacts to our natural, agricultural, and community areas. Some of the predicted impacts from climate change on invasive species include increased opportunity for:

- Fire and drought tolerant invasive plants to outcompete native and agricultural species
- Invasive species to colonise damaged areas after fires, floods, and cyclones
- Invasive animals to prey on native animals whose shelter is damaged by fires, floods, and cyclones
- Heat and moisture stressed native plants and animals to become displaced by invasive species
- Biological control agents to become less effective
- Some native species to become invasive

The Sunshine Coast Council Biosecurity Implementation Plan 2024 outlines a specific action to further investigate and plan adaptation responses for these potential increased biosecurity risks caused by climate change.



In June 2022, our Sunshine Coast local government area was recognised by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) as a biosphere reserve – where responsible development and people living sustainably sit alongside active conservation.

Our region has joined a world-wide network of biosphere reserves to balance the environmental, social, cultural and economic needs of today, without compromising the ability to meet the needs of future generations.

Our region's international recognition as a special place where people are living, working, learning and playing sustainably highlights the values of our region that we are seeking to protect and enhance, brings new opportunities and a range of possible benefits to our natural environment, community, lifestyle and economy.

Being recognised as a UNESCO Biosphere Reserve and maintaining this credential is our region's commitment to create a positive legacy for future generations. Every resident, visitor, business and government entity has a key role to play in maintaining and enhancing the Sunshine Coast Biosphere reserve for our children, grandchildren and all those who will enjoy the prosperity, beauty and liveability of our region into the future.

2. Our global commitment

This Biosecurity Plan embeds the United Nations Sustainable Development Goals (UNSDGs) into its actions. The United Nations Sustainable Development Goals for peace, prosperity, people and planet provide a comprehensive and internationally recognised framework to collectively align the way we each live, work, learn and play every day.

UNSDG 2 – Zero Hunger – End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

Addressing agricultural biosecurity risk will allow for sustainable and resilient agricultural practices that increase productivity and production, strengthen capacity for adaptation to climate change, and progressively improve land and soil quality.

UNSDG 11 - Sustainable Cities and Communities - Make cities and human settlements inclusive, safe, resilient and sustainable.

Managing biosecurity risk can improve access to safe green public spaces and supports positive economic, social and environmental links.

UNSDG 13 - Climate Action - Take urgent action to combat climate change and its impacts.

Strengthening resilience and adaptive capacity to climate-related hazards is critical to prepare for the expected increase in damage from invasive species due to climate change.

UNSDG 15 – Life on Land – Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Addressing biosecurity risks for our natural ecosystems is essential to ensure the protection, restoration, and sustainable management of our terrestrial and freshwater ecosystems.

UNSDG 17 - Partnerships for the Goals - Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

Effective biosecurity research, planning, and implementation requires coordination and partnerships at local, national, and international levels.



Strategic Framework

Council's strategic vision is underpinned by three key strategies, the Environment and Liveability Strategy, Regional Economic Development Strategy, and the Community Strategy as shown in Figure 3.

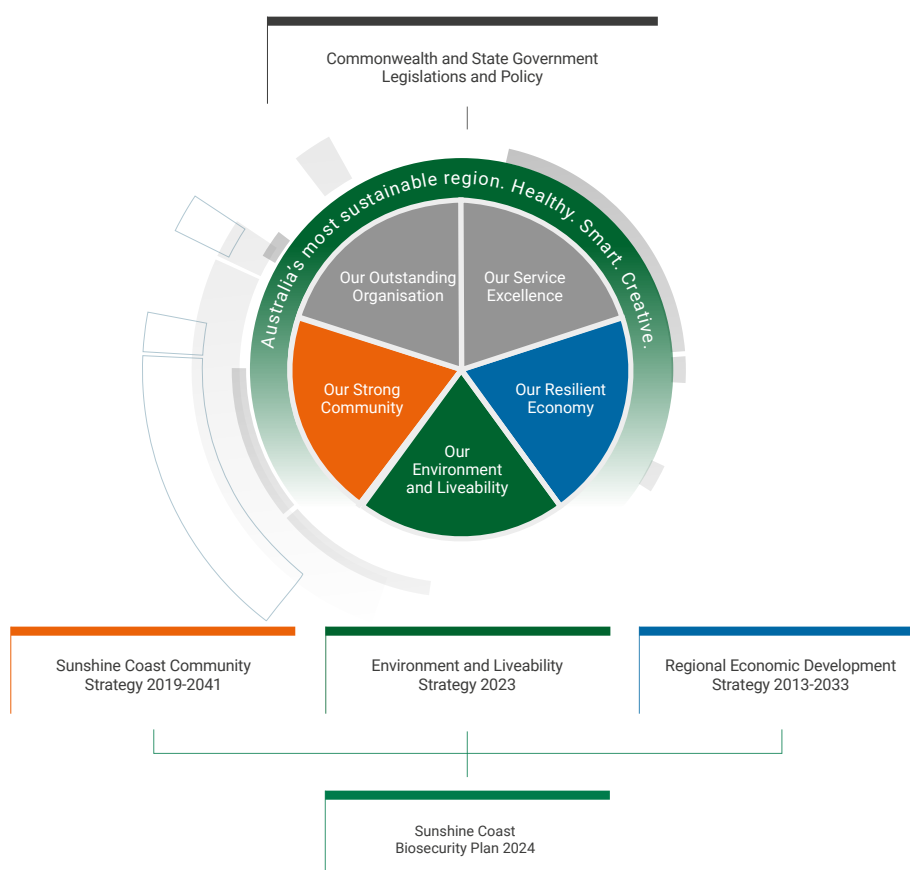


Figure 3. Sunshine Coast Council's strategic strategies.

Strategic Alignment

Environment and Liveability Strategy 2023

The Environment and Liveability Strategy provides strategic pathways to guide growth and shape the Sunshine Coast for future generations to 2041. It focuses on the natural environment and how it can be preserved and enhanced, as well as the liveability of the region. It enables a good quality of life for all residents, while supporting a strong economy in an accessible and well-connected built environment.

The Environment and Liveability Strategy 2023 (ELS) builds a pathway to a healthy environment and liveable Sunshine Coast in 2041. The natural environment and how it can be preserved and enhanced, as well as the liveability of the region, is the primary focus, enabling a good quality of life for all residents and supporting a strong economy in an accessible and well-connected built environment.

The ELS recognises biosecurity risk (invasive plants and animals) as a critical management concern in its biodiversity, coastal, and waterways and wetlands policy positions. This is reinforced by the inclusion of a Transformational Action to manage invasive plants and animals by providing a collaborative, effective and efficient response that will reduce their social, economic, and environmental impacts.

Sunshine Coast Community Strategy 2019-2041

The Sunshine Coast Community Strategy provides the strategic pathways towards a future where together we thrive. We thrive through connection with people, places and spaces and where we stay true to our values as a welcoming, caring and vibrant community, with opportunities for all to participate.

The Sunshine Coast Community Strategy 2019-2041 focuses on inclusive communities by supporting the growth of social connection and collaboration through a place-based approach. Outcomes sought include an emphasis on active transport, community facilities, affordable living options, smart infrastructure, and sense of place in the public realm.

The strategy highlights the community's desire to work together to preserve and care for our natural environment and open spaces. Addressing biosecurity risks and impacts is an integral part of caring for our natural environment and open spaces.

Regional Economic Development Strategy 2013-2033

The Regional Economic Development Strategy provides the strategic pathways to transition into a regional economy that is innovative, adaptive, resilient and climate ready. It encourages a more sustainable and equitable future economy, attracting investment and supporting local businesses to innovate, grow and enable diverse employment opportunities.

The Regional Economic Development Strategy 2013-2033, (REDS) provides a 20-year vision and blueprint for sustainable economic growth. It will help to ensure the region actively participates in the global economy and delivers the lifestyle and opportunities for local residents and businesses alike.

The strategy recognises a healthy natural environment underpins thriving communities and prosperous economies. Addressing biosecurity risk and impacts is critical to maintaining a healthy environment.



Deers pose a biosecurity risk

National and State Government Legislation and Strategies

The management of invasive plants and animals is undertaken by all levels of government and guided by a range of legislation and strategies. This plan was developed and will be implemented in accordance with the Queensland Government *Biosecurity Act 2014*⁴. Other national and state government legislation and strategies considered in the preparation of this plan include:

National Government

- *Biosecurity Act 2015*
- *Environment Protection and Biodiversity Conservation Act 1999*
- National Biosecurity Strategy 2022-2032
- Australian Weeds Strategy 2017–2027
- Australian Pest Animal Strategy 2017–2027
- Australia's Strategy for Nature 2019-2030

Queensland State Government

- *Biosecurity Act 2014*
- *Nature Conservation Act 1992* (prohibited wildlife)
- Queensland Biosecurity Strategy 2024–2029
- Queensland Invasive Plants and Animals Strategy 2019-2024
- Queensland Wild Dog Management Strategy 2021–2026
- Queensland Feral Deer Management Strategy 2022–2027
- Biodiversity Conservation Strategy 2022

3. General Biosecurity Obligation *Biosecurity Act 2014*

Everyone in Queensland has a general biosecurity obligation (GBO) under the *Biosecurity Act 2014* to take all reasonable and practical measures to prevent or minimise biosecurity risks and ensure pests, diseases or contaminants are not spread. The entire Sunshine Coast community has a responsibility to take action to meet our GBO.

To assist the community and land managers to meet their GBO for invasive plants and animals, the *Biosecurity Act 2014* requires all local governments in Queensland to prepare a Biosecurity Plan to manage prohibited and restricted invasive plants and animals in its local government area.

The *Biosecurity Act 2014* specifies **prohibited** invasive plants and animals as species that do not currently occur within Queensland but would have a significant impact on our economy, social amenity, human health, and natural environment values if they did enter and establish. Everyone in Queensland must be aware and take steps to prevent prohibited species from entering our state. If prohibited species are detected, you need to report them to Biosecurity Queensland on 13 25 23 within 24 hours and take all reasonable steps to minimise risks and not make the situation worse. It is an offence to deal with (that is keep, possess, breed, propagate, use, feed, distribute, import, transport, dispose, buy, or supply) prohibited species, unless authorised under a permit.

The *Biosecurity Act 2014* identifies **restricted** invasive plants and animals as species currently found in Queensland that may have a significant impact on our economy, social amenity, human health, and natural environment values. Land managers are required to take specific actions to contain, reduce, or control restricted invasive species. There are seven categories that can be applied to restricted matter, each with requirements land managers must comply with (noting that some invasive plants and animals can have more than one category assigned to it which means you may need to comply with several requirements).

Restricted Invasive Plant Categories

Category 1 – Must be reported to an inspector within 24 hours (by calling Biosecurity Queensland on 13 25 23)

Category 2 – Must be reported to an inspector or authorised person within 24 hours (by calling Biosecurity Queensland on 13 25 23 or Council on (07) 5475 7272)

Category 3 – Must not be distributed or disposed of, given as a gift, sold, traded, or released into the environment (unless authorised in a regulation or under a permit)

Category 4 – Must not be moved to ensure it is not spread into other areas

Category 5 – Must not be possessed or kept (unless authorised under a permit)

Category 6 – Must not be fed (unless as part of a control program)

Category 7 – Must be killed and correctly disposed (applies only to noxious fish, and outside the scope of this plan)

'Section 4 - Reasonable and Practical Measures for Priority Invasive Species' of this plan provides land managers and the community with the steps Council requires to address the biosecurity risk presented by the prohibited and restricted invasive plants and animals on the Sunshine Coast.

Invasive plants and animals that are not prohibited or restricted under the *Biosecurity Act 2014* can also pose a threat to the values of the Sunshine Coast. These species are referred to as 'Locally Significant' invasive plants and animals and are addressed in 'Section 5 - Locally Significant Invasive Plants' of this plan.

4. Reasonable and Practical Measures for Priority Invasive Species

The *Biosecurity Act 2014* allows for a flexible and risk-based approach to biosecurity planning with an emphasis on shared responsibility and responsive methods to ensure biosecurity management is effective and proportionate. Understanding the biosecurity risk of invasive plants and animals listed under the *Biosecurity Act 2014* is a key first step to implement an effective risk-based approach.



A number of invasive plants and animals listed as either prohibited or restricted matter by the *Biosecurity Act 2014* are either known to occur within, or have a high likelihood of entering, the Sunshine Coast. A biosecurity risk assessment was undertaken for these species to determine the most appropriate measures land managers must apply to reduce their biosecurity risk.

The biosecurity risk assessment is a standardised approach developed by Biosecurity Queensland that assesses each species for the following:

Risk

- Economic, social amenity, human health, and environmental impacts
- Invasiveness (ability to spread and establish)
- Potential distribution

Management feasibility

- Current distribution
- Cost of control
- Effectiveness of control

This risk assessment identified the highest priority invasive species for the Sunshine Coast and categorised these species into four management objectives:

Prevention - Not currently found, aim to prevent entry and establishment

Eradication - Limited distribution, aim to eliminate

Containment - Moderate distribution, aim to reduce impact and spread

Asset Protection - Wide distribution, aim to protect high value assets

All species listed under these four management objectives are a high priority for management on the Sunshine Coast. The management objectives reflect the most appropriate management outcomes for each invasive species, as represented in the generalised invasion curve presented in the Figure 4 below.

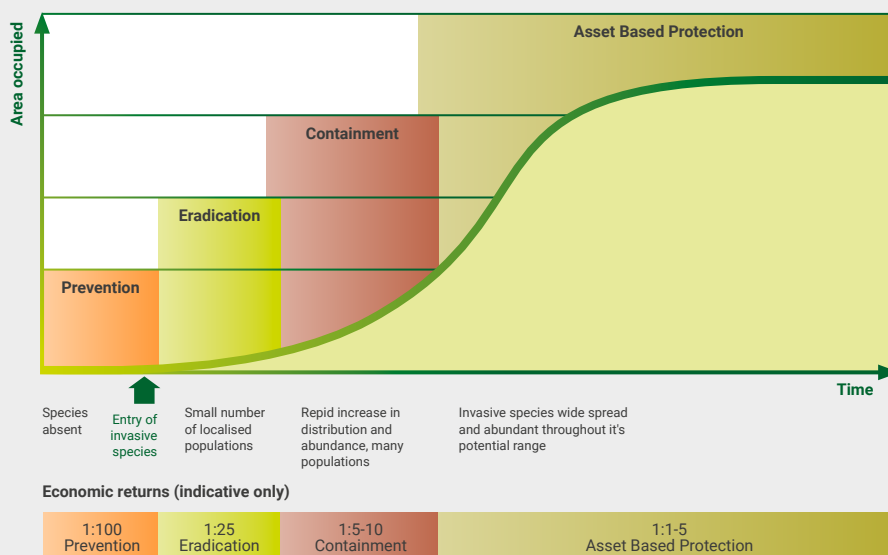


Figure 4. Generalised invasion curve and priority invasive species management objectives. Source: Biosecurity Victoria.

4.1 Prevention

The species presented in Table 1 are not currently found on the Sunshine Coast, however they are a significant biosecurity risk and have either been recorded as occurring here in the past or are known to be a high risk of entering the Sunshine Coast. If these species became established on the Sunshine Coast, they would likely result in significant biosecurity impacts.

Preventing the entry and establishment of these species is an important objective for the Sunshine Coast that can be achieved by increasing community and land manager awareness and encouraging early detection and responses.

Table 1. Prevention plant and animal species – Not found on the Sunshine Coast – Land managers to prevent their entry and establishment.

Prevention Invasive Plants			
Plant Species	Type	Biosecurity Act 2014	
		Matter	Category
cha-om (<i>Senegalia spp</i>)	Tree	Prohibited	
harrisia cactus (<i>Harrisia spp. syn. Eriocereus spp. other than H. martinii, H. tortuosa and H. pomanensis</i>)	Cacti	Prohibited	
Karoo thorn (<i>Vachellia karoo</i>)	Tree	Prohibited	
Mexican bean tree (<i>Cecropia pachystachya, C. palmata and C. peltata</i>)	Tree	Prohibited	
Peruvian primrose bush (<i>Ludwigia peruviana</i>)	Water	Prohibited	
yellow fever tree (<i>Vachellia xanthophloea</i>)	Tree	Prohibited	
African boxthorn (<i>Lycium ferocissimum</i>)	Shrub	Restricted	3
alligator weed (<i>Alternanthera philoxeroides</i>)	Water	Restricted	3
bitou bush (<i>Chrysanthemoides monilifera ssp. rotundifolia</i>)	Shrub	Restricted	2,3,4,5
harrisia cactus (<i>Harrisia martinii, H. tortuosa and H. pomanensis</i>)	Cacti	Restricted	3
limnocharis, yellow burhead (<i>Limnocharis flava</i>)	Water	Restricted	2,3,4,5
Madras thorn (<i>Pithecellobium dulce</i>)	Tree	Restricted	2,3,4,5
pond apple (<i>Annona glabra</i>)	Tree	Restricted	3
prickly acacia (<i>Vachellia nilotica syn. Acacia nilotica spp. indica</i>)	Tree	Restricted	3
rubber vine (<i>Cryptostegia grandiflora</i>)	Vine	Restricted	3
Senegal tea (<i>Gymnocoronis spilanthoides</i>)	Water	Restricted	3
sicklepod, hairy cassia (<i>S. hirsuta</i>)	Shrub	Restricted	3
tobacco weed (<i>Elephantopus mollis</i>)	Shrub	Restricted	3
water mimosa (<i>Neptunia oleracea and N. Plena</i>)	Water	Restricted	2,3,4,5

Reasonable and Practical Measures for Prevention Invasive Plants		
Aim	Measure	Success Indicator
Awareness	<ul style="list-style-type: none"> Be aware of the 'Prevention' invasive plants Have unfamiliar plants formally identified 	Sound knowledge of species
Surveillance	<ul style="list-style-type: none"> Carry out and record area/property surveillance activities or targeted inspections, prioritising introduction pathways such as roads, stockyards, and watering points 	Early detection
Introduction	<ul style="list-style-type: none"> Undertake hygiene procedures on vehicles, machinery, and clothing (including wash downs, brush downs, visual inspections, and quarantine) Spell stock in holding areas when moved from high risk areas Source stock, landscaping, and garden products from low risk areas and/or request a weed hygiene declaration Check any purchased plants (including reproductive parts) are not listed under the <i>Biosecurity Act 2014</i> 	Reduced risk of entry
Notification	<ul style="list-style-type: none"> Invasive plants listed as prohibited or restricted category 2 matter by the <i>Biosecurity Act 2014</i> must be reported to Biosecurity Queensland on 13 25 23 All 'Prevention' invasive plants to be reported to Sunshine Coast Council on (07) 5475 7272 	Immediate reporting
Distribution	<ul style="list-style-type: none"> No 'Prevention' invasive plants may be sold, traded, given away, or released into the environment 	No spread
Control	<ul style="list-style-type: none"> To be advised once reported to Biosecurity Queensland and/or Sunshine Coast Council 	Not applicable

Prevention Invasive Animals		
Animal Species	Biosecurity Act 2014	
	Matter	Category
feral chital (<i>Axis</i>) deer (<i>Axis axis</i>)	Restricted	3,4,6
hog deer (<i>Axis porcinus</i>)	Restricted	2,3,4,5,6
red-eared slider turtle (<i>Trachemys scripta elegans</i>)	Restricted	2,3,4,5,6
sambar deer (<i>Rusa unicolor</i> , syn. <i>Cervus unicolor</i>)	Restricted	2,3,4,5,6

Reasonable and Practical Measures for Prevention Invasive Plants		
Aim	Measure	Success Indicator
Awareness	<ul style="list-style-type: none"> Be aware of the 'Prevention' invasive animals Have unfamiliar animals formally identified 	Sound knowledge of species
Surveillance	<ul style="list-style-type: none"> Carry out and record area/property surveillance activities or targeted inspections 	Early detection
Introduction	<ul style="list-style-type: none"> Check any purchased animals are not listed under the <i>Biosecurity Act 2014</i> 	Reduced risk of entry
Notification	<ul style="list-style-type: none"> Invasive animals listed as restricted category 2 matter by the <i>Biosecurity Act 2014</i> must be reported to Biosecurity Queensland on 13 25 23 All 'Prevention' invasive animals to be reported to Sunshine Coast Council on (07) 5475 7272 	Immediate reporting
Distribution	<ul style="list-style-type: none"> No 'Prevention' invasive plants may be sold, traded, given away, or released into the environment 	No spread
Control	<ul style="list-style-type: none"> To be advised once reported to Biosecurity Queensland and/or Sunshine Coast Council 	Not applicable

4.2 Eradication

The species presented in Table 2 are present in limited distribution and abundance on the Sunshine Coast and present a significant biosecurity risk.

Elimination of the biosecurity risk posed by these species is reasonable and practical for land managers to achieve.

Table 2. Eradication plant and animal species – Limited distribution and abundance on the Sunshine Coast – Land managers to eliminate.

Eradication Invasive Plants			
Plant Species	Type	Biosecurity Act 2014	
		Matter	Category
cholla cactus (<i>prohibited</i>) - all <i>Cylindropuntia</i> spp. and hybrids (other than <i>C. fulgida</i> , <i>C. imbricata</i> , <i>C. prolifera</i> , <i>C. rosea</i> , <i>C. spinosior</i> and <i>C. tunicata</i>)	Cacti	Prohibited	
prickly pears (<i>prohibited</i>) - all <i>Opuntia</i> spp. (other than <i>O. monacantha</i> , <i>O. aurantiaca</i> , <i>O. tomentosa</i> , <i>O. streptacantha</i> , <i>O. microdasys</i> , <i>O. elata</i> , <i>O. stricta</i> and <i>O. ficus-indica</i>)	Cacti	Prohibited	
annual ragweed (<i>Ambrosia artemisiifolia</i>)	Herb	Restricted	3
cane cactus (<i>Austrocylindropuntia cylindrica</i>)	Cacti	Restricted	3
coral cactus (<i>Cylindropuntia fulgida</i>), Devil's rope pear (<i>C. imbricata</i>), Snake cactus (<i>C. spinosior</i>)	Cacti	Restricted	3
drooping tree pear (<i>Opuntia monacantha</i> syn. <i>O. vulgaris</i>), Tiger pear (<i>O. aurantiaca</i>), Velvety tree pear (<i>O. tomentosa</i>) and Westwood pear (<i>O. streptacantha</i>),	Cacti	Restricted	3
Eve's pin cactus (<i>Austrocylindropuntia subulata</i>)	Cacti	Restricted	3
fireweed (<i>Senecio madagascariensis</i>)	Herb	Restricted	3
honey locust (<i>Gleditsia triacanthos</i> including cultivars & varieties)	Tree	Restricted	3
Hudson pear (<i>C. rosea</i> and <i>C. tunicata</i>), Jumping cholla (<i>C. prolifera</i>)	Cacti	Restricted	2,3,4,5
kudzu (<i>Pueraria montana</i> var. <i>lobata</i> syn. <i>P. lobata</i> , <i>P. triloba</i>)	Vine	Restricted	3
parthenium (<i>Parthenium hysterophorus</i>)	Herb	Restricted	3
prickly pear (<i>Opuntia elata</i>), Bunny ears (<i>O. microdasys</i>)	Cacti	Restricted	2,3,4,5

Reasonable and Practical Measures for Eradication Invasive Plants		
Aim	Measure	Success Indicator
Awareness	<ul style="list-style-type: none"> Be aware of the 'Eradication' invasive plants Have unfamiliar plants formally identified 	Sound knowledge of species
Surveillance	<ul style="list-style-type: none"> Carry out and record area/property surveillance activities or targeted inspections, prioritising introduction pathways such as roads, stockyards, and watering points 	Early detection in areas not infested
Introduction	<ul style="list-style-type: none"> Undertake hygiene procedures on vehicles, machinery, and clothing (including wash downs, brush downs, visual inspections, and quarantine) Spell stock in holding areas when moved from high risk areas Source stock, landscaping, and garden products from low risk areas and/or request a weed hygiene declaration Check any purchased plants (including reproductive parts) are not listed under the <i>Biosecurity Act 2014</i> 	Reduced entry into new areas
Notification	<ul style="list-style-type: none"> Invasive plants listed as prohibited or restricted category 2 matter by the <i>Biosecurity Act 2014</i> must be reported to Biosecurity Queensland on 13 25 23 All 'Prevention' invasive plants to be reported to Sunshine Coast Council on (07) 5475 7272 	Immediate reporting
Distribution	<ul style="list-style-type: none"> No 'Eradication' invasive plants may be sold, traded, given away, or released into the environment 	No spread
Control	<ul style="list-style-type: none"> Remove or destroy all plants and reproductive plant parts fully and continuously from the area infested on your property, following approved control and disposal best practice methods for each specific species (see Queensland Government restricted invasive plants), which may include: conducting chemical treatments; physical or mechanical removal of the entire infestation; removing contaminated soil or turf; preventing further spread; maintaining competitive vegetation / crops / pastures; utilising biological control agents Establish an on-going monitoring program to measure progress toward eradication, including inspection by Sunshine Coast Council to ensure compliance 	Ongoing removal and no spread

Eradication Invasive Animals		
Animal Species	Biosecurity Act 2014	
	Matter	Category
European rabbit (<i>Oryctolagus cuniculus</i>)	Restricted	3,4,5,6
feral fallow deer (<i>Dama dama</i>)	Restricted	3,4,6

Reasonable and Practical Measures for Eradication Invasive Animals		
Aim	Measure	Success Indicator
Awareness	<ul style="list-style-type: none"> Be aware of the 'Eradication' invasive animals Have unfamiliar animals formally identified 	Sound knowledge of species
Surveillance	<ul style="list-style-type: none"> Carry out and record area/property surveillance activities or targeted inspections 	Early detection in areas not infested
Introduction	<ul style="list-style-type: none"> Check any purchased animals are not listed under the <i>Biosecurity Act 2014</i> Remove waste and unused infrastructure that may provide shelter and habitat for invasive animals 	Reduced entry into new areas
Notification	<ul style="list-style-type: none"> All 'Prevention' invasive animals to be reported to Sunshine Coast Council on (07) 5475 7272 	Immediate reporting
Distribution	<ul style="list-style-type: none"> No 'Eradication' invasive animals may be sold, traded, given away, or released into the environment 	No spread
Control	<ul style="list-style-type: none"> Develop and implement an invasive animal eradication plan in consultation with Sunshine Coast Council, and participate in an invasive animal control program that may include verifying species presence, risk assessment, land manager consent, and neighbour notifications Establish an on-going monitoring program to measure progress toward eradication, including inspection by Sunshine Coast Council to ensure compliance 	Ongoing removal and no spread

4.3 Containment

The species presented in Table 3 are distributed in parts of the Sunshine Coast but not everywhere. While eradication from the Sunshine Coast may not be feasible, minimisation of the biosecurity risk posed by this species

is reasonable and practical. Land managers can achieve the containment objective by reducing the impact of these species where they occur and stopping their spread across the landscape.

Table 3. Containment plant and animal species – Distributed in parts of the Sunshine Coast – Land managers to reduce the impact and stop their spread.

Containment Invasive Plants			
Plant Species	Type	Biosecurity Act 2014	
		Matter	Category
African fountain grass (<i>Cenchrus setaceum</i>)	Grass	Restricted	3
American rat's tail grass (<i>Sporobolus jacquemontii</i>)	Grass	Restricted	3
balloon vine (<i>Cardiospermum grandiflorum</i>)	Vine	Restricted	3
blackberry (<i>Rubus anglocandicans</i> , <i>Rubus fruticosus</i> aggregate)	Shrub	Restricted	3
cabomba (<i>Cabomba caroliniana</i>)	Water	Restricted	3
cats claw creeper (<i>Dolichandra unguis-cati</i>)	Vine	Restricted	3
climbing asparagus (<i>Asparagus africanus</i> and <i>A. plumosus</i>)	Ground	Restricted	3
common giant rats tail grass (<i>Sporobolus pyramidalis</i> and <i>S.nataensis</i>)	Grass	Restricted	3
creeping lantana (<i>Lantana montevidensis</i>)	Ground	Restricted	3
Dutchman's pipe (<i>Aristolochia</i> spp. other than native species)	Vine	Restricted	3
giant parramata grass (<i>Sporobolus fertilis</i>)	Grass	Restricted	3
groundsel bush (<i>Baccharis halimifolia</i>)	Shrub	Restricted	3
hymenachne (<i>Hymenachne amplexicaulis</i> and hybrids)	Water	Restricted	3
madeira vine (<i>Anredera cordifolia</i>)	Vine	Restricted	3
mother of millions (<i>Bryophyllum delagoense</i> syn. <i>B. tubiflorum</i> , <i>Kalanchoe delagoensis</i>)	Succulent	Restricted	3
mother of millions hybrid (<i>Bryophyllum x houghtonii</i>)	Succulent	Restricted	3
prickly pear, Common pest pear, Spiny pest pear (<i>Opuntia stricta</i> syn. <i>O.inermis</i>)	Cacti	Restricted	3
salvinia (<i>Salvinia molesta</i>)	Water	Restricted	3
thunbergia (<i>Thunbergia grandiflora</i> syn. <i>T. laurifolia</i>)	Vine	Restricted	3
water hyacinth (<i>Eichhornia crassipes</i>)	Water	Restricted	3
water lettuce (<i>Pistia stratiotes</i>)	Water	Restricted	3

Reasonable and Practical Measures for Containment Invasive Plants		
Aim	Measure	Success Indicator
Awareness	<ul style="list-style-type: none"> Be aware of the 'Containment' invasive plants Have unfamiliar plants formally identified 	Sound knowledge of species
Surveillance	<ul style="list-style-type: none"> Carry out and record area/property surveillance activities or targeted inspections, prioritising introduction pathways such as roads, stockyards, and watering points 	Early detection in areas not infested
Notification	<ul style="list-style-type: none"> Not required 	Not applicable
Introduction	<ul style="list-style-type: none"> Undertake hygiene procedures on vehicles, machinery, and clothing (including wash downs, brush downs, visual inspections, and quarantine) Spell stock in holding areas when moved from high risk areas Source stock, landscaping, and garden products from low risk areas and/or request a weed hygiene declaration Check any purchased plants (including reproductive parts) are not listed under the <i>Biosecurity Act 2014</i> 	Reduced entry into new areas
Distribution	<ul style="list-style-type: none"> No 'Containment' invasive plants may be sold, traded, given away, or released into the environment When leaving areas infested with these species, undertake hygiene procedures on vehicles, machinery, and clothing (including wash downs, brush downs, visual inspections, and quarantine) Minimise seed spread of these species from your property (for example slash to prevent seeding, remove fruit, establish a buffer zone) Spell stock in holding areas when leaving areas infested with these species Do not provide stock feed and garden products from areas infested with these species 	No spread
Control	<ul style="list-style-type: none"> In areas with established infestations of these species, minimise or eliminate the risk of spread away from infestation area by fully and continuously following approved control and disposal best practice methods for each specific species (see Queensland Government restricted invasive plants), which may include: conducting chemical treatments; physical or mechanical removal; maintaining weed free buffers; preventing further spread; maintaining competitive vegetation/crops/pastures; utilising biological control agents In areas where new (not established) infestations are observed, remove or destroy all plants and reproductive plant parts fully and continuously from the area infested on your property, by fully and continuously following approved control and disposal best practice methods for each specific species (see Queensland Government restricted invasive plants), which may include: conducting chemical treatments; physical or mechanical removal; maintaining weed free buffers; preventing further spread; maintaining competitive vegetation/crops/pastures; utilising biological control agents Establish an on-going monitoring program to measure progress toward containment, including inspection by Sunshine Coast Council to ensure compliance 	Ongoing removal or control with no further spread

Containment Invasive Animals		
Animal Species	Biosecurity Act 2014	
	Matter	Category
feral red deer (<i>Cervus elaphus</i>)	Restricted	3,4,6
feral rusa deer (<i>Rusa timorensis</i> syn. <i>Cervus timorensis</i>)	Restricted	3,4,6

Reasonable and Practical Measures for Eradication Invasive Animals		
Aim	Measure	Success Indicator
Awareness	<ul style="list-style-type: none"> Be aware of the 'Containment' invasive animals Have unfamiliar animals formally identified 	Sound knowledge of species
Surveillance	<ul style="list-style-type: none"> Carry out and record area/property surveillance activities or targeted inspections 	Early detection in areas not infested
Notification	<ul style="list-style-type: none"> All 'Containment' invasive animals to be reported to Sunshine Coast Council on (07) 5475 7272 	Not applicable
Introduction	<ul style="list-style-type: none"> Check any purchased animals are not listed under the <i>Biosecurity Act 2014</i> 	Reduced entry into new areas
Distribution	<ul style="list-style-type: none"> No 'Containment' invasive animals may be sold, traded, given away, or released into the environment 	No spread
Control	<ul style="list-style-type: none"> Develop and implement an invasive animal plan in consultation with Sunshine Coast Council, and participate in an invasive animal control program that may include verifying species presence, risk assessment, land manager consent, and neighbour notifications Establish an on-going monitoring program to measure progress toward containment, including inspection by Sunshine Coast Council to ensure compliance 	Ongoing removal or control with no further spread

4.4 Asset Protection

The species presented in Table 4 are widely distributed across the Sunshine Coast and their broad scale eradication or containment is not feasible. Asset Protection species are to be managed to minimise their spread to and/or minimise their impacts on high value economic, environmental and/or social assets. This objective is considered reasonable and practical for land

managers to achieve for these invasive plant and animal species. High value assets include vegetated areas managed for conservation, waterways, wetlands, riparian vegetation, horticulture, agriculture, primary production areas, community open space, and residential areas where residents and visitors live, work, play.

Table 4. Asset protection plant and animal species – Widely distributed on the Sunshine Coast – Land managers to manage when threatening high value assets.

Containment Invasive Plants			
Plant Species	Type	Biosecurity Act 2014	
		Matter	Category
African tulip tree (<i>Spathodea campanulata</i>)	Tree	Restricted	3
basket asparagus (<i>Asparagus aethiopicus</i>)	Ground	Restricted	3
broad leaf pepper tree (<i>Schinus terebinthifolius</i>)	Tree	Restricted	3
broad-leaf privet, tree privet (<i>Ligustrum lucidum</i>)	Tree	Restricted	3
camphor laurel (<i>Cinnamomum camphora</i>)	Tree	Restricted	3
Chinese celtis (<i>Celtis sinensis</i>)	Tree	Restricted	3
hygrophila (<i>Hygrophila costata</i>)	Water	Restricted	3
lantana – common (<i>Lantana camara</i>)	Shrub	Restricted	3
ornamental gingers (<i>Hedychium gardnerianum</i> , <i>h. coronarium</i> , <i>h. flavescens</i>)	Ground	Restricted	3
privets – small-leaf privet, Chinese privet (<i>Ligustrum sinense</i>)	Shrub	Restricted	3
sagittaria (<i>Sagittaria platyphylla</i>)	Water	Restricted	3
Singapore daisy (<i>Sphagneticola trilobata</i> syn. <i>Wedelia trilobata</i>)	Ground	Restricted	3
willows (all <i>Salix</i> spp. other than <i>S. babylonica</i> , <i>S. x calodendron</i> and <i>S. x reichardtii</i>)	Tree	Restricted	3
yellow oleander, Captain Cook tree (<i>Cascabela thevetia</i> syn. <i>Thevetia peruviana</i>)	Shrub	Restricted	3
yellow bells (<i>Tecoma stans</i>)	Shrub	Restricted	3

Reasonable and Practical Measures for Asset Protection Invasive Plants		
Aim	Measure	Success Indicator
Awareness	<ul style="list-style-type: none"> Be aware of the 'Asset Protection' invasive plants Have unfamiliar plants formally identified 	Sound knowledge of species
Surveillance	<ul style="list-style-type: none"> Carry out and record surveillance activities or targeted inspections of high value assets, prioritising introduction pathways such as roads, stockyards, and watering points 	Early detection in areas not infested
Notification	<ul style="list-style-type: none"> Not required 	Not applicable
Introduction	<ul style="list-style-type: none"> Undertake hygiene procedures on vehicles, machinery, and clothing (including wash downs, brush downs, visual inspections, and quarantine) Spell stock in holding areas when moved from high risk areas Source stock, landscaping, and garden products from low risk areas and/or request a weed hygiene declaration Check any purchased plants (including reproductive parts) are not listed under the <i>Biosecurity Act 2014</i> 	Reduced entry into new areas
Distribution	<ul style="list-style-type: none"> No 'Asset Protection' invasive plants may be sold, traded, given away, or released into the environment When leaving infestation area undertake hygiene procedures on vehicles, machinery, and clothing (including wash downs, brush downs, visual inspections, and quarantine) Minimise seed spread from infestations (for example slash to prevent seeding, remove fruit, establish a buffer zone) Spell stock in holding areas when leaving infestation areas 	No spread
Control	<ul style="list-style-type: none"> Minimise or eliminate the risk of spread or incursion into, or existing impacts to high value assets by fully and continuously following approved control and disposal best practice methods for each specific species (see Queensland Government restricted invasive plants), which may include: conducting chemical treatments; physical or mechanical removal; maintaining weed free buffers; preventing further spread; maintaining competitive vegetation / crops / pastures; utilising biological control agents Establish an on-going monitoring program to measure progress toward asset protection objective 	Ongoing removal or control with no further spread

Asset Protection Invasive Animals		
Animal Species	Biosecurity Act 2014	
	Matter	Category
cat (<i>Felis catus</i> and <i>Prionailurus bengalensis x Felis catus</i>), other than domestic cat	Restricted	3,4,6
dog (<i>Canis lupus familiaris</i>), other than a domestic dog	Restricted	3,4,6
dingo (<i>Canis lupus dingo</i>)	Restricted	3,4,5,6
European fox (<i>Vulpes vulpes</i>)	Restricted	3,4,5,6
feral pig (<i>Sus scrofa</i>)	Restricted	3,4,6

Reasonable and Practical Measures for Asset Protection Invasive Animals		
Aim	Measure	Success Indicator
Awareness	<ul style="list-style-type: none"> Be aware of the 'Asset Protection' invasive animals Have unfamiliar animals formally identified 	Sound knowledge of species
Surveillance	<ul style="list-style-type: none"> Carry out and record surveillance activities or targeted inspections of high value assets 	Early detection in areas not infested
Notification	<ul style="list-style-type: none"> Not required (however 'Asset Protection' invasive animal species can be reported via FeralScan at feralscan.org.au) 	Not applicable
Introduction	<ul style="list-style-type: none"> Check any purchased animals are not listed under the <i>Biosecurity Act 2014</i> Remove waste and unused infrastructure that may provide shelter and habitat for invasive animals 	Reduced risk entry into new areas
Distribution	<ul style="list-style-type: none"> No 'Asset Protection' invasive animal may be sold, traded, given away, or released into the environment 	No spread
Control	<ul style="list-style-type: none"> Develop and implement an invasive animal plan in consultation with Sunshine Coast Council, and participate in an invasive animal control program that may include verifying species presence, risk assessment, land manager consent, and neighbour notifications Establish an on-going monitoring program to measure progress toward asset protection objective 	Ongoing control or removal with no incursions into strategic assets



Landholder with specimen of Honey Locust (*Gleditsia triacanthos*)

5. Alert and Locally Significant Invasive Plants

Some invasive plants that are not listed as prohibited or restricted under the *Biosecurity Act 2014* can have locally significant impacts on our environmental areas. Although not a state wide priority, these species can still disrupt our local natural ecosystem functions and negatively impact our community. Controlling these species can be challenging and costly, and to assist land managers to make the best use of available resources, a list of alert and locally significant species is presented in this section.

An assessment of over 200 invasive plants not listed as prohibited or restricted matter was undertaken during the development of this plan to prioritise the species with the highest biosecurity risk to our natural environments. The assessment focussed on the potential impacts, invasiveness, and current distribution of each species. The alert and locally significant species are the outcome of this assessment. Although these species represent the highest biosecurity risk to our natural environment, there are many other invasive plants not listed under the *Biosecurity Act 2014*, that also present a biosecurity risk and may require management

Land managers must first prioritise management of prohibited and restricted species (under the *Biosecurity Act 2014*), as outlined in 'Section 4 - Reasonable and Practical Measures for Priority Invasive Species'. It is recommended that the alert and locally significant invasive species listed in this section of the plan are also considered by land managers, where reasonable and practical, when managing high value natural environment areas. High value natural areas include vegetated areas managed for conservation, waterways, wetlands, and riparian vegetation.

It is important to note that there is currently no legislation or regulations that specifically mention these alert and locally significant species for biosecurity management.

5.1 Alert Invasive Plants

The alert invasive plant species presented in Table 5 are not listed under the *Biosecurity Act 2014*, however they present a local biosecurity risk to environmental areas. These species are not well established on the Sunshine Coast, however they have potential to cause significant impacts to natural areas should they spread.

It is recommended that land managers aim to prevent the entry of these species and take actions to control and prevent their further spread if they are found. All 'Alert' invasive plants should be reported to Sunshine Coast Council on (07) 5475 7272.

Table 5. Alert plant species – Not well established on the Sunshine Coast – Land managers to prevent their entry and establishment.

Alert Invasive Plants (not prohibited or restricted species under the <i>Biosecurity Act 2014</i>)	
Plant Species	Type
Amazonian Frogbit (<i>Limnobium laevigatum</i>)	Water
hiptage (<i>Hiptage benghalensis</i>)	Shrub
yellow or Mexican waterlily (<i>Nymphaea mexicana</i>)	Water

5.2 Locally Significant Invasive Plants

The locally significant invasive plant species presented in Table 6 are not listed under the *Biosecurity Act 2014*, however they present a local biosecurity risk to environmental areas. These species can significantly impact natural areas, are highly invasive, spread naturally and easily, and are often relatively widespread. It is recommended that land managers aim to take actions to control and prevent further spread of these species when they are impacting or threatening high value natural assets.

Table 6. Locally significant plant species – Often relatively widespread – Land managers to manage when threatening high value assets.

Locally Significant Invasive Plants (not prohibited or restricted species under the <i>Biosecurity Act 2014</i>)	
Plant Species	Type
air potato (<i>Dioscorea bulbifera</i>)	Vine
autograph tree (<i>Clusea rosea</i>)	Tree
barleria (<i>Barleria repens</i>)	Shrub
blue morning glory (<i>Ipomoea indica</i>)	Vine
Brazilian cherry (<i>Eugenia uniflora</i>)	Shrub
broad leaf paspalum (<i>Paspalum mandiocanum</i>)	Grass
coastal morning glory (<i>Ipomoea cairica</i>)	Vine
cocos palm (<i>Syagrus romanzoffiana</i>)	Tree
Easter cassia (<i>Senna pendula</i> var. <i>glabrata</i>)	Shrub
fragrant thunbergia (<i>Thunbergia fragrans</i>)	Vine
glory lily (<i>Gloriosa superba</i>)	Shrub
kidney-leaf mud plantain (<i>Heteranthera reniformis</i>)	Water
molasses grass (<i>Melinis minutiflora</i>)	Grass
ochna (<i>Ochna serrulata</i>)	Shrub
parrots feather (<i>Myriophyllum aquaticum</i>)	Water
Queensland umbrella tree (<i>Schefflera actinophylla</i>)*	Tree
taro (<i>Colocasia esculenta</i>)	Ground
thorny poinciana (<i>Biancaea decapetala</i> syn. <i>Caesalpinia decapetala</i>)	Vine
water poppy (<i>Hydrocleys nymphoides</i>)	Water

* Native to north Queensland, however considered as invasive species in southern Queensland.

5.3 Management Recommendations

The following steps are recommended for land managers to address the biosecurity risks posed by the alert and locally significant species presented above:

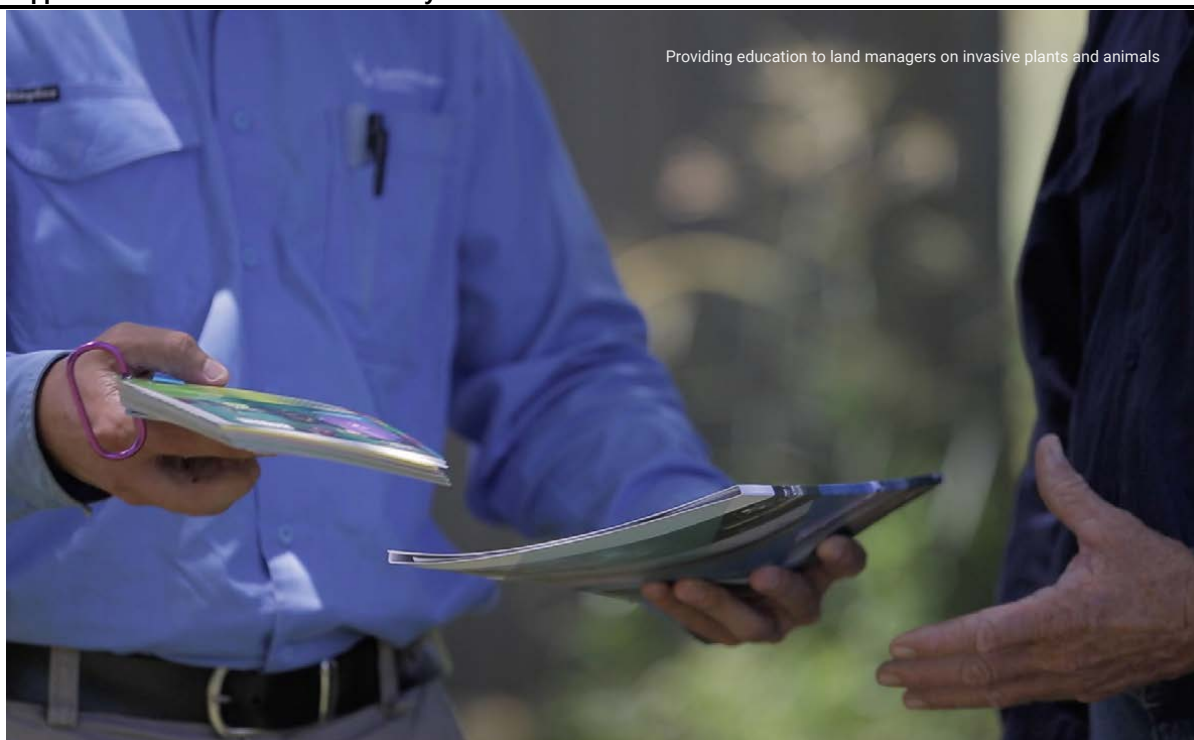
Prevent Introduction

- Carry out invasive species surveillance activities
- Undertake invasive plant hygiene procedures on vehicles, machinery, and clothing (including wash downs, brush downs, visual inspections,)
- Source landscaping, and garden products from low risk areas and/or request a weed hygiene declaration
- Keep soil and ecosystem disturbances to a minimum
- Choose local native plants for landscaping and revegetation
- Dispose garden waste responsibly

Reduce spread

- Control, minimise or eliminate the impacts and/or risk of spread of alert and locally significant invasive species into high value assets by following best practice control and disposal methods ([see the Queensland Government other invasive plants website⁵](#)), which may include: conducting chemical treatments; physical or mechanical removal; maintaining weed free buffers; preventing further spread; maintaining competitive vegetation/crops/pastures; utilising biological control agents
- Develop a property invasive plant management plan (map infestations, prioritise management options, and monitor progress towards targets)





6. Compliance

To achieve the reasonable and practical management objectives for priority invasive plants and animals, Council's authorised persons use a range of flexible and targeted compliance measures in conjunction with educational programs. Council prioritises voluntary and assisted compliance to ensure land managers can meet their GBO.

This is achieved through education and a range of partnership programs undertaken with land managers. Biosecurity Orders, Enter and Clear Notices, or Penalty Infringement Notices are issued for regulated species when voluntary and assisted options have failed to meet the required outcomes. Council's generalised approach and process to biosecurity compliance is presented in Figure 5.

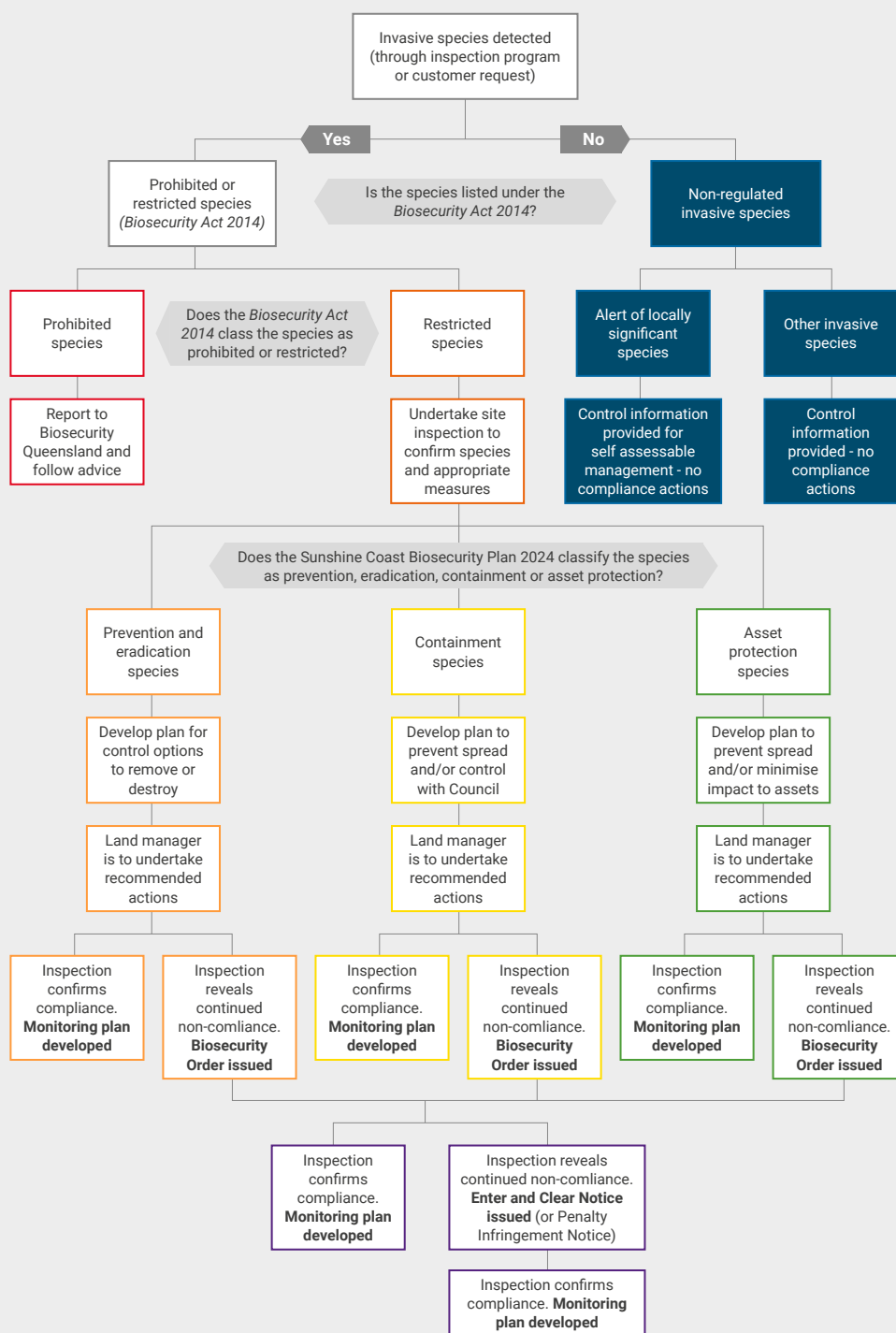


Figure 5. Sunshine Coast Council's generalised approach and process to biosecurity compliance.



7. Implementation

Implementation of this plan is central to reducing invasive plant and animal biosecurity risk on the Sunshine Coast. Council will coordinate a collaborative approach to ongoing implementation of this plan to assist in guiding the invasive plant and animal management responsibilities of the entire Sunshine Coast community.

A collaborative approach will primarily be facilitated through the the multistakeholder Invasive Weed Taskforce and the internal Council Biosecurity Working Group.

These groups meet on a regular basis to guide the implementation of this plan, review priority invasive plants and animals, identify emerging threats, outline strategic responses, discuss current activities, and assist with reporting on the implementation of this plan.

The Sunshine Coast Council Biosecurity Implementation Plan 2024 outlines how Council is meeting its own GBO and implementing the vision and objectives for invasive plant and animal management.



8. References

- 1 Summary for Policymakers of the Thematic Assessment Report on Invasive Alien Species and their Control of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2023). Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Roy, H. E., Pauchard, A., Stoett, P., Renard Truong, T., Bacher, S., Galil, B. S., Hulme, P. E., Ikeda, T., Sankaran, K. V., McGeoch, M. A., Meyerson, L. A., Nuñez, M. A., Ordonez, A., Rahlao, S. J., Schwindt, E., Seebens, H., Sheppard, A. W., and Vandvik, V. (eds.). IPBES secretariat, Bonn, Germany.
- 2 Fighting plagues and predators Australia's path towards a pest and weed-free future (2021). Sheppard, A., and Glanznig A. CSIRO, Canberra, Australia.
- 3 Climate change in Queensland (2019). State of Queensland Department of Environment and Science, Brisbane, Australia.
- 4 *Biosecurity Act 2014* (Current as at 2 June 2023). Authorised by the Parliamentary Counsel State of Queensland, Brisbane, Australia.
- 5 Other invasive plants - Learn about other invasive plants that are not prohibited or restricted - business.qld.gov.au/industries/farms-fishing-forestry/agriculture/biosecurity/plants/invasive/other



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Sunshine Coast Council Biosecurity Implementation Plan 2024



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Reference document

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Sunshine Coast Council
 Biosecurity Implementation Plan 2024.

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Traditional Acknowledgement

Sunshine Coast Council acknowledges the Sunshine Coast Country, home of the Kabi Kabi peoples and the Jinibara peoples, the Traditional Custodians, whose lands and waters we all now share.

We recognise that these have always been places of cultural, spiritual, social and economic significance. The Traditional Custodians' unique values, and ancient and enduring cultures, deepen and enrich the life of our community.

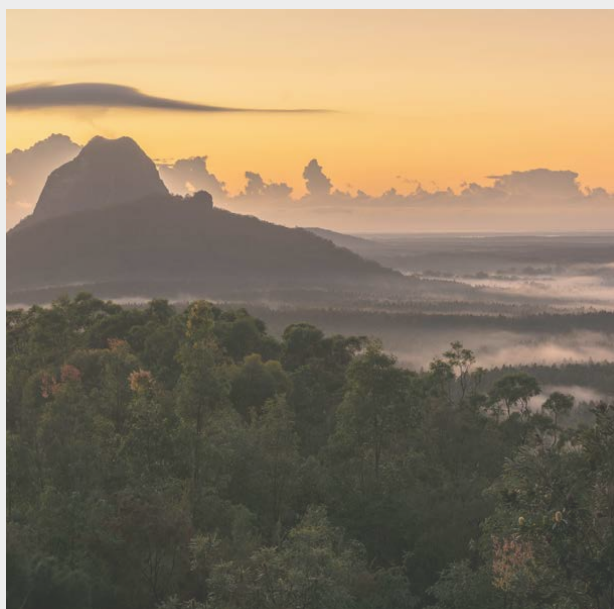
We commit to working in partnership with the Traditional Custodians and the broader First Nations (Aboriginal and Torres Strait Islander) communities to support self-determination through economic and community development.

Truth telling is a significant part of our journey. We are committed to better understanding the collective histories of the Sunshine Coast and the experiences of First Nations peoples. Legacy issues resulting from colonisation are still experienced by Traditional Custodians and First Nations peoples.

We recognise our shared history and will continue to work in partnership to provide a foundation for building a shared future with the Kabi Kabi peoples and the Jinibara peoples.

We wish to pay respect to their Elders – past, present and emerging, and acknowledge the important role First Nations peoples continue to play within the Sunshine Coast community.

Together, we are all stronger.



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Council and contractor discuss control of the priority restricted weed *Thumbergia grandiflora*





1. Introduction

Biosecurity is a broad term referring to measures taken to manage harmful organisms. Everyone in Queensland has a general biosecurity obligation (GBO) under the *Biosecurity Act 2014* to take measures to reduce biosecurity risks.

Invasive plants and animals significantly impact the values of the Sunshine Coast local government area (the Sunshine Coast). They can degrade natural bushland and aquatic environments, reduce the productivity and viability of agriculture areas, reduce the scenic amenity and function of community open spaces, cause harm and health issues for people and pets, damage infrastructure, and increase overall land management costs.

Sunshine Coast Council (Council) has developed the Sunshine Coast Biosecurity Plan 2024 to assist the community and land managers to meet their GBO for invasive plants and animals. The Sunshine Coast Biosecurity Plan 2024 should be referred to by all land managers in order to understand the vision, scope, approach, strategic context, obligations, priority species, and measures to meet their GBO for invasive plants and animals.

The Sunshine Coast Council Biosecurity Implementation Plan 2024 outlines how Council is meeting its own GBO and implementing the vision and objectives for invasive plant and animal management. This is demonstrated in this implementation plan through a suite of ongoing and new biosecurity activities and actions for Council.

Den tracking dogs to assist with coastal fox control program



2. Ongoing Biosecurity Activities

Council’s integrated approach to biosecurity management includes a broad range of ongoing, business-as-usual activities undertaken across the organisation, and in partnership with stakeholders and the community.

These ongoing invasive species related activities are categorised under the six strategic themes of the Queensland Invasive Plants and Animal Strategy 2019-2024, as presented in Table 1. These activities are current as of 2024 and may be subject to change.

Table 1. Sunshine Coast Council's ongoing invasive species activities.

Prevention and preparedness	
Preventing the establishment and spread of invasive plants and animals	
Activity	Description
Surveillance program for invasive plants	Monitor and survey properties for prohibited and restricted invasive plants*
Biosecurity industry program	Work with industry to prevent the sale and spread of prohibited and restricted invasive plants, in partnership with Biosecurity Queensland
Landfill invasive plant inspections	Monitoring of landfills and green waste management facilities to prevent the spread of invasive plants
Surveillance program for invasive animals	Monitor and survey properties for prohibited and restricted invasive animals*
Responsible pet ownership	Educate and inform the community on responsible pet ownership for happy healthy pets and safe and inclusive places, through public and school education programs, and dog and cat registration
Control	To be advised once reported to Biosecurity Queensland and/or Sunshine Coast Council
Monitoring and assessment	
Information on invasive plants and animals for effective decision-making	
Activity	Description
Invasive plant and animal field data collection	Collection of invasive plant and animal data through mapping software and sharing of information within Council, with Biosecurity Queensland, research institutions, and the community
Invasive animal monitoring	Collection of invasive animal and native animal data to assess progress of management programs, using motion sensor trail cameras, heat maps, activity indexes, and general analytics
Biosecurity Queensland Payment Program	Biosecurity Queensland program receiving contributions from Queensland local governments to fund state wide invasive plant and animal research projects and information sharing outcomes
Invasive plant research trials	Research trials to monitor and improve the effectiveness of invasive plant control methods, including herbicides, manual removal, mechanic controls, and new technologies
Invasive animal research	Research to monitor and improve invasive animal control methods and animal ecology knowledge, including DNA and environmental DNA (eDNA) research, spatial tracking, artificial intelligence trapping

Effective management systems Integrated practices for managing and minimising impacts of invasive plants and animals	
Activity	Description
Control program for invasive plants	Assist, coordinate, and educate residents to identify, prioritise, plan for, and implement invasive plant management and undertake compliance where necessary*
Coastal fox control program	Control and monitoring of fox populations to protect native animals and the community, utilising trapping, canid pest ejectors, and den fumigation in coastal areas between Maroochy River and Peregrine Beach (collaboration between Council, Queensland Parks and Wildlife, Coolumb and Northshore Coast Care, Noosa Shire Council, Sunshine Coast Airport and land managers).
Community wild dog program	Wild dog and dingo control utilising chemical baiting and soft-catch foothold trap control methods undertaken in partnership with private land managers to protect native animals, livestock, and domestic pets and reduce disease and health risks**
Feral deer program	Feral deer control utilising field shooting and monitoring activities in partnership with rural private land managers to reduce the environmental, economic, health, and road safety impacts**
Mary River turtle protection program	Fox, cat, pig, deer, and wild dog and dingo control and monitoring on private properties in the Mary River Catchment to protect the threatened Mary River turtle (collaboration between Council, Tiaro Landcare, Mary River Catchment Co-ordinating Committee, Gympie Regional Council, Noosa Shire Council and Fraser Coast Regional Council)**
Feral cat management program	Feral cat control utilising cage traps on participating residents' properties to reduce feral cat impacts on the community and environment**
Feral pig management program	Feral pig management utilising panel or Jager traps, or chemical control to reduce feral pig impacts on community, agriculture, and environment**
Rabbit management program	Rabbit management utilising trapping, field shooting, harbour destruction, and biocontrol methods on participating private properties, to reduce rabbits' impacts on community, agriculture, and the environment**
Indian myna bird trapping program	Indian myna bird management utilising trapping on participating private properties to reduce the Indian myna birds' impacts on community and environment values**
Environmental reserve and natural areas management	Integrated management approach combining revegetation, restoration, and invasive plant control (mechanical, chemical, and biological) activities within Council managed environment reserves to ensure ecological, social, cultural, and economic values are protected and managed (implementation of the Environmental Reserves Network Management Plan)
Biological control programs	Application of biological control agents (natural pathogens or leaf predators) for cats claw creeper vine, lantana, madeira vine, and salvinia to reduce the spread of these invasive plants (adhering to processes established through the <i>Australian Government Biosecurity Act 2015</i> and the <i>Environment Protection and Biodiversity Conservation Act 1999</i>) and continue to partner with research institutes
Roadside invasive plant control program	Manage and prevent the spread of priority invasive plants occurring adjacent to roads, utilising foliar spray or manual removal methods, targeting roadsides adjacent to natural areas and agricultural properties
Invasive plant hire equipment	Provide free hire equipment (tree poppers, aquatic weed boom, solarisation materials, wick wipers, quick spray unit, and knapsack kits) to assist private land managers with weed management
Riparian weed control program	Targeted riparian invasive vine control and habitat restoration projects in undertaken in partnership with local land managers and natural resource management groups
Aquatic weed Management	Manage aquatic weeds in Council managed lakes, wetlands, and bioretention basin sites through mechanical, biological, and chemical controls

Effective management systems

Integrated practices for managing and minimising impacts of invasive plants and animals

Pest fish management	Pest fish removal and education undertaken as part of fish surveys and lake management activities
Land for Wildlife	Voluntary conservation program supporting land managers to manage wildlife habitat on their property, including habitat restoration through invasive plant and animal management (in partnership with Land for Wildlife South East Queensland)
Voluntary Conservation Agreements	Voluntary program that supports land managers to permanently protect significant areas of privately owned bushland, including financial assistance for on-ground conservation work, including invasive plant management
BushCare Sunshine Coast	Voluntary program supporting the community to conserve and restore natural bushland in Council's environment reserves through volunteer bush regeneration activities, including controlling invasive plants

Awareness and education

Increasing stakeholder understanding and best practice management of invasive plants and animals

Activity	Description
Biosecurity education program	Educate and engage with residents at a range of events each year on invasive plant and animal impacts on the environment, economy, and agriculture and provide information and advice on appropriate management strategies
School education program	Educate and engage with school age children to bring awareness about invasive species through workshops, presentations, interactive board games, illustrated books, and activity books
Invasive plant walks and field days	Walks and field days to showcase Council and land managers work undertaken to manage invasive plants, identify plants, discuss management options, book hire equipment, and provide education on invasive plant impacts on the environment, economy, and agriculture
Invasive plant and animal workshops	Workshops held at local community halls to increase the community's awareness of invasive species impacts on the environment, economy, and agriculture and provide information and advice on appropriate management strategies
Invasive plant and animal website	Council website providing easy access to up to date information on priority invasive plants and animals for the Sunshine Coast, including webinars on priority species.
Staff training	Council staff online training for General Biosecurity Obligations, biosecurity planning, and priority invasive plant and animal identification and measures

Commitment, roles, and responsibilities

Commitment and coordinated approach for land managers, industries, communities, and governments to managing invasive plants and animals

Activity	Description
Sunshine Coast Council Biosecurity Working Group	Collaborative information sharing Council group with representatives from across the organisation meeting to discuss biosecurity priorities and the implementation of the Sunshine Coast Biosecurity Plan 2024
Invasive Weed Taskforce	Collaborative information sharing multisector group with representatives from government, community, and industry meeting to discuss invasive weed management priorities for the Sunshine Coast
SEQ Regional Biosecurity Sub-committee	Collaborative information sharing multisector group with representatives from government, community, and industry meeting to discuss SEQ region wide biosecurity information and planning

* Part of Council's endorsed Invasive Plant Surveillance Program

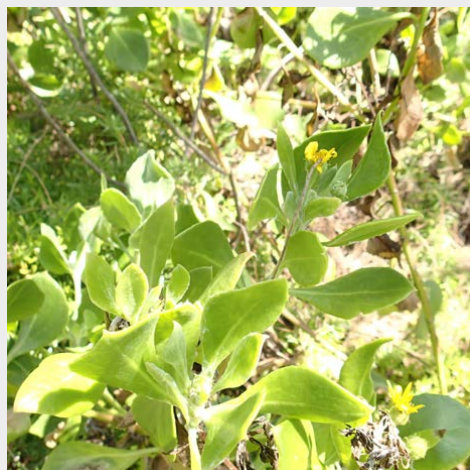
** Part of Council's endorsed Prevention and Control Program for Feral Animals

2.1 Case Studies - Success Stories

Bitou Bush

Bitou bush (*Chrysanthemoides monilifera* ssp. *rotundifolia*) is coastal shrub native to South Africa, that has been historically planted in Australia to revegetate coastal dunes after sand mining. Bitou bush has become highly invasive in Australia and is now the dominant vegetation along much of the New South Wales coastline. In Queensland it is found in small numbers in the coastal areas of Wide Bay, Noosa, North and South Stradbroke Island, Moreton Island, and southern Moreton Bay Islands. Early detection and eradication, combined with ongoing treatments (as the they have large and persistent soil seed banks) are essential to prevent the establishment and rapid spread of this species. Thanks to a partnership between Biosecurity Queensland and Council, bitou bush no longer occurs on the Sunshine Coast. Biosecurity Queensland has undertaken an ongoing statewide eradication campaign involving methodical searches of sites at least twice each year and the destruction of any detected plants. On the Sunshine Coast, Biosecurity Queensland has worked with Council to undertake arial surveys with follow up eradication of detected plants. This concerted and coordinated effort has meant the bitou bush has not established on the Sunshine Coast. If bitou bush is found, it must be reported to Biosecurity Queensland within 24 hours of the sighting and reasonable and practical measures must be undertaken to minimise the biosecurity risks.

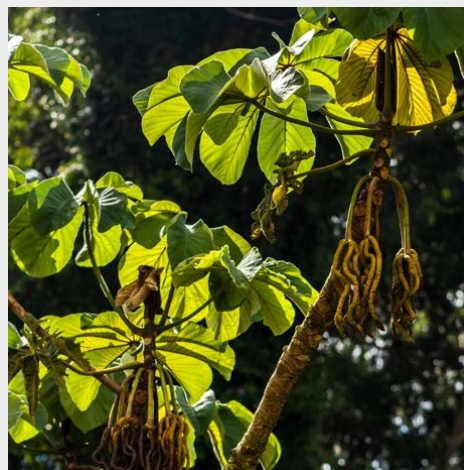
Bitou bush



Mexican Bean Tree

The Mexican bean tree species (*Cecropia pachystachya*, *C. palmata* and *C. peltate*) are fast growing trees native to Central and South America. In Queensland they have the potential to outcompete native plants and pose a significant threat to riparian and rainforest ecosystems. The Mexican bean tree is a Prohibited species under the Queensland *Biosecurity Act 2014*, and all sightings must be reported to Biosecurity Queensland within 24 hours. Thanks to a coordinated Mexican bean tree surveillance program, established by Biosecurity Queensland and Council, the tree has not become established on the Sunshine Coast. The program has detected trees in gardens at Buderim, Mount Mellum, Maleny, and Glenview. The dedication of Biosecurity Queensland and Council to this program has ensured these trees did not result in the spread of this highly invasive plant into nearby sensitive bushland areas.

Mexican bean tree





3. Action Plan

In addition to the ongoing activities being undertaken by Council and its partners to reduce biosecurity risk and impacts on the Sunshine Coast, additional actions have been identified for implementation (Table 2). The actions are categorised under the six strategic themes of the Queensland Invasive Plants and Animal Strategy 2019-2024. Each action is accompanied by information on implementation methods, partners, timeframes and performance measures.

Table 2. Sunshine Coast Council biosecurity action plan.

Prevention and preparedness					
Preventing the establishment and spread of invasive plants and animals					
Action	Method	Partners	Timeframe	Measures	Budget
Contractor biosecurity responsibilities	Embed biosecurity management measures into Council's contractor procurement guidelines, including weed hygiene protocols and preference for locally sourced materials that reduce risks for the transportation and introduction of invasive plants	Contractors	2024 - 2025	Annual adoption of Procurement Framework containing environmentally sustainable direction regarding biosecurity	Within existing budget
Council vehicle clean down facilities	Design, procure, install, and operate vehicle clean down facilities at targeted locations (e.g. at Council depots) to meet Council's GBO to reduce invasive plant spread		2024 - 2029	Number of Council vehicle clean down facilities operating (and being used) at key locations	Additional budget required
Monitoring and assessment					
Information on invasive plants and animals for effective decision-making					
Action	Method	Partners	Timeframe	Measures	Budget

Sunshine Coast Council

Monitoring and assessment					
Information on invasive plants and animals for effective decision-making					
Invasive plant and animal data coordination	Coordinate the capture, storage, analysis, display, and sharing of invasive plant and animal data to facilitate efficient and effective use of information (including alerts, tracking, and monitoring to ensure management objectives are being met for priority species)	Land managers, catchment and industry groups, research bodies, and other levels of government	2024 - 2026	Establishment and ongoing implementation of an invasive plant and animal data platform	Within existing budget
Innovative research and technology	Establish research partnerships to trial innovative solutions to assist with management of priority invasive plants, including drone technology and eDNA	Research bodies	2024 - 2026	New technology utilised in invasive plant monitoring programs	Within existing budget
Climate change impacts on biosecurity risk	Increase knowledge and understanding of impacts of climate change on invasive plant and animal risks, and develop recommendations for improved management and adaptation responses	Research bodies	2024 - 2029	Implementation of recommendations to reduce climate change related biosecurity risk	Within existing budget
Effective management systems					
Integrated practices for managing and minimising impacts of invasive plants and animals					
Action	Method	Partners	Timeframe	Measures	Budget
Invasive plants in road reserves	Facilitate land managers to manage invasive plants occurring in road reserves adjoining their property	Queensland Department of Transport and Main Roads	2024 - 2026	Management of invasive plants in road reserves by adjoining land managers	Within existing budget
Eradication program for priority species	Develop and implement program to target 'Prevention' and 'Eradication' priority species, including use of enforcement, prevention, and control programs	Biosecurity Queensland	2024 - 2029	Implementation of an effective program to meet eradication targets	Within existing budget
First Nation cultural burning	Partner with First Nations to expand knowledge of cultural burning practices for effective invasive plant management	First Nations	2024 - 2029	Implementation of improved First Nation cultural burning practices	Within existing budget
Biosecurity for tenancy agreements	Tenancy Agreements (upon renewal) are to include clearly defined responsibility for the management of biosecurity obligations, and a targeted site-based risk inspection program to be undertaken to ensure compliance of all tenancy agreements' biosecurity obligations		Ongoing	Holders of tenancy agreements meet the GBO obligations identified under the relevant tenancy agreement	Within existing budget
Fire ant detection and eradication	Take reasonable measures to meet Council's GBO in responding to fire ants, through collaboration with Biosecurity Queensland, staff training, education, monitoring, and appropriate risk management	National Fire Ant Eradication Program Biosecurity Queensland. Other local governments	2024-2029	Meet fire ant related GBO for all Council assets and services (including immediate reporting of fire ants to Biosecurity Queensland)	Additional budget required

Awareness and education					
Increasing stakeholder understanding and best practice management of invasive plants and animals					
Action	Method	Partners	Timeframe	Measures	Budget
Online sales of locally significant invasive plants	Undertake education program targeting commercial online selling of Alert and Locally Significant invasive plants	Biosecurity Queensland	2025 - 2027	Number of education activities targeting online selling of Alert and Locally Significant invasive plants	Within existing budget
Weeds Network email distribution program	Improve connections and community partnerships through a Weeds Network email distribution program that provides information on biosecurity risks and priority invasive species	Land managers and catchment and industry groups	2024 - 2029	Number of Weeds Network email communications	Within existing budget
Biosecurity risks when transferring materials	Develop and implement an awareness and education program for meeting GBO when transferring materials that may spread invasive species (such as mulch, soil, animal feeds, nursery stock)	Biosecurity Queensland	2025 - 2027	Number of awareness and education activities undertaken	Within existing budget
Invasive plant citizen science	Promote invasive plant and animal citizen science data collection and sharing tools through online tools and mobile applications, such as iNaturalist	Land managers, catchment and industry groups, and research bodies	2024 - 2029	Increased number of citizen science invasive plant records	Within existing budget
Invasive Species Month	Promote invasive species month with library displays, book readings, displays, and webinars to increase awareness of invasive plants and animals		2024 - 2029	Number of communication and engagement activities	Within existing budget
Strategic planning and management					
Risk-based strategic directions to maximise stakeholder responsibility in managing invasive plants and animals					
Action	Method	Partners	Timeframe	Measures	Budget
Biosecurity and the Environment Reserve Network Management Plan	Integrate priority invasive species and locally significant invasive plants (as outlined in this Biosecurity Plan) into the update of Council's Environment Reserve Network Management Plan		2024 - 2025	GBO and locally significant invasive plants incorporated in Environment Reserve Network Management Plan	Within existing budget
Biosecurity and new development	Integrate the Sunshine Coast Biosecurity Plan priorities into the Sunshine Coast Planning Scheme as required		2024 - 2025	Sunshine Coast Biosecurity Plan priorities incorporated into Sunshine Coast Planning Scheme	Within existing budget

Commitment, roles, and responsibilities					
Commitment and coordinated approach for land managers, industry, community, and government to managing invasive plants and animals					
Action	Method	Partners	Timeframe	Measures	Budget
Improved customer care	Improve communication and understanding between Council, natural resource management groups, and industry groups by providing land managers with broader information as part of invasive species inspection programs	Catchment and industry groups	2024 - 2029	Number of invasive species inspections where broader information made accessible	Within existing budget
Locally significant species in the Biosecurity Act	Advocate to the state government for recognition of priority locally significant invasive species in the <i>Biosecurity Act 2014</i> to facilitate improved compliance measures	Local Government Association of Queensland. Other local governments.	2024 - 2027	Recognition of priority locally significant invasive species in the <i>Biosecurity Act 2014</i>	Within existing budget

Biosecurity community presentation Belli Park Hall



Sunshine Coast Council Biosecurity Implementation Plan 2024



4. Implementation and Monitoring

Implementing, monitoring, and tracking the ongoing activities and new actions outlined in this plan is critical to ensure Council is meeting its GBO and reducing invasive plant and animal biosecurity risk across the Sunshine Coast.

Council's internal Biosecurity Working Group will be primarily responsible for coordinating the implementation, monitoring, tracking of actions against performance measures, and an annual review of this implementation plan. Collaboration with the Invasive Weed Taskforce will also be undertaken to ensure broader understanding and success of this implementation plan.

Sunshine Coast Council



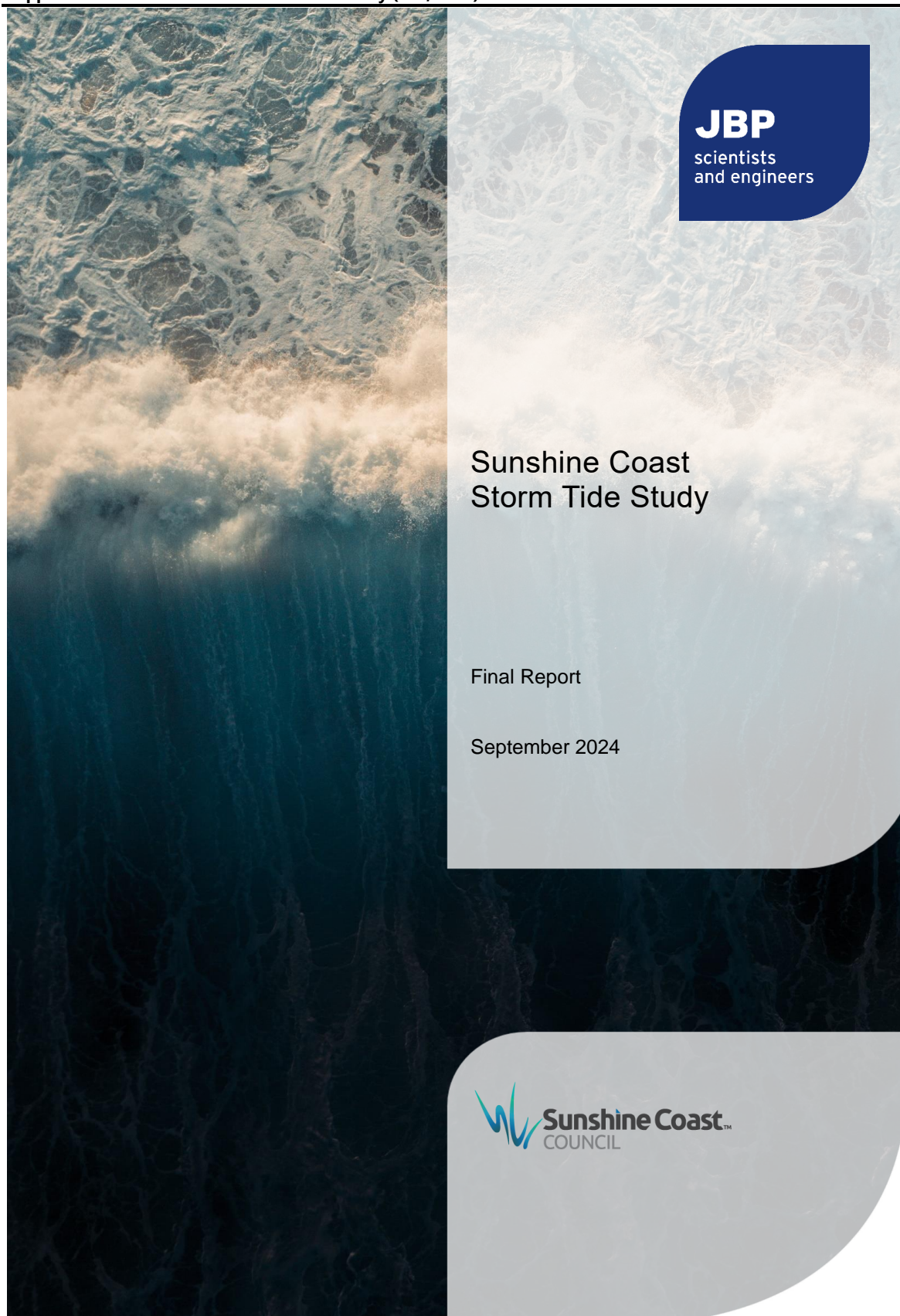
Thermal photos of Deer at Conondale







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Revision History

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Contract

This report describes work commissioned by Crispin Smythe, on behalf of Sunshine Coast Council, by a letter dated 19 September 2022. Brian Lam, Paul Lee and Daniel Rodger of JBP carried out this work.

Approved by Daniel Rodger BSc Meng Ceng CmarEng MIEAust
Director



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The methodology adopted and the sources of information used by JBP in providing its services are outlined in this report. The work described in this report was undertaken between October 2022 and January 2024 and is based on the conditions encountered and the information available during this period of time. The scope of this report and the services are accordingly factually limited by these circumstances.

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Acknowledgements

JB Pacific would like to acknowledge the provision of recorded tidal data from Sunshine Coast Council, Moreton Bay Regional Council, and Queensland Department of Environment and Science.

JB Pacific acknowledges the traditional custodians of the lands and seas where we work. We pay our respects to Elders past, present, and emerging.

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Executive Summary

This report summarises the technical investigations undertaken on behalf of the Sunshine Coast Council (SCC). Throughout 2022, new changes to coastal processes were observed within the Sunshine Coast coastal waterways which supported the need to update design storm tide information and consider the effect of waves. In early 2022, a breakthrough occurred across the northern spit of Bribie Island, which has increased the tidal range and wave action within Pumicestone Passage. Also captured throughout the year were tide records from newly installed gauges within small estuaries which showed water levels elevated beyond their neighbouring medium or large estuaries. Both occurrences have implications for existing buildings and the construction of future dwellings.

This project includes several assessments, including;

- Review of regional design storm tide levels. It is recommended to continue the use of estimates presented in the existing Sunshine Coast Storm Tide Study (Aurecon 2013).
- Revision of storm tide estimates within Pumicestone Passage as a result of the 2022 breakthrough.
- Revision of storm tide estimates in estuaries and Intermittently Closed and Open Lake or Lagoons (ICOLLs) which will experience wave effects at their entrance.
- Provision of updated guidance on the application and design wave forces for areas that may be exposed to waves. It is recommended to use a wave force of 300 kN/m at the future coastline position, which decreases with landward distance.

Recommendations have been made to allow the ongoing monitoring of tides, storm tides and estuarine levels throughout the Sunshine Coast region. This includes the use of high frequency water level recorders to capture additional data on waves propagating into small estuaries.



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Abbreviations

AEP	Annual Exceedance Probability
AHD	Australian Height Datum
ARI	Average Recurrence Interval
DES	Department of Environment and Science
DEM	Digital Elevation Model
GPD	Generalised Pareto Distribution
HAT	Highest Astronomical Tide
ICOLL	Intermittently Closed And Open Lake And Lagoons
IG	Infragravity Waves
LAT	Lowest Astronomical Tide
LGA	Local Government Area
LiDAR	Light Detection and Ranging
SCC	Sunshine Coast Council
MBRC	Moreton Bay Regional Council
MHWS	Mean High Water Springs
MSL	Mean Sea Level
MSQ	Maritime Safety Queensland
NDRP	Natural Disaster Resilience Program
PoT	Peak over Threshold
RMSE	Root Mean Squared Error
STL	Storm Tide Level
TC	Tropical Cyclone



1 Introduction

Storm tide inundation poses a risk to coastal regions throughout the Sunshine Coast. This Storm Tide Study summarises the latest information available for the region for areas exposed to storm tide inundation. This report presents storm tide conditions for three coastline types shown in Figure 1-1. These three environments experience different coastal, hydrodynamic and physical processes which influence the extent and depth of inundation. They include:

- Storm tide inundation and wave impact zone (Exposure W). This considers regions exposed to both storm tide and future wave loads. Described in Section 3.
- Storm tide inundation (Exposure I). This considers regions exposed to storm tide inundation only (no waves) and includes medium to large estuaries and rivers. Described in Section 4
- Small creeks and Intermittently Closed and Open Lakes or Lagoons (ICOLLS). Described in Section 5.

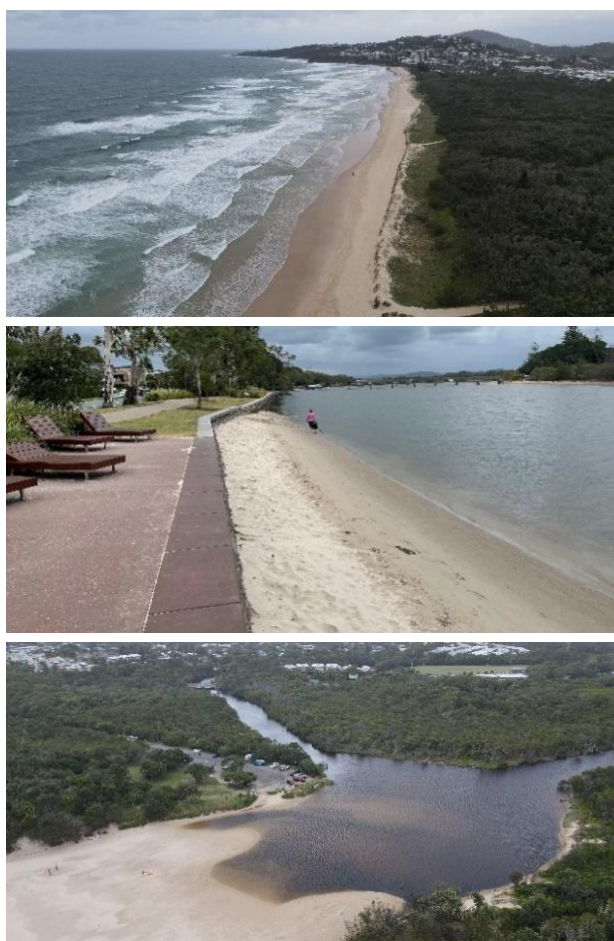


Figure 1-1: Open coast with waves (top), without waves¹, and coastal creek/ICOLL (bottom).

¹ Source: 1200px-Fishing_tractors_at_the_harbour_at_Mooloolah_River,_Mooloolaba,_Queensland_01.jpg. Accessed through Wikimedia, Licenced under Creative Commons

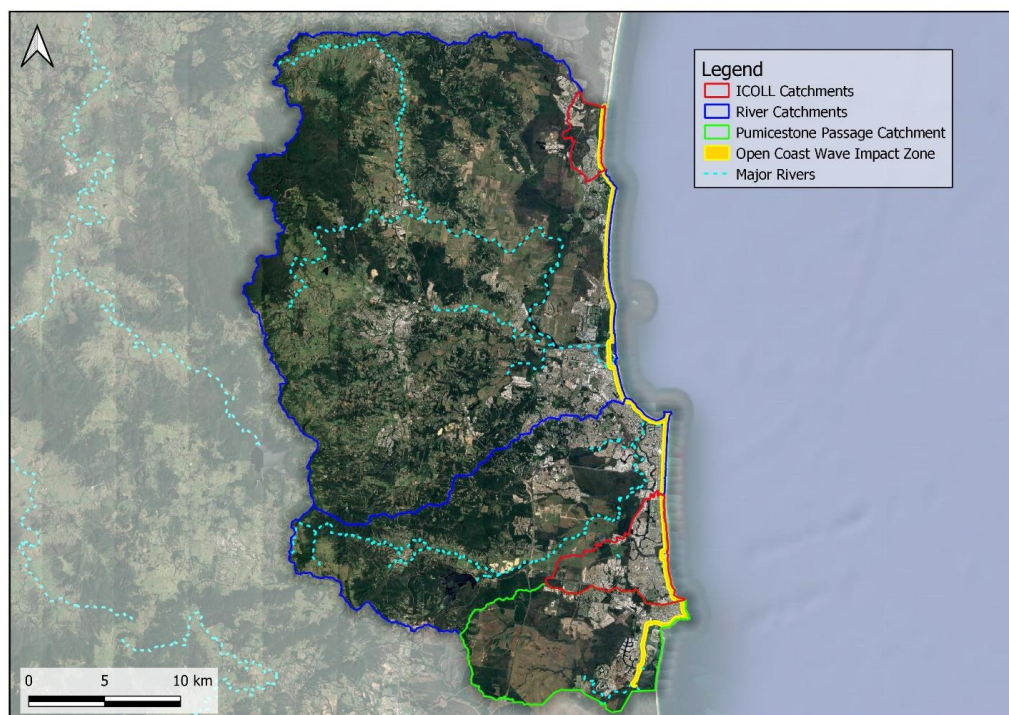


Figure 1-2: Areas with different storm tide processes

1.1 Background to the project

In 2003 and 2005, the Caloundra City and Maroochy Shire Council's commissioned storm tide and joint probability studies for the area spanning between Golden Beach to Peregrine Beach. This was updated in 2013, where storm tide levels throughout the Sunshine Coast have been updated within the Sunshine Coast Storm Tide Study (Aurecon 2013). Throughout 2022, new changes to coastal processes were observed within the Sunshine Coast waterways which have supported the need to update design storm tide information and consider the effect of waves. In early 2022, a breakthrough occurred across the northern spit of Bribie Island, which has increased the tidal range and wave action within Pumicestone Passage. Also captured in recent years are new water level records from newly installed gauges within small coastal creeks. These showed water levels can become higher than the open coast. Both occurrences have implications for existing buildings and the construction of future dwellings.

Throughout this project the 2013 regional storm tide levels have been reviewed against data captured in the ten years since its completion. The magnitude of the predicted open coast storm tides and wave setup values remain suitable for the region, however further consideration was required in estuaries and ICOLLS, and to differentiate areas exposed to more direct wave impacts. This information is now presented in this report.



2 Storm tide processes and background information

2.1 Geographical storm tide areas

Storm tide levels will vary depending on the location along the coastline and the geographical setting. Throughout this report three settings have been considered; open coast areas that include wave effects, areas that do not include wave effects (i.e. large estuaries), and small creeks and ICOLLS.

2.2 Background to coastal processes

Before undertaking any calculations or modelling of coastal and estuarine processes it is first important to understand the processes that are driving waves, tides, currents and extreme water levels within the area. This is a complicated process, affected by a number of interacting hydrodynamic and morphologic processes as shown in Figure 2-1.

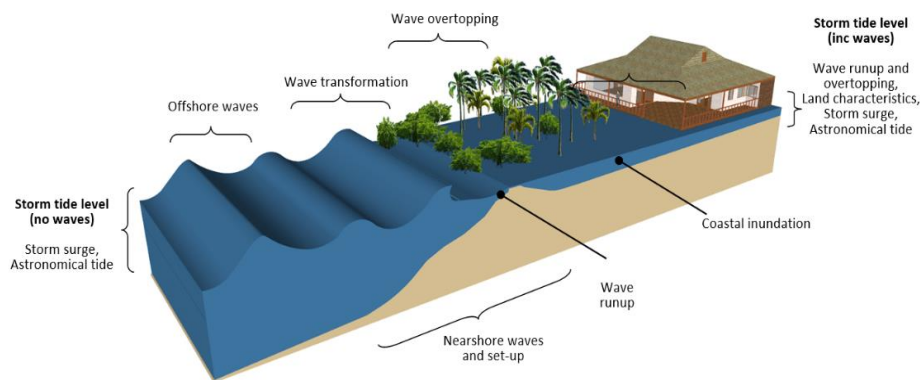


Figure 2-1: Drivers of coastal risk

The way in which the different coastal processes interact will determine the conditions experienced during a storm event, which include the following:

- **Astronomical tide:** This is the regular periodic variation in water levels due to the gravitational effects of the moon and sun, which can be predicted with generally very high accuracy at any point in time (past and present) if sufficient measurements are available. The highest expected tide level at any location is termed the Highest Astronomical Tide (HAT) and occurs on average once every 18.6 years (lunar nodal cycle). Although, at some sites, high tide levels similar to HAT may occur several times per year and the level of HAT is often exceeded by the combination of a high tide and meteorological events.
- **Storm surge:** This is the combined result of the severe atmospheric pressure gradients and wind shear stress of the storm acting on the underlying ocean. The storm surge is a long period “wave” capable of sustaining above-normal water levels over several hours or even days. The wave travels with and ahead of the storm and may be amplified as it progresses into shallow waters or is confined by coastal features. The magnitude of the surge is affected by several factors such as storm intensity, size, speed, and angle of approach to the coast and the coastal bathymetry.
- **Wind-driven waves:** winds blowing across a water surface apply a shear stress which is converted to wave energy. The height (and energy) of a wave train is related to the speed, distance, and duration of the blowing wind.
- **Swell waves:** Waves originating from remote weather systems or distant storms are referred to as swell waves. These can propagate across the Pacific Ocean before reaching the Sunshine Coast, with regular, long wave periods (typically considered >12 seconds).
- **Wave setup:** As waves break, they create a localised effect to increase the sea level, known as breaking wave setup. This local increase in water level can be added to storm tide estimates if they are exposed to wave conditions. Various literature exists on the magnitude of wave setup and its area of influence, summarised in Section 2.3.



- **Nearshore waves and wave run-up:** If broken waves reach the shoreline any residual energy may intermittently run up and down the beach face, known as wave run-up. This may cause localised impacts as waves can reach elevations higher than the underlying storm tide level. The vertical elevation the waves may reach will be dependent on the slope of the shoreline, the porosity, vegetation and the coastal (wave and sea) conditions.
- **Storm Tide:** This refers to the combined effect of astronomical tide, storm surge, and wave setup. The way in which storm tide components are combined is presented in Figure 2-2.

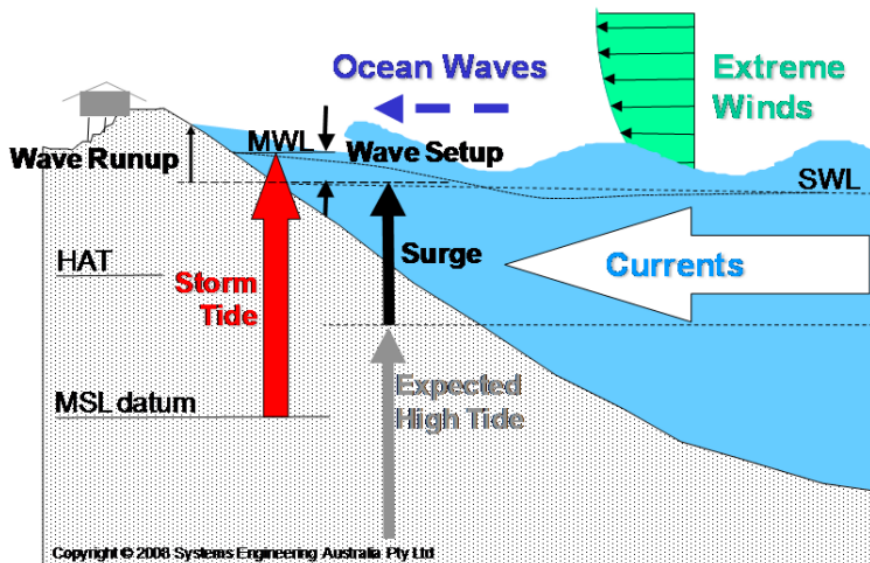


Figure 2-2: Components of Storm Tide (Systems Engineering Australia)

2.3 Coastal modelling approaches

At present there is no single numerical model capable of simulating each coastal process shown in Figure 2-1, and instead a suite of statistical or numerical models are used to quantify the extend and magnitude of impacts.

- **Statistical models:** Statistical models use a mathematical framework to analyse recorded information and predict extreme events. They are commonly used to estimate extreme sea level events and offshore wave conditions by using historical data, which includes records of tide measurements (e.g. at the Mooloolaba gauge) and wave buoy information. Recorded data is fit to an extreme value distribution (e.g. Generalized Extreme Value or Generalised Pereto Distribution) which allows estimation of rare events.
- **Wave models:** A numerical wave model is a computational tool used to simulate waves from a known point (e.g. a waverider buoy) into the nearshore, adjacent to the coastline. Various models exist to calculate different processes, for example spectral wave models (e.g. SWAN) simulate wave energy and are used over relatively large areas (e.g. whole coastlines) whilst phase resolving models simulate individual wave components and are used over smaller areas. Hybrid models like XBeach, can be used to simulate both wave groups and individual waves, and can be used at moderate scales.
- **Projection-based models:** Projection modelling, or "bathtub modelling," is an approach to estimate inundation over land during floods or extreme sea levels. It maps any land lower than the expected flood level, consequently only considering the peak conditions. This does not consider any dissipation or amplification and assumes connectivity. It provides a quick assessment of potential flood extents but lacks the complexity of more detailed flood models.



- **Hydrodynamic models:** These models are used to estimate the flow of water over the land surface, with the simulations considering varying water levels (e.g. rising tides, flood peaks and drawdown periods), terrain, river channels, and floodwater interactions.

2.4 Available data from the Sunshine Coast Storm Tide Study (2013)

The latest open coast storm tide levels adopted by Council are published in the Sunshine Coast Storm Tide Study (Aurecon 2013²). As part of the current assessment, the validity of these levels has been reviewed. The 2013 study included several steps including collation and review of available tide data, an assessment of storm tide statistics, derivation of a storm tide profile, inundation modelling, and mapping of storm tide inundation extents, depths and hazard categories. A critical review of the methods used in the 2013 study concluded the following:

- The study had a high importance for gauged data, rather than synthetic data which are typically used for tropical cyclone studies.
- The study fit a Generalised Extreme Value distribution to recorded surge residuals over 0.25m at Mooloolaba to estimate extreme storm tide values, which is an appropriate method.
- Following the release of the region-wide the Storm Tide Interpolation Study funded through the Commonwealth Natural Disaster Resilience Program (NDRP) by GHD (2014)³, it was concluded that the NDRP study methodology is better suited to defining less frequent storm tide events (0.2% AEP and above) while the levels derived from storm surge observations were considered a better representation of more frequent events (2% AEP and below). A hybrid of the NDRP and Aurecon 2013-derived storm tide levels was therefore adopted.
- Wave setup has been added to storm tide levels. This used one dimensional hydraulic modelling in MIKE 21 to consider the inland progression of a storm tide along the major river/creek systems.
- The 2013 study adopted by Council relied on 25 years of recorded water level data, sourced from the Mooloolaba storm tide gauge. Since this study, an additional 10 years of water level data is available from this gauge, prompting a re-analysis of statistical extreme surge levels to consider any significant changes to the adopted storm tide levels.

2.4.1 Review of storm tide values using new data

A review of the storm tide levels presented in the Sunshine Coast Storm Tide Study (2013) has been undertaken by re-estimating coastal extremes using a longer-term dataset. This has used the same gauge-based methodology as the original report and has not included new contemporary analysis methods or probabilistic cyclone modelling, which is recommended in the next update of storm tide levels.

A time series of surge at Mooloolaba has been derived as the anomaly between the astronomical, or "predicted", tide and the observed water level. Continuous water level observations are available at Mooloolaba via MSQ from 1984 to 2022, and intermittently between 1967 and 1981. The astronomic tide series has been reconstructed from the recorded data using the Utide⁴ tidal harmonic analysis toolkit. An example of a recorded storm tide event is shown in Figure 2-3, which shows recorded, astronomic and residual levels at Mooloolaba tide gauge during Tropical Cyclone (TC) Ita in 2020 where a 0.4m surge was observed.

² Aurecon (2014) Sunshine Coast Storm Tide Study. Prepared for Sunshine Coast Council

³ GHD (2014) Natural Disaster Resilience Program (NDRP) Storm Tide Hazard Interpolation Study. Prepared for the Department of Science, Information Technology, Innovation and the Arts

⁴ Codiga, D.L., 2011. Unified Tidal Analysis and Prediction Using the UTide Matlab Functions. Technical Report 2011-01. Graduate School of Oceanography, University of Rhode Island, Narragansett, RI. 59pp

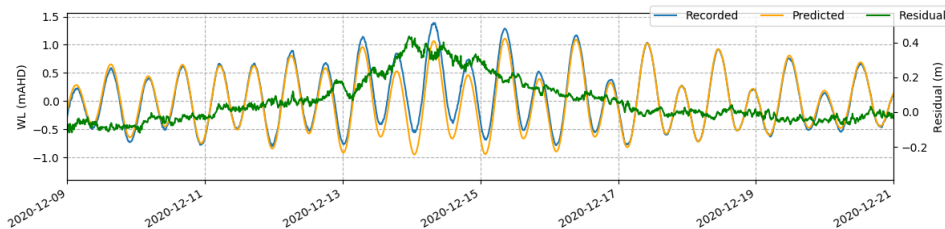


Figure 2-3: Recorded, astronomic, and residual levels at Mooloolaba during TC Ita 2020

An Extreme Value Analysis (EVA) has been conducted on the surge data. A Peak Over Threshold (POT) method has been used to isolate surge events in the record about 0.25m and a Generalised Pareto Distribution (GPD) has been fit to these upper values. Figure 2-4 shows the fitting of GPD function to surge data, and estimation of extreme surge levels. A significant outlier can be observed in the data, this is the estimated surge level associated with TC Dinah in 1967. This data point has been derived from lower-quality, hourly water level data (available from Jan. to Feb. 1967), using a simple peak-to-peak method. The high-tide peaks of the recorded and hindcast data have been compared, with the largest difference (approximately 0.71m) attributed to the TC Dinah event. It should be noted therefore that the true surge may have been higher during this event, if the storm did not occur coincident with high tide.

The new GPD-estimated extreme surge values have been compared to those of the adopted 2013 study. This comparison shows that extreme surge estimates in Aurecon (2013) are larger than those estimated in this review, even with the inclusion of 10 additional years of recorded data. This is due to the previous study's inclusion of extreme cyclonic modelling assessed in the NDRP Storm Tide Hazard Interpolation Report (2014). However, the use of extreme value analysis that has been employed within both assessments cannot suitably consider the Aurecon (2013) and the new JBP re-estimate cannot explain the magnitude of Ex TC Dinah, which had an estimated surge of over 0.7m. This is a drawback of the analysis method.

Based on the review, the method presented in Aurecon (2013) uses extreme value theory, whilst contemporary analysis of extreme coastal water levels should include probabilistic cyclone modelling and address the TC Dinah storm surge. During the 2013 study adoption, a review was undertaken which identified this drawback. Levels were then increased to through the inclusion of extreme cyclonic modelling assessed in the NDRP Storm Tide Hazard Interpolation Report (2014). Subsequently, the continued use of the Sunshine Coast Storm Tide Study (2013) open coast storm tide levels with additional factors applied to small coastal creeks to consider wave effects is recommended until a new probabilistic storm tide study is undertaken.

Table 2-1: Comparison of surge levels. Adapted from Figure 6 of Aurecon (2013)

ARI (yrs)	AEP (%)	JBP (2023) re-assessed surge (m)	Aurecon (2013) surge (m)*
10	10	0.47	0.47
50	0.2	0.56	0.56
100	0.1	0.60	0.61
500	0.02	0.70	0.74
1000	0.01	0.74	0.81

2.4.2 Consideration of very rare storm surges

Whilst this report primarily considers the establishment of storm tide planning levels using a 1% AEP level, larger events can, and will, occur. The NDRP (GHD 2014) storm tide study included design events up to 1 in 10,000 AEP and a Theoretical Maximum Storm Tide (TMST) estimate. From this study, the estimated TMST (tide + surge + wave setup) is around 1.5m higher than the published 1% AEP levels and can exceed 4m AHD. The TMST levels have been shown alongside the storm tide planning levels throughout this document.

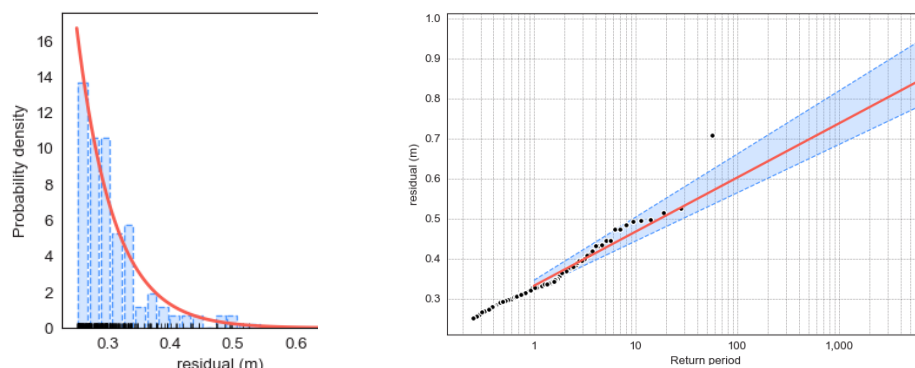


Figure 2-4: Left: GPD fit to surge values above 0.25m, Right: GPD estimation of extreme surge. Note: surge level associated with TC Dinah has been estimated from peak-peak analysis.

2.5 Recent changes in Bribie Island

In January 2022 a coastal storm event caused a breakthrough of a narrow section of northern Bribie Island, opposite Golden Beach. This occurred due to the erosion caused by unusually high tides and large waves associated with ex-tropical cyclone Seth. In the following months, this breakthrough has widened to become the new northern outlet of the Pumicestone Passage.

Analysis of breakthrough and resulting water level changes was reported by Metters et al. (2023)⁵. Figure 2-5 shows satellite images captured of the breakthrough, based on data available through Sentinel Hub (2023). The figure shows:

- (A) pre breakthrough December 2021
- (B) breakthrough January 2022
- (C) breakthrough September 2022,
- (D) breakthrough April 2023.

Analysis of tide gauges showed an increase in the tidal range of 0.46m with a fall in the mean low water level of -0.21m, and an increase in the mean high-water level of 0.23 metres. Southward of the breakthrough, the change in tidal range decreased in gradient from 0.57m to 0.06m over the historic tidal range.

The increases in observed tides reflect conditions that more closely aligns with the open coast. A similar trend is expected with storm tide levels, which are now anticipated to be more representative of open coast levels. Council has previously adopted the open coast storm tide levels for all planning within the northern Pumicestone Passage, and consequently no further change is recommended for design coastal water levels.

⁵ Metters, D., Ryan, D. & Daniels, R. (2023) "Change in bathymetry and tidal dynamics after the Bribie Island breakthrough", Queensland Government Hydraulics Laboratory. Proceedings of the Australasian Coasts & Ports 2023 Conference – Sunshine Coast, 15-18 August 2023.

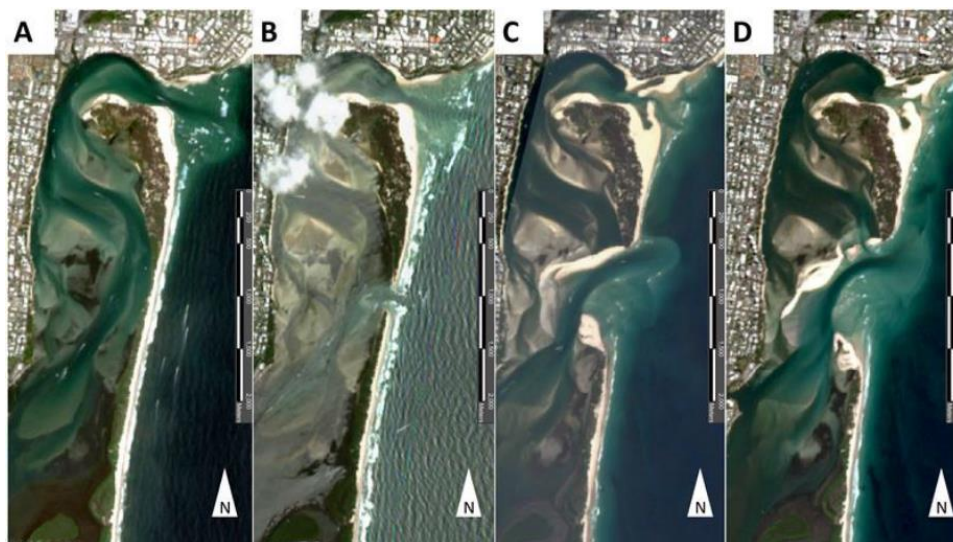


Figure 2-5: Satellite images showing the development of the breakthrough (Metters et al. 2023)



2.6 Recorded surges in small coastal creeks

A number of water level gauges are available throughout the Sunshine Coast, as shown in Figure 2-6. Whilst larger estuaries and rivers have several long-term records, data collection within the smaller coastal creeks is limited to recent years only. Table 2-2 shows differences in water levels from notable surge events, with higher water levels observed within the smaller coastal creeks of Stumers, Currimundi, Coondibah and Tooway. A range of Australian studies have been reviewed, which generally indicate wave setup is not a significant cause of increased water levels within estuaries; although its effect will vary based on offshore wave steepness, wave direction, river flow and channel geometry (see summary in Section 2.7). Gauge records, video footage and field survey is available at Stumers Creek during the January 2022 event (Ex TC Seth) which provides evidence on the mechanism for the increased water levels. This data shows:

- The Mooloolaba tide gauge peaked at 1.49m AHD. This is a high quality water level gauge.
- The Stumers Creek gauge peaked at 1.88m AHD. This is a lower quality gauge, recording one water level every 10 minutes (which is not suitable to resolve individual wave crests)
- Peak water level debris from waves washing over the northern carpark reached ~2.6m AHD.

The video shows wave groups entering the creek, with water levels increasing for at least 30 seconds before the footage ended. This is representative of an Infragravity (IG) wave, often referred to as a "surf beat," which has a longer period and lower frequency compared to the regular wind-generated waves. Short wave crests are observed within the IG wave, which are impacting the estuary banks and overtopping into the carpark.

IG waves are not a new phenomena in Australia, which have been captured in wave and tide-gauge data from Lake Conjola and videos from Manly and Avoca lagoons in New South Wales. The unsteady behaviour of an IG wave near a shoreline has only recently become understood through analysis of their resonant behaviour (Nielsen 2009⁶, Nielsen & Baldock, 2010⁷). This explains that a set of large waves can create a steady mean-water-surface depression, in addition to a 'volume-neutral' long wave that can elevate the leading waves and enhance their potential for wave overtopping.

The occurrence of IG waves within the small coastal creeks is an important feature within Storm Tide Planning which is not captured within the Sunshine Coast Storm Tide Study (2013). An additional IG wave allowance has been included within the extreme storm tide levels for coastal creeks, presented in Section 5.

⁶ Nielsen, P (2009): Coastal and Estuarine Processes, World Scientific. pp 121-123

⁷ Nielsen, P & T E Baldock (2010): N-shaped surf beat understood in terms of transient, forced long waves. Coastal Engineering, Coastal Engineering, Vol 57, pp 71-73.

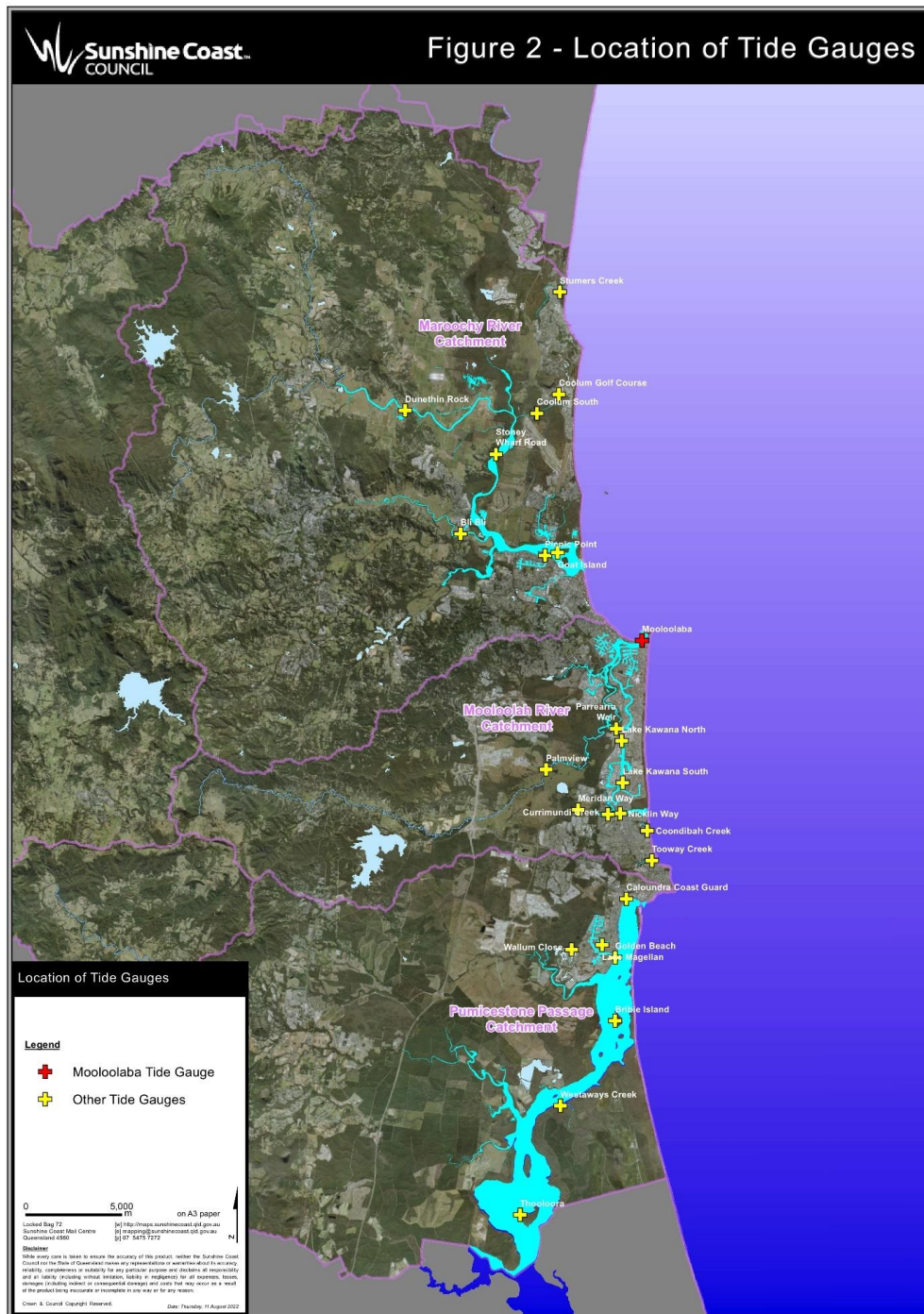


Figure 2-6: SCC tide gauges



Table 2-2: Observed Storm Tide Levels from Notable Events (red boxes identify small creeks and ICOLLS)

	Storm Tide Level (m AHD)				
Location	June 2016	Dec 2020	Jan 2022	1% AEP	Start of Record
Maroochy River					
Stumers Creek	N/A	N/A	1.88	1.66	09/2021
Coolum Golf Course	N/A	1.49	1.20	1.65	06/2020
Coolum South	N/A	1.50	1.24	1.65	03/2020
Dunethin Rock	1.41	1.61	1.31	1.65	11/1994
Stoney Wharf Road	0.97	1.42	1.17	1.65	09/2007
Bli Bli	1.23	1.59	1.34	1.65	06/2011
Picnic Point	1.26	1.56	1.36	1.65	11/1994
Goat Island	N/A	1.58	1.40	1.65	04/2018
Mooloolah River					
Mooloolaba	1.29	1.44	1.49	1.60	09/1978 (Continuous) 01/1967 (Manual)
Parrearra Weir Upstream	1.21	1.42	1.42	1.60	09/2004
Kawana Island Blvd	N/A	N/A	1.50	1.63	08/2021
Lake Kawana North	N/A	1.72	1.51	1.63	12/2019
Lake Kawana South	N/A	1.69	1.48	1.63	12/2019
Currimundi Creek	N/A	1.75	1.56	1.63	04/2020
Currimundi Creek @ Nicklin Way	1.50	1.75	1.62	1.63	02/2016
Creeks south of Currimundi					
Coondibah Creek	N/A	N/A	2.06	1.63	02/2021
Tooway Creek	N/A	1.98	2.02	1.63	11/2020
Pumicestone Passage (* indicates 1% AEP storm tide level after breakthrough)					
Caloundra Coast Guard	N/A	N/A	1.47	1.65	01/2021
Golden Beach	1.01	1.21	1.26	1.65*	04/2009
Bribie Is., Westaways Ck, Thooloor	N/A	N/A	N/A	1.65*	05/2022



Short wave crests and
IG wave approaching



Frontal wave crest
passing into creek



Water surging into creek,
increasing water levels
(10s after crest)



Water continues to surge
into creek (30s after crest)

Figure 2-7: Images from recorded movie showing the progression of short wave crests and IG waves into Stumers Creek (Source: Sunshine Coast Council)



2.7 Available literature of wave setup in lagoons and estuaries

A range of Australian wave setup studies are summarised below, and generally indicate wave setup is not significant within estuaries, although its effect will vary based on offshore wave steepness, wave direction, river flow and channel geometry. Instead, the mechanism for additional waves affects within the small coastal creeks are the occurrence of IG waves.

2.7.1 Tidal amplitude and wave setup in trained and untrained river entrances (Moura et al. 2013)⁸

This analysis involved the study of wave setup in untrained and trained estuaries in New South Wales. The study involved collection of field data at two estuary locations, at Cudgera Creek and Mooball Creek. The study concluded that there was an increase in water level through the entrance of the creeks, however it suggests that wave setup was not the cause of this elevated water level. Further research was recommended to resolve the cause of the elevated water levels observed.

2.7.2 Wave setup and tides at the trained and untrained river entrances of Hastings Point and Pottsville (Callaghan et al., 2013)⁹

Also using the data from Moura (2013), this study analysed the water levels along the open beach and within the untrained river entrances of Cudgera Creek during a period of large waves. The maximum open coast shoreline setup coincident with offshore wave heights approaching 4m, during which time the wave setup within the river entrance was negligible.

2.7.3 Coastal and estuarine processes (Nielsen, 2009)¹⁰

Professor Nielsens work included field work within the Gold Coast Seaway, which showed very minor (~ 3cm) wave setup contributions in estuaries, where the textbook equations predict several tens of centimetres.

2.7.4 Wave setup in river entrances (Dunn 2001¹¹; Dunn et al., 2000¹²)

Dunn measured wave setup in river entrances for his PhD thesis at the University of Queensland. He concluded setup can be heavily restricted in narrow entrances, which was investigated within a medium-sized estuary at the Brunswick River, between a pair of rock walls.

2.7.5 Wave setup in estuary entrances (Zaki 2020)¹³

This study of wave setup in estuaries was based on results of physical laboratory investigations with single frequency and grouped waves. The analysis consisted of exploring the opposing conclusions of two field studies which concluded that either wave setup is not able (Hanslow and Nielsen, 1992) or is able (Tanaka and Tinh 2008)¹⁴ to propagate within estuaries. The testing by Zaki showed that the results of both the Tanaka & Tinh and Hanslow & Neilson could be experienced within the physical laboratory model, under specific conditions. It was concluded that setup in estuaries is influenced by offshore wave steepness, wave direction, river flow and channel geometry.

⁸ Moura, A., Plomaritis, T. A., & Uittenbogaard, R. E. (2013). Tidal amplitude and wave setup in trained and untrained river entrances. *Journal of Geophysical Research: Oceans*, 118(3), 1347-1363.

⁹ Callaghan, D.P., Nielsen, P., Baldock, T.E., Moura, T., Olfateh, M. and Golshani, A., 2013. Wave setup and tides at the trained and untrained river entrances of Hastings point and Pottsville, The University of Queensland, St Lucia, QLD 4072.

¹⁰ Nielsen, P., 2009. Coastal and estuarine processes. Advanced series on ocean engineering. World Scientific, Singapore, 341 pp.

¹¹ Dunn, S.L., 2001. Wave setup in river entrances. Ph.D. Thesis, The University of Queensland, St. Lucia, Qld., 175 pp

¹² Dunn, S.L., Nielsen, P., Madsen, P.A. and Evans, P., 2000. Wave setup in river entrances. Proceedings of the 27th International Conference on Coastal Engineering, Sydney, Australia, 3432-3445

¹³ Zaki, M. F. (2020). Wave setup in estuary entrances. *Estuarine, Coastal and Shelf Science*, 235, 106593.

¹⁴ Tanaka, N., & Tinh, T. (2008). Wave setup at river entrances due to extreme waves. *Journal of Coastal Research*, 24(1A), 249-255.



3 Storm tide inundation and wave impact zone (Exposure W)

3.1 Introduction

The open coast includes areas adjacent or directly exposed to wave action. Two exposure zones have been considered, Exposure W (waves) and Exposure I (coastal inundation - see Section 4), as shown in Figure 3-1. This designation aligns with the National Construction Code, which requires that a building or structure must perform adequately under all reasonably expected design loads and actions and withstand extreme or frequently repeated design events.

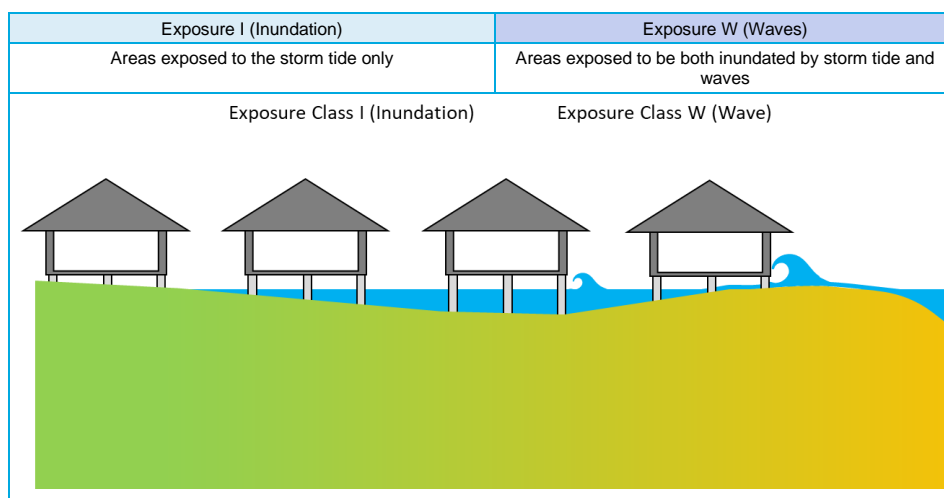


Figure 3-1: Exposure classes

3.2 Defining the wave impact zone (Exposure W - waves)

Wave exposure is influenced by offshore wave conditions, bathymetry, beach conditions, presence of structures, topography, future shoreline position, and distance behind the coast. A site-specific analysis is required to consider each element in detail, with this Storm Tide Study providing generic zones and values based on the future shoreline position and distance behind the coast.

The wave impact zone captures areas exposed to potential wave impacts under a future 2100 planning horizon and is based on a future eroded shoreline position. Coastlines naturally erode and accrete over time, driven by variations in sediment supply and climate patterns. Ongoing coastal recession and erosion is expected for the sandy beaches of the Sunshine Coast, which can lead to a landward shift of the present-day coastline. The extent of the wave impact zone is based on the following framework, described in the section below.

- Areas that are below 4.7m AHD (the expected 1% AEP wave run-up level), AND:
- Are within a 200m zone adjacent to either:
 - The 2100 1% Annual Exceedance Probability (AEP) Erosion Prone Area (EPA), or
 - The Esplanade along Golden Beach.

3.2.1 The 1% AEP 2100 Erosion Prone Area (EPA)

For the majority of the SSC LGA, the future shoreline position has been based on the position of the 1% AEP 2100 Erosion Prone Area (EPA), presented in the Sunshine Coast Coastal Hazard



Adaptation Strategy (CHAS)¹⁵. The CHAS has been developed under the State Governments QCoast2100 Program and has included updated mapping throughout the LGA to comply with the minimum standards and guidelines set by the state. In many areas this EPA reflects an undefended scenario (i.e., no coastal protection is constructed) or no intervening action occurs prior to 2100 to limit erosion. It is expected that this assumption will assist in identifying locations particularly sensitive to unconstrained beach erosion.

3.2.2 The Esplanade along Golden Beach

The protection offered by Bribie Island is not considered a permanent feature due to ongoing erosion, recession, and the recent breakthrough. All future scenarios consider the northern end of Bribie Island to be completely eroded. Under this scenario Golden Beach becomes the open coastline with a potential erosion zone extending back to The Esplanade.

3.2.3 The use of a 200m buffer

The extent of future wave impacts will be influenced by several factors, including the future wave conditions, foreshore conditions, the presence, shape and size of any coastal defence, and the local geometry of the structure being impacted. For this study, the future wave impact area has been limited to 200m inland from the future EPA zone. This arbitrary distance is generally supported by the Queensland Reconstruction Authority Storm Tide Resilient Building Guidance for Queensland Homes (QRA 2019¹⁶), which says:

- *"The impacts of a storm tide depend on the elevation of your property, proximity of your home to the shoreline, shape of surrounding land and roads, and height of the waves. Most storm tide damage is experienced by properties directly exposed to incoming ocean waves, which is typically those within 100 to 200 metres of the open shoreline. The presence of foreshore erosion protection (revetments or seawalls) or vegetation is unlikely to provide significant protection from storm tide impacts. The first line of houses along the shoreline is likely to experience the greatest impact" (QRA 2019).*

3.2.4 Wave runoff levels

Significant wave impacts are not expected at locations elevated high above the shoreline, taken as 4.7m AHD. This level reflects the typical 1% AEP wave runoff level for a 2100 planning horizon. Wave runoff has been estimated using the empirical formulation of Stockdon et al (2006)¹⁷:

$$R_2 = 1.1 \left[0.35 B_f (H_o L_o)^{\frac{1}{2}} + 0.5 \left(H_o L_o (0.563 B_f^2 + 0.004) \right)^{\frac{1}{2}} \right]$$

Where R_2 is the wave runoff level exceeded by 2% of waves, B_f is the beach slope (taken as a nominal 1:25), H_s is the offshore wave height and L_o deepwater wavelength. A 1% AEP wave height of H_s 6.75m. A T_p 13.77 was used, based on new extreme wave analysis being undertaken for the Sunshine Coast Shoreline Erosion Management Plan (2024). The resulting 1% AEP wave runoff is 2.3m, which was added to the mean 1% AEP storm tide the open coast (2.43m AHD). The nominal 1% storm tide plus wave runoff level is therefore 4.7m AHD across the LGA.

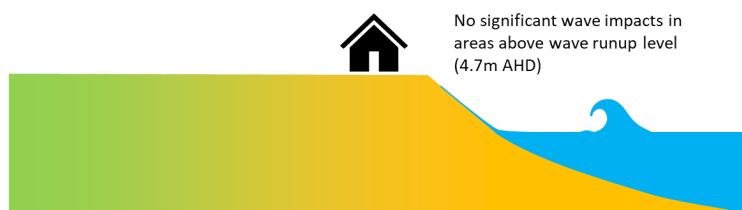


Figure 3-2: Wave impact – high elevation zone

15 SCC (2022) Sunshine Coast Coastal Hazard Adaptation Strategy, May 2021

16 QRA (2019) "Storm Tide Resilient Building Guidance for Queensland Homes", © The State of Queensland (Queensland Reconstruction Authority) 2019. Reference: QRA 2635/GD 0320

17 Stockdon, Hilary & Holman, Robert & Howd, Peter & Sallenger, Asbury. (2006). Empirical parameterization of setup, swash, and runoff. Coastal Engineering. 53. 573-588. 10.1016/j.coastaleng.2005.12.005.



3.3 Storm tide inputs for wave impact zone (Exposure W - waves)

Storm tide inputs for the wave impact zone include:

- Storm tide levels plus wave setup levels, and
- Wave forces

3.3.1 Exposure W - Storm tide and wave setup levels

The wave impact zone (Exposure W - waves) considers storm tide levels, wave setup levels and potential wave impacts.

The storm tide plus wave setup level is adopted from the existing Sunshine Coast Storm Tide Study (Aurecon 2013) for return periods up to a 1 in 1,000-year AEP. The TMST level is adopted from NDRP (GHD 2014).

When mapping storm tide plus wave setup, the wave setup is assumed to be a localised effect only. It can be applied within inundation maps as a triangular distribution, where full setup values are added at the future coastline which reduce to zero setup at a distance 200m inland (see Figure 3-3). At this point the open coast (excluding wave setup) values should be applied further inland.

The wave impact zone storm tide levels are shown in Table 3-1 and Table 3-2. They combine the open coast storm tide (either present day for emergency planning or 2100 for land use planning) with full wave setup values.

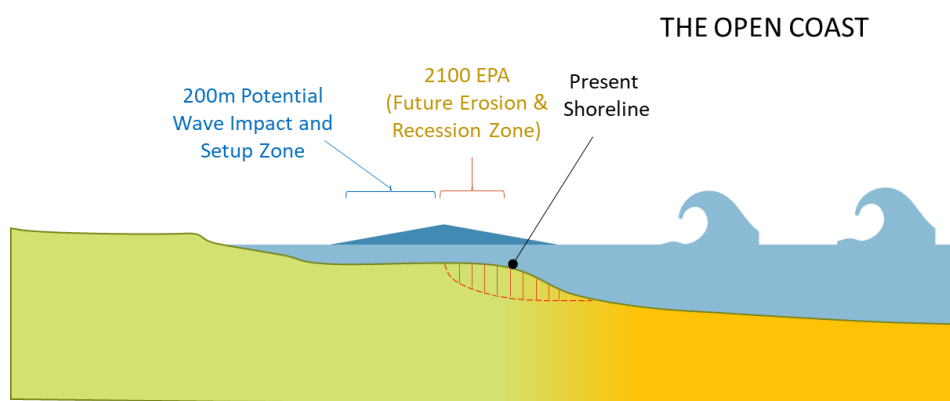


Figure 3-3: Open Coast coastal inundation beach cross-section, showing present day conditions.

Table 3-1: PRESENT DAY storm tide estimates (mAHD), includes full wave setup

Location	20-year	50-year	100-year	500-year	1000-year	PMST
Bells / Lamerough	See ICOLLs, Section 5					
Pumicestone Passage	1.94	2.19	2.38	2.56	2.64	4.42
Kings	1.94	2.19	2.38	2.56	2.64	4.43
Tooway	See ICOLLs, Section 5					
Dicky	1.93	2.17	2.37	2.55	2.61	4.43
Bunbubah	See ICOLLs, Section 5					
Coondibah	See ICOLLs, Section 5					
Currimundi	See ICOLLs, Section 5					
Bokarina	2.06	2.33	2.56	2.76	2.83	4.49
Buddina	2.29	2.65	2.93	3.19	3.27	4.49
Mooloolah River	2.27	2.62	2.91	3.19	3.27	4.45
Mooloolaba	2.16	2.48	2.72	2.91	2.99	4.45
Aerodrome Road	2.20	2.53	2.79	3.03	3.10	4.41
Pincushion Island	2.27	2.62	2.89	3.14	3.22	4.44
Cotton Tree Park	2.27	2.61	2.88	3.13	3.21	4.44
Mudjimba Beach	2.24	2.58	2.86	3.09	3.16	4.48
Mount Coolum	2.22	2.56	2.82	3.04	3.11	4.53
Stumers	See ICOLLs, Section 5					

Table 3-2: FUTURE '2100' Storm tide estimates (mAHD), includes 0.8m sea level rise plus full wave setup

Location	20-year	50-year	100-year	500-year	1000-year	PMST
Bells / Lamerough	See ICOLLs, Section 5					
Pumicestone Passage	2.74	2.99	3.18	3.36	3.44	5.22
Kings	2.74	2.99	3.18	3.36	3.44	5.23
Tooway	See ICOLLs, Section 5					
Dicky	2.73	2.97	3.17	3.35	3.41	5.23
Bunbubah	See ICOLLs, Section 5					
Coondibah	See ICOLLs, Section 5					
Currimundi	See ICOLLs, Section 5					
Bokarina	2.86	3.13	3.36	3.56	3.63	5.29
Buddina	3.09	3.45	3.73	3.99	4.07	5.29
Mooloolah River	3.07	3.42	3.71	3.99	4.07	5.25
Mooloolaba	2.96	3.28	3.52	3.71	3.79	5.25
Aerodrome Road	3.00	3.33	3.59	3.83	3.90	5.21
Pincushion Island	3.07	3.42	3.69	3.94	4.02	5.24
Cotton Tree Park	3.07	3.41	3.68	3.93	4.01	5.24
Mudjimba Beach	3.04	3.38	3.66	3.89	3.96	5.28
Mount Coolum	3.02	3.36	3.62	3.84	3.91	5.33
Stumers	See ICOLLs, Section 5					



3.3.2 Exposure W - wave forces

Development within the Exposure W zone will need to consider wave impacts. Wave impact forces occur when waves crash onto a structure, which can have a significant impact on buildings located along the shoreline. The additional risk in areas exposed wave impacts is described within the Queensland Reconstruction Authority's Storm Tide Resilient Building Guidance for Queensland Homes (QRA 2019):

"Waves increase at the peak of the storm tide when the depth of water is at its highest, causing greater damage to homes". ... "Wave forces can be significant. Most wall construction is usually unable to resist waves around one metre high. Even if the load on freestanding piers or stumps is not sufficient to cause structural failure, the crest of the wave may cause entry of seawater at the floor level well before the storm tide level reaches that height. The greatest wave force will be experienced when a wave breaks against a part of the home."

The magnitude of this force depends on several factors, including the wave conditions, foreshore conditions, the presence, shape and size of any coastal defence, and the local geometry of the structure being impacted. Wave forces require detailed assessment, which will be a requirement for any significant structures. A generic wave force calculation method for design and compliance purposes has been developed for this Storm Tide Study. This calculates wave forces based on the structure's distance from the future shoreline and its elevation relative to the Australian Height Datum (AHD).

3.3.3 Residual Wave Force Calculations within 50m of the Future Shoreline

Wave forces in proximity to the future shoreline are calculated using the site-specific method detailed below. The key input parameters are:

- RL at the base of structure (**y_H**) in mAHD (Australian Height Datum).
- The distance of the structure from the future shoreline (**x_H**) in metres.
- Future 1% storm tide + wave setup level (**y_{STL}**) in mAHD.

The calculation process is as follows:

1. Starting Wave Force (**SF**): A standard starting wave force at the future shoreline is assumed to be 300 kN/m, based on typical storm conditions, modelling, and physical testing results for vertical seawalls.
2. Residual Wave Force (**F%**): As the waves propagate landward or overtop the shoreline, their force diminishes. The percentage of residual wave force at the house's location depends on its distance from the shoreline (x_H). The residual wave force is calculated using the following formula:

$$F_{\text{Residual}} = SF \times F\%$$

Where:

- **SF** is the starting wave force, 300 kN/m, based on available literature.
- **F%** is the reduction factor based on the house's distance from the future shoreline. It is calculated using the following equation:

$$F\% = (-0.019 \times x_H) + 1, \text{ for } x_H \leq 50$$

An example calculation for a property at a distance of 20m away from future shoreline:

$$F\% = -0.019 \times 20 + 1 = 0.62$$

$$F_{\text{Residual}} = 300\text{kN/m} \times 0.62 = 186\text{kN/m}$$

This residual wave force will act on the ocean-facing wall of a structure in the wave impact zone and should be incorporated into the structural design. This residual force value should be used within structural calculations with an appropriate factor of safety, recommended by a structural or civil engineer. This value is highly dependent on the structure geometry and should be used as a guide only.



3.3.4 Residual Wave force calculations beyond 50m landward of the future shoreline

The wave impact force for broken waves typically decreases further landward from the shoreline. This is because as the waves break at the shore, their energy is dissipated, resulting in a decrease in wave energy and impact force. The rate of decrease in wave impact force with landward distance depends on various factors such as the wave characteristics, initial impact/breaking characteristics at the shoreline, and the landward topography.

For structures located between 50 to 200m landward of the future shoreline, it is recommended to undertake a sensitivity test on any structural calculations, using 15 kN/m as a generate wave impact force estimate for structural checks. This value should be incorporated into design calculations with an appropriate factor of safety, as advised by a structural or civil engineer. Where the site conditions are complex or uncertain, consultation with an experienced coastal engineer is recommended.

For areas beyond 200m from the future shoreline, there are no generic wave impact loading guidelines. Practitioners must apply professional knowledge and judgment, taking into account local site conditions, wave behaviour, ground conditions, structure's design life, and any unique project considerations to determine the appropriate wave force considerations.

See Figure 3-4 for a schematic representation of the residual wave force.

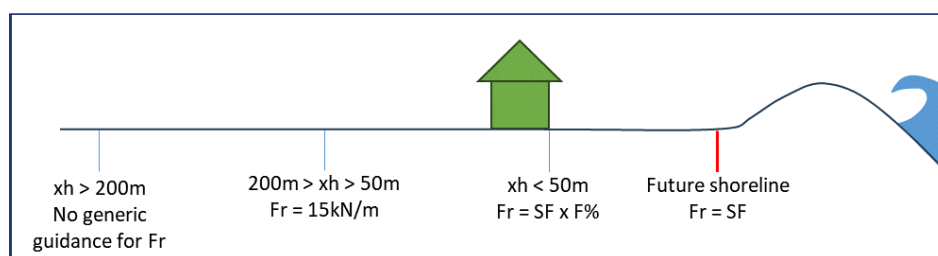


Figure 3-4: Schematic representation of residual wave force.

3.3.5 Vertical distribution of the Residual Wave force

Sections 3.3.3 and 3.3.4 provided guidance on calculating the residual wave force at any subject site. This section focuses on how to work out the vertical distribution of the residual wave force, which is then applied to relevant structural members and components.

The residual wave force, expressed in kN/m along the structure's ocean-facing frontage, must be converted into wave pressure. The future 1% storm tide + wave setup level (ySTL) is the critical design event, representing the maximum water level the structure will encounter during a significant storm. Therefore, the structure will experience the following:

- Below the storm tide level (ySTL): The structure will be subject to a combination of wave impact forces, hydrostatic pressure, and hydrodynamic forces. These forces must be considered together in the structural design.
The wave pressure distribution below the storm tide level will vary based on the depth of water at different time instances, wave characteristics, and the geometry of the structure. For simplicity in this exercise, it is assumed that the water reaches all the way up to the ySTL level, and a uniform load/pressure is assumed for the design.
- Above the storm tide level (ySTL): The structure will primarily experience wave impact forces, which will taper off as the height increases, particularly as the elevation approaches 4.7m AHD. The impact forces diminish with height as the energy of the waves dissipates.

Vertical Distribution Considerations:

- Below the storm tide level, combined wave pressure is applied uniformly for simplicity, acknowledging that, in reality, hydrostatic pressure will vary with depth. The uniform load assumption provides a conservative design approach.
- Above the storm tide level, wave impact pressure diminishes progressively, with no significant forces acting above 4.7m AHD.



The pressure diagram below illustrates the uniform wave pressure distribution below the y_{STL} and the tapering off of wave forces above this level, approaching 4.7m AHD.

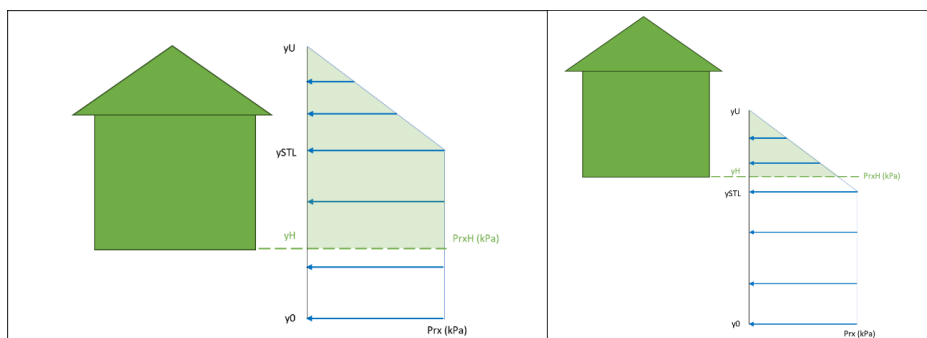


Figure 3-5: Wave pressure schematic for a house below y_{STL} (left) and above y_{STL} (right).

Where:

- SF is the starting wave force, 300 kN/m, based on available literature.
- $F_{residual}$ is the residual wave force at structure
- y_U is the upper wave action cutoff level 4.7m AHD (where wave force = 0)
- y_{STL} is the future 1% storm tide + wave setup level
- y_H is RL of the base of the structure
- y_0 is 0m AHD
- P_{rx} is the maximum residual wave pressure
- P_{rxH} is the maximum residual wave pressure base on y_H

For $y_H < y_{STL}$

$$P_{rx} = \frac{2 \times F_{residual}}{y_{STL} + y_U}$$

$$P_{rxH} = P_{rx}$$

For $y_H \geq y_{STL}$

$$P_{rx} = \frac{2 \times F_{residual}}{y_{STL} + y_U}$$

$$P_{rxH} = -P_{rx} \left(\frac{y_H - y_U}{y_U - y_{STL}} \right)$$



3.3.6 Worked examples

Example 1: Future 100-year wave pressure for house 1 situated 20m from the future shoreline, with a base RL of 1.5m AHD.

- Step 1: Key inputs.
 - Given: $x_h = 20\text{m}$
 - Given: $y_H = 1.5\text{m AHD}$
 - From Table 3-2, the future 100-year storm tide level (y_{STL}) at the location of the dwelling is 3.18m AHD
 - From Section 3.3.5, $y_U = 4.7\text{m AHD}$ and $y_0 = 0\text{m AHD}$.
- Step 2: Residual wave force (horizontal). At 20m from the future shoreline, the residual wave force is calculated as follows and shown in Figure 3-6:

$$F\% = -0.019 \times 20 + 1 = 0.62$$

$$F_{\text{residual}} = 300\text{kN/m} \times 0.62 = 186\text{kN/m}$$

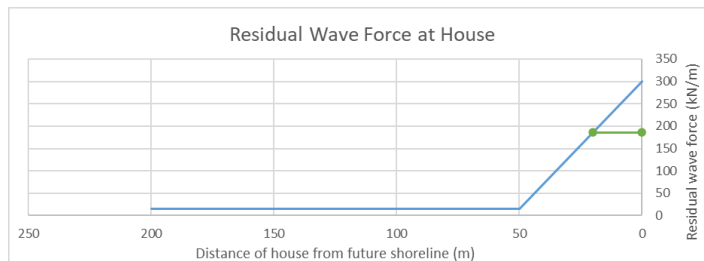


Figure 3-6: Residual wave force diagram for the house 1.

- Step 3: Vertical distribution of residual wave force. Since y_H (1.5m AHD) is less than y_{STL} (3.18m AHD), we use the formula for $PrxH$ when $y_H < y_{STL}$:

$$Prx = \frac{2 \times 186}{3.18 + 4.7} = 47.21\text{kPa}$$

$$PrxH = 47.21\text{kPa}$$

Therefore, the future 100-year wave pressure acting on the house 1 is 47.21kPa, as shown in Figure 3-7.

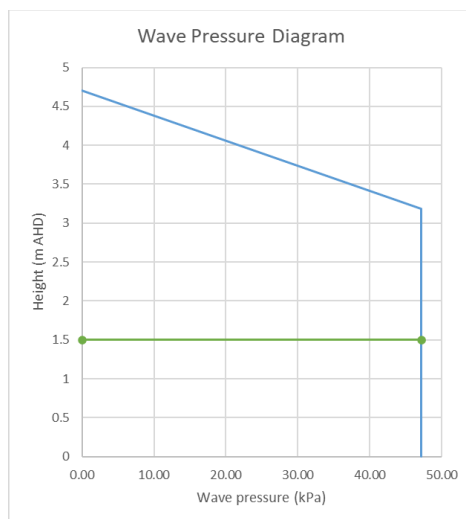


Figure 3-7: Wave pressure diagram for house 1.



Example 2: Future 100-year wave pressure for house 2 situated 35m from the future shoreline, with a base RL of 4.0m AHD.

- Step 1: Key inputs.
 - Given: $x_h = 35\text{m}$
 - Given: $y_H = 4\text{m AHD}$
 - From Table 3-2, the future 100-year storm tide level (y_{STL}) at the location of the dwelling is 3.66m AHD
 - From Section 3.3.5, $y_U = 4.7\text{m AHD}$ and $y_0 = 0\text{m AHD}$.
- Step 2: Residual wave force (horizontal). At 35m from the future shoreline, the residual wave force is calculated as follows and shown in Figure 3-8:

$$F\% = -0.019 \times 35 + 1 = 0.335$$

$$F_{\text{residual}} = 300\text{kN/m} \times 0.335 = 100.5\text{kN/m}$$

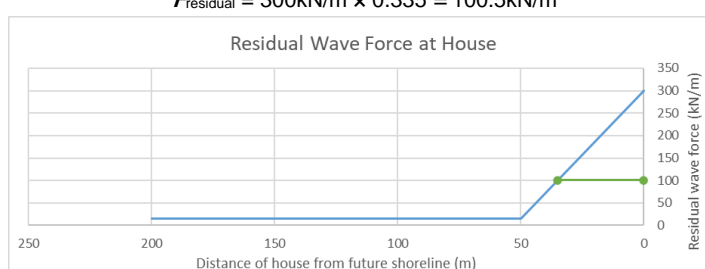


Figure 3-8: Residual wave force diagram for house 2.

- Step 3: Vertical distribution of residual wave force. Since y_H (4m AHD) is greater than y_{STL} (3.66m AHD), we use the formula for $PrxH$ when $y_H > y_{STL}$:

$$Prx = \frac{2 \times 100.5}{3.66 + 4.7} = 24.04\text{kPa}$$

$$PrxH = -24.04 \left(\frac{4 - 4.7}{4.7 - 3.66} \right) = 16.18\text{kPa}$$

Therefore, the future 100-year wave pressure acting on house 2 is 16.18kPa, as shown in Figure 3-9.

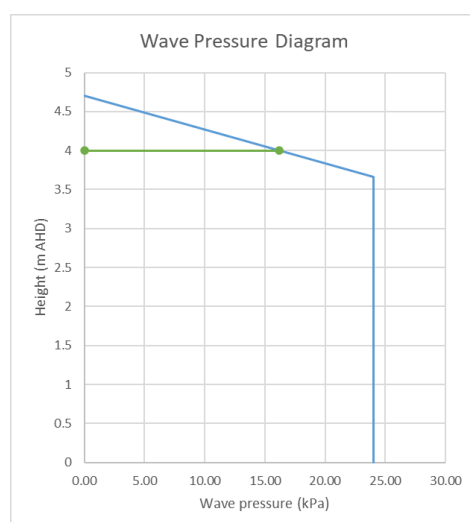


Figure 3-9: Wave pressure diagram for house 2.



4 Storm tide inundation zone (Exposure I)

4.1 Defining the coastal inundation zone (Exposure I - inundation)

The coastal inundation zone (Exposure I - inundation) has been mapped to the extent of future 1% AEP storm tide conditions in 2100. This extends across the coastal floodplain and estuaries.

4.2 Storm tide inputs for coastal inundation zone (Exposure I - inundation)

Storm tide inputs for the coastal inundation zone include:

- Storm tide levels without wave setup levels

Storm tide levels, without wave setup components, are relevant for areas within the mapped coastal inundation zone beyond the 200m wave impact zone, for medium to large estuaries (based on the review of literature in Section 2.3) and beyond 55m of a coastal creek (see Section 5). For these areas the storm tide excluding wave setup level is adopted from the existing Sunshine Coast Storm Tide Study (Aurecon 2013) for return periods up to a 1 in 1,000-year AEP. The TMST level is adopted from NDRP (GHD 2014) minus the average wave setup value from Aurecon (2013), which is 1.3m for the Sunshine Coast region between Kings Beach and Stumers Creek. Levels are available for present day in Table 4-1 which are increased by 0.8m to reflect sea level rise under a 2100 planning scenario in Table 4-2.



Table 4-1: PRESENT DAY Storm tide estimates (mAHD), excludes wave effects

Location	20-year	50-year	100-year	500-year	1000-year	PMST
Bells / Lamerough	See ICOLLs, Section 5					
Pumicestone Passage	1.47	1.57	1.65	1.71	1.75	3.13
Kings	1.47	1.57	1.65	1.71	1.75	3.14
Tooway	See ICOLLs, Section 5					
Dicky	1.42	1.50	1.58	1.63	1.66	3.14
Bunbubah	See ICOLLs, Section 5					
Coondibah	See ICOLLs, Section 5					
Currimundi	See ICOLLs, Section 5					
Bokarina	1.45	1.54	1.62	1.68	1.72	3.20
Buddina	1.45	1.55	1.63	1.69	1.73	3.20
Mooloolah River	1.42	1.51	1.60	1.67	1.71	3.16
Mooloolaba	1.41	1.50	1.57	1.62	1.65	3.16
Aerodrome Road	1.45	1.55	1.63	1.70	1.73	3.12
Pincushion Island	1.47	1.57	1.65	1.72	1.76	3.15
Cotton Tree Park	1.47	1.57	1.65	1.72	1.76	3.15
Mudjimba Beach	1.46	1.56	1.65	1.71	1.74	3.19
Mount Coolum	1.46	1.56	1.65	1.71	1.74	3.24
Stumers	See ICOLLs, Section 5					

Table 4-2: FUTURE Storm tide estimates (mAHD), includes 0.8m sea level rise, excludes wave effects

Location	20-year	50-year	100-year	500-year	1000-year	PMST
Bells / Lamerough	See ICOLLs, Section 5					
Pumicestone Passage	2.27	2.37	2.45	2.51	2.55	3.93
Kings	2.27	2.37	2.45	2.51	2.55	3.94
Tooway	See ICOLLs, Section 5					
Dicky	2.22	2.30	2.38	2.43	2.46	3.94
Bunbubah	See ICOLLs, Section 5					
Coondibah	See ICOLLs, Section 5					
Currimundi	See ICOLLs, Section 5					
Bokarina	2.25	2.34	2.42	2.48	2.52	4.00
Buddina	2.25	2.35	2.43	2.49	2.53	4.00
Mooloolah River	2.22	2.31	2.40	2.47	2.51	3.96
Mooloolaba	2.21	2.30	2.37	2.42	2.45	3.96
Aerodrome Road	2.25	2.35	2.43	2.50	2.53	3.92
Pincushion Island	2.27	2.37	2.45	2.52	2.56	3.95
Cotton Tree Park	2.27	2.37	2.45	2.52	2.56	3.95
Mudjimba Beach	2.26	2.36	2.45	2.51	2.54	3.99
Mount Coolum	2.26	2.36	2.45	2.51	2.54	4.04
Stumers	See ICOLLs, Section 5					



5 Small creeks and ICOLLS

Many of the smaller Sunshine Coast creeks act as Intermittently Closed and Open Lake or Lagoons (ICOLLS). Peak water levels within an ICOLL are dependent on rainfall and runoff processes, the coastal berm / estuary mouth geometry, coastal processes and infragravity waves. Examples include Stumers Creek (Figure 5-1), Currimundi Lake, Coondibah and Tooway.



Figure 5-1: Aerial picture of Stumers Creek

5.1 ICOLL processes

The dynamics of ICOLL entrances (i.e. the proportion of time that systems remain closed and the frequency with which they may open and close) are determined by the interactions between the opposing forces of catchment and ocean processes on the movement and accumulation of sand at the flood-tide delta, entrance berm and nearshore¹⁸.

After a breach, the typically small tidal prism is usually insufficient to maintain an open entrance. In these instances, while the initial closure is driven by processes that occur below high tide level (e.g. Ranasinghe and Pattiaratchi, 2003¹⁹), the longer term variation in barrier elevation is strongly correlated with run-up elevation and swash processes (Takeda and Sunamura, 1982²⁰; Weir et al., 2006²¹). Vertical barrier growth is usually wave driven and requires wave run-up to overtop the

18 DPIE (2021) Form and function of NSW intermittently closed and open lakes and lagoons. State of NSW and Department of Planning, Industry and Environment. ISBN 978-1-922558-52-7

19 Ranasinghe, R., Pattiaratchi, C., 2003. The seasonal closure of tidal inlets: causes and effects. Coastal Engineering Journal 45 (4), 601–627.

20 Takeda, I., Sunamura, T., 1982. Formation and height of berms. Transactions Japanese Geomorphological Union 3, 145–157

21 Weir, F.M., Hughes, M.G., Baldock, T.E., 2006. Beach face and berm morphodynamics fronting a coastal lagoon. Geomorphology 82 (3–4), 331–346.



barrier, depositing sediment beyond the existing crest (Hine, 1979²²; Strahler, 1966²³). Whilst closed, an ICOLL can become disconnected from the ocean tides, and act as a lake. Lake water levels can rise due to overtopped wave energy or from catchment runoff. If water levels initiate a breach, the entrance can scour out which will restore tidal processes and can allow waves to enter the creek mouth. Section 2.6 of this report includes an example of IG waves propagating into the Stumers Creek ICOLL whilst it had an open berm during Ex TC Seth in 2022.

This study considers an open berm scenario only. Peak water levels open coast storm tide levels plus an allowance for IG waves and future sea level rise. It does not consider closed ICOLL scenarios, where peak water levels will be dependent on elevated berm levels and catchment processes illustrated below in Figure 5-2.

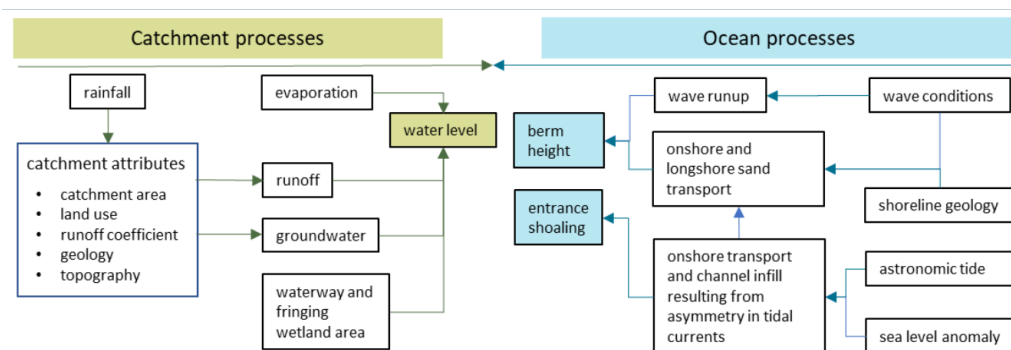


Figure 5-2: Conceptual diagram of the processes that control entrance dynamics in ICOLLs (DPIE 2021)²⁴;

5.2 Estimation of IG wave allowance

The gauge records and analysis of videos presented In Section 2.6 identified surge from IG waves to be a primary cause for elevated water levels in small creeks. An extreme 1% AEP water level has been calculated that includes IG surge allowance. This follows three steps:

1. Calibration of an IG wave model at Stumers Creek and estimation of an extreme 1% AEP IG surge magnitude
2. Estimation of 1% AEP IG surge magnitude for all creeks using simulated and recorded data.
3. Addition of the 1% AEP Open Coast storm tides plus IG surge magnitude

Step 1: Calibration of an IG wave model at Stumers Creek and estimation of an extreme 1% AEP IG surge magnitude

The magnitude of extreme IG waves has been estimated using an XBeach wave model. This is an open-source 1D cross-shore model that has been increasingly used in recent years for the purpose of wave runup and overtopping assessment (Roelvink et al, 2010)²⁵ and has been validated with a series of analytical, laboratory and field test cases using a standard set of parameter settings. The model includes:

- Short wave transformation (refraction, shoaling and breaking).
- Long wave (infragravity wave) transformation (generation, propagation, and dissipation).

²² Hine, A.C., 1979. Mechanics of berm development and resulting beach growth along a barrier spit complex. *Sedimentology* 26, 333–351.

²³ Strahler, A.N., 1966. Tidal cycle of changes on an equilibrium beach. *Journal of Geology* 74, 247–268

²⁴ Ferguson, A., Wiecek, D., Hughes, M., Hanslow, D., Wainwright, D., & Scanes, P. (2021). Form and function of NSW intermittently closed and open lakes and lagoons Implications for entrance management. Department of Planning, Industry & Environment, Sydney.

²⁵ Roelvink, D., Reniers, A., Van Dongeren, A., Van Thiel de Vries, J., Lescinski, J. and McCall, R. 2010. XBeach model description and manual. Delft University of Technology, User Manual, Delft, The Netherlands



- Non-hydrostatic wave diffraction.
- Wave-induced setup and unsteady currents.
- Over wash and inundation

The model was calibrated against the elevated water level record captured within Stumers in January 2022 (Ex TC Seth). A cross section was cut through the nearshore bathymetry and a partially open berm introduced at 1m AHD. The underlying tide signature for the event was based on the recorded Mooloolaba gauge, which is sheltered from waves and peaked at 1.49m AHD. Offshore waves were input into the model based on the Mooloolaba waverider buoy records, which recorded a significant wave height (H_s) of 2.7m and peak period (T_p) of 12.7s. The model was simulated and water levels extracted inside the estuary mouth. Figure 5-3 shows a comparison of the recorded water levels and simulated water levels. There are challenges in a direct comparison as the Stumers Creek water level record is based on 15 min instantaneous values where the peak values may be during a IG wave crest or trough) and Xbeach simulated water levels have a high frequency output that include short wave crests. An approximate match between both sources was found by taking the average XBeach water levels over 10 minutes, where:

- The Stumers Creek gauge peaked at 1.88m AHD.
- 10 minute average water levels from XBeach peaked at 1.83m AHD.

The model was rerun to test the influence of larger design waves. Offshore wave conditions were increased to reflect a 1% AEP wave event, and a 10-minute average water levels extracted from the model within the estuary mouth. Figure 5-4 shows a comparison of the average water levels using 1% AEP design wave conditions, January 2022 simulated waves and 2022 recorded water levels. Whilst the observed January 2022 surge was 0.41m, the re-simulated event with 1% AEP waves increased the surge to 0.75m.

Table 5-1: Peak storm surge for January 2022 and design wave conditions (1% AEP)

Event	Peak Mooloolaba Tide level (mAHD)	Stumers Peak Recorded (mAHD)	Simulated 10 min average (mAHD)	Surge (m)
Jan-22	1.49	1.88	1.83	0.41
Jan '22 + 1% AEP waves	1.49	-	2.17	0.75

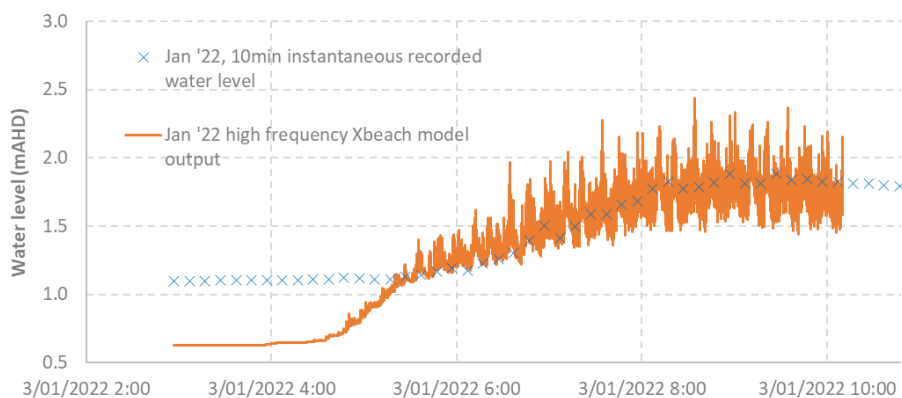


Figure 5-3: January 2022, recorded water levels (10 min instantaneous) and Xbeach simulated water levels (high frequency output).

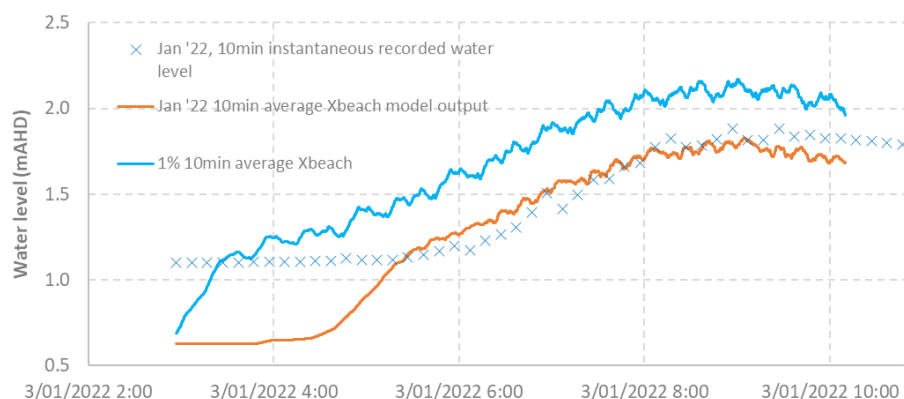


Figure 5-4: 10-minute average water levels using design wave conditions (1% AEP), January 2022 simulated waves and 2022 recorded water levels.

Step 2: Estimation of 1% AEP IG surge magnitude for all creeks using simulated and recorded data

The average water level increases for each coastal creek have been calculated over three historic events in June 2016, December 2020 and January 2022. Over this period Currimundi has long term data spanning all three events, Tooway Creek two events, and Coondibah and Stumers only a single event.

The largest average observed storm surge values are at Coondibah, which had water levels 0.6m higher than Mooloolaba records. Tooway and Stumers were elevated by 0.5 and 0.4m respectively, and Currimundi by 0.2m. The differences in average observed water level increase were used to adjust the simulated 1% AEP IG surge at Stumers Creek to other locations.

Bells Creek and Lamerough Canal do not experience significant wave effects due to the presence of Bribie Island. The future 2100 scenario assumes complete loss of the island, returning the Golden Beach area into the open coastline. For this scenario, a wave allowance has been included for the creek and canal, based on the average value of the four small coastal creeks of 0.78m.

Table 5-2: Average surge in storm surge for January 2022 and design wave conditions (1% AEP)

Location	Historic events			Average surge above Mooloolaba	Variation to Stumers average surge (m)
	Jun-16	Dec-20	Jan-22		
Stumers Creek	N/A	N/A	1.88	0.4	0.0
Currimundi Creek	1.50	1.75	1.56	0.2	-0.2
Coondibah Creek	N/A	N/A	2.06	0.6	0.2
Tooway Creek	N/A	1.98	2.02	0.5	0.1
Mooloolaba	1.29	1.44	1.49		



Table 5-3: Estimated 1% AEP IG surge allowances for coastal creeks

Location	Variation to Stumers average surge (m)	Simulated 1% AEP IG Surge (m) - XBeach results	1% AEP IG Surge
Stumers	0.00	0.75*	0.75
Currimundi Creek	-0.19		0.56
Coondibah Creek	0.18		0.93
Tooway Creek	0.15		0.90
*simulated levels only available for Stumers Creek			

Step 3: Addition of the 1% AEP Open Coast storm tides plus IG surge magnitude

The 1% AEP storm tide values for small coastal creeks has been estimated based on:

- Open Coast storm tide (excluding wave effects) - Table 4-1 and Table 4-2
Plus;
- Estimated 1% AEP IG surge allowances for coastal creeks - Table 5-3

5.3 Storm tide inputs for coastal creeks

Storm tide inputs for the coastal inundation zone include:

- 1% AEP Storm tide levels without wave setup levels
- 1% AEP IG surge allowances for coastal creeks

Storm tide levels are not always available for coastal creeks within the Sunshine Coast Storm Tide Study (Aurecon 2013). Tooway and Bunbubah have been based on the Dicky Beach reporting point, Coondibah is based on an average value of Dicky Beach and Currimundi, whilst Stumers Creek uses the Stumers output point. These have been increased to reflect an IG surge allowance. Available water levels for present day and future 2100 scenarios for a 1% AEP event are shown in Table 5-4. TMST values have been adopted from the open coastline.

When mapping the storm tide around coastal creeks a 2-part approach is recommended, similar to the open coast wave impact zone. For areas within 55m of the creek banks the Small Coastal Creeks plus IG wave allowance values should be used, as shown in Table 5-4. For areas beyond 55m of the creek banks the open coast storm tide excluding wave effects should be used (Table 4-1 and Table 4-2).

Table 5-4: Small Coastal Creeks 'present day' and '2100' storm tide estimates (mAHD), includes sea level rise and IG wave allowances

Location	100-year Present day	100-year Future '2100'	TMST Present Day	TMST Future '2100'
Bells / Lamerough	1.65*	3.23	3.13	3.93
Tooway/Bunbubah	2.48	3.28	3.14	3.94
Coondibah	2.54	3.34	3.14	3.94
Currimundi	2.18	2.98	3.14	3.94
Stumers	2.41	3.21	3.25	4.05
*Bells / Lamerough only includes IG wave allowances in a 1% AEP future '2100' scenario.				



6 Assumptions and recommendations

A range of assumptions have been made throughout this report that have been based on limited recorded information. This includes:

- Tide and storm surge trends within Pumicestone Passage are likely to be dynamic as the new entrance breakout continues to evolve. Future conditions may not reflect current conditions.
- Water level trends within the smaller coastal creeks is based on limited data. Currimundi has relatively long term data spanning three significant storm surge events (since 2016), whilst Tooway Creek observed two events, and Coondibah and Stumers only a single event. This limited data has been used to adjust the IG wave allowance within individual estuaries.
- During extreme events the peak still water levels, including wave crest level, within the small coastal creeks cannot be resolved by the low-frequency (15 minute) water level gauge.
- The future coastline scenario assumes Bribie Island offers no protection from waves, and Bells Creek and Lamerough Canal begin to experience IG waves, similar to the northern creeks.
- Wave forces inland of the future shoreline will be influenced by future coastal protection. The 'landward' wave impact force is heavily dependent on future site-specific conditions, volume of wave overtopping (linked to the shape and characteristics of the future shoreline or defence), and slope behind the shoreline. An appropriately designed coastal seawall may remove the wave impact load for inland areas, depending on its characteristics.
- The future position of the coastline will influence the distance of the wave impact zone. This report adopted the future shoreline position as the landward extend of the mapped 2100 Erosion Prone Area.

The following recommendations are made to improve the understanding of local conditions and support future revisions of storm tide levels, IG wave allowances, wave forces and the width of the mapped wave impact zone. This includes:

- Installation of high-frequency wave level recorders in small coastal creeks that have the ability to capture wave crest information.
- Identification of areas that will be offered coastal protection due to existing or future seawalls.
- Ongoing coastline monitoring to track the occurrence and speed of any coastal recession to identify any differences from the adopted 2100 coastal EPA.



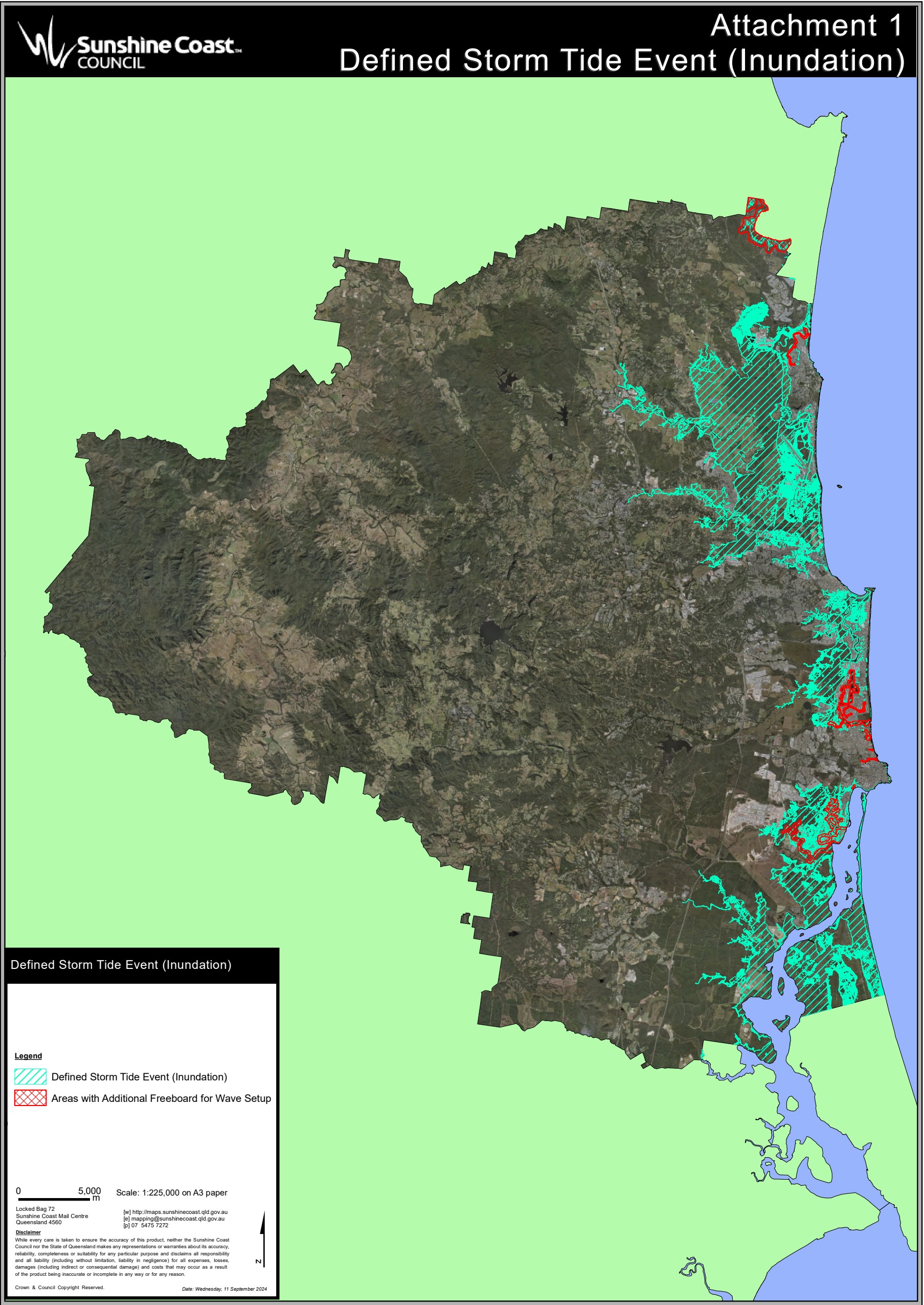
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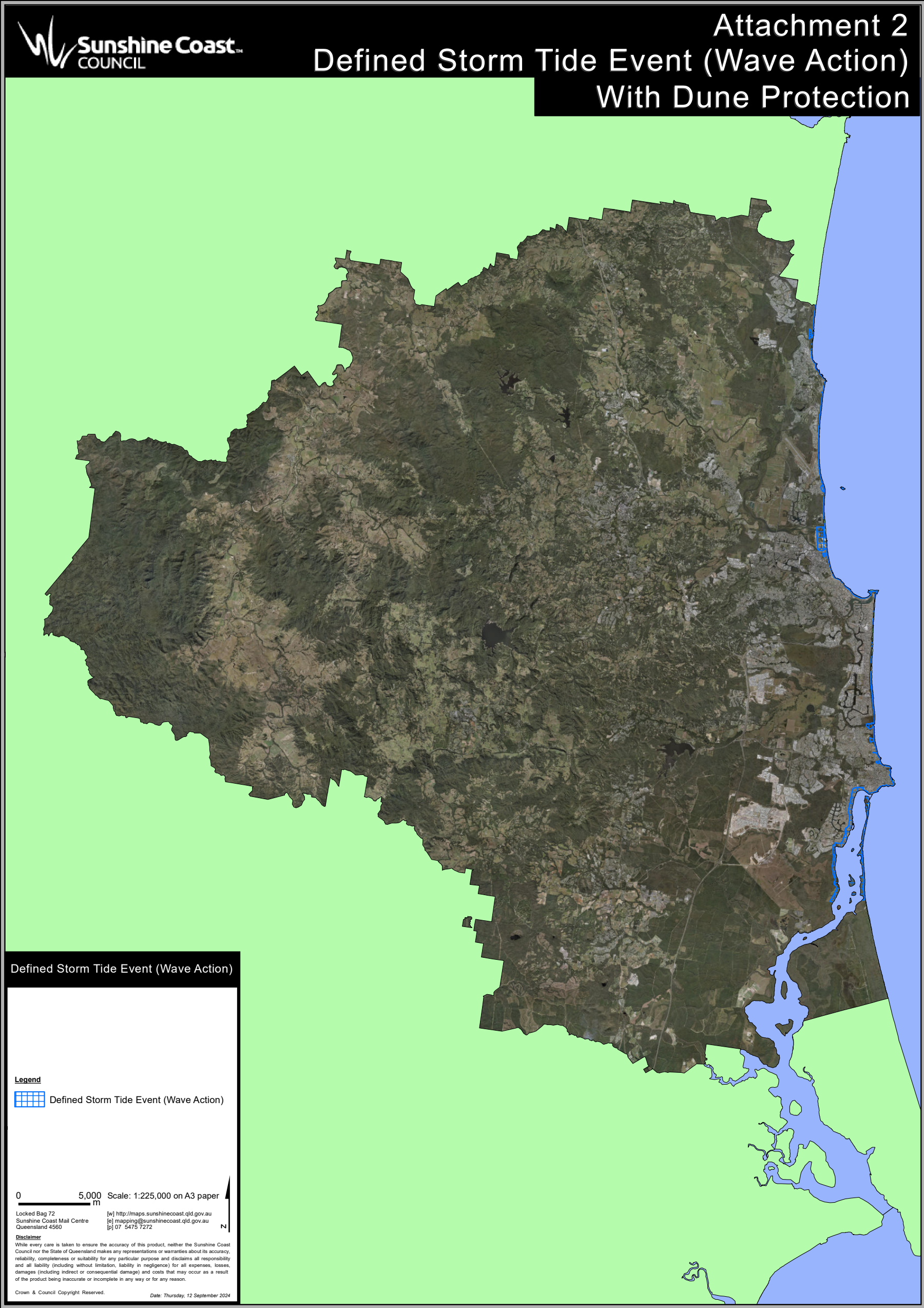
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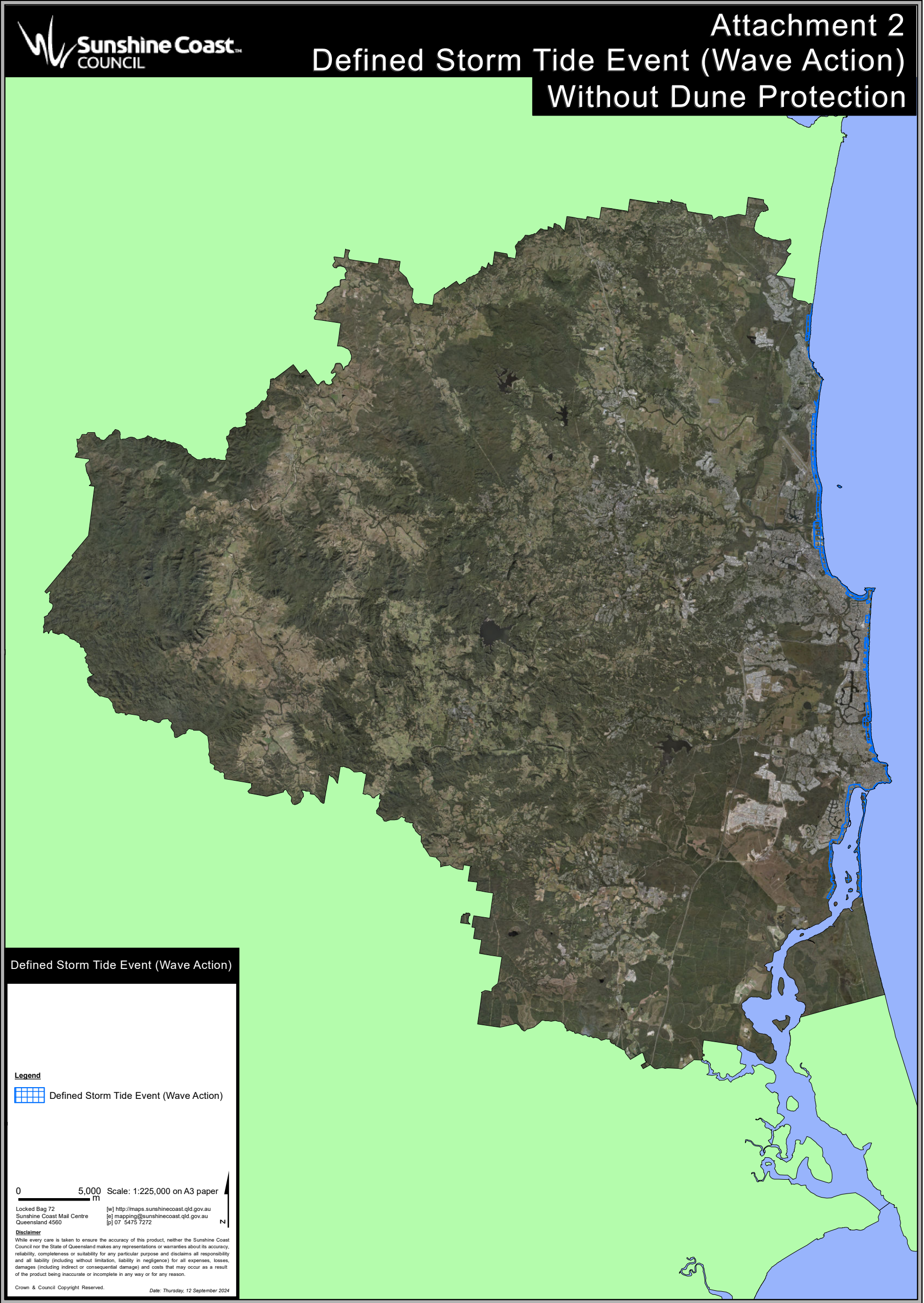
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