

# Biodiversity Report 2016 for the Sunshine Coast Local Government Area Report Overview



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**Acknowledgements**

The Sunshine Coast Council acknowledges the Traditional Owners of this region, recognising their deep cultural and intrinsic connection to the land and sea, that stretches back over thousands of years.

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# Biodiversity Report

The Sunshine Coast is an extraordinary part of the world. It is a region brimming with diversity, from beautiful beaches to lush rainforests and bustling urban centres and towns, the Coast has it all. The people of the Sunshine Coast have a deep appreciation for this and keep the environment close at heart, having developed strong connections with the plants and wildlife that thrive throughout the region.

As more people call the Sunshine Coast home, it is imperative that we work together to ensure these awe-inspiring natural environments are protected and maintained for generations to come. Since 2010, the Sunshine Coast Council has been working in partnership with the community to implement the *Sunshine Coast Biodiversity Strategy 2010-2020*.

This strategy has been developed to ensure the Sunshine Coast continues striving to be Australia's most sustainable region – vibrant, green, diverse.

This Background Report on the Sunshine Coast local government area's biodiversity assets, provides:

- valuable information to inform the adaptive and strategic conservation approach being implemented
- a benchmark to measure the success in the protection and conservation of biodiversity, and highlights areas where improvement is necessary.

Sunshine Coast Council will continue to work closely with the community and other stakeholders to best protect, enhance and connect our region's biodiversity.

As more people call the Sunshine Coast home, it is imperative that we work together to ensure these awe-inspiring natural environments are protected and maintained for generations to come.

# 1 Report overview

The Sunshine Coast is consistently regarded for its impressive natural landscape whether it is waterways, volcanic landforms, coastal foreshores, rainforests, or the incredibly diverse plant and animal species. This 'biodiversity' is not to be taken lightly; it is the beating heart for both our region *and* our planet.

The Sunshine Coast's biodiversity is absolutely vital to our everyday lives. We depend on it for the air we breathe, the food we eat and the water we drink.

## How is that possible?

Wetlands filter the pollutants from water, the trees and plants absorb carbon and provide us with clean air, while bacteria and fungi break down organic material and fertilise our precious soil. The fact is, the more biodiverse our environment, the healthier our ecosystems and in turn, the higher our quality of life is. Simply put, we need to conserve biodiversity because our lives depend on it.

It is clear that years of European settlement has impacted on the natural ecosystems of the Sunshine Coast and the time for improvement is now. As one of the fastest growing regions in Australia, development is set to continue and this development will only continue to present

challenges to native plants, animals and the environment upon which they so desperately depend.

In the name of becoming, 'Australia's most sustainable region' the Sunshine Coast Council has set the goal of creating a healthy environment through the maintenance and enhancement of the region's natural assets, liveability, and environmental credentials. By continuing to invest in healthy natural ecosystems and protecting remnant vegetation, Sunshine Coast Council is working towards realising its goal.

In response to this goal and in partnership with the community, the *Sunshine Coast Biodiversity Strategy 2010-2020* was developed and is currently being implemented as we strive toward maintaining our natural advantage.



The Strategy identifies the need to build our collective understanding of biodiversity to:

- inform future planning, management decisions and investments
- better measure the effectiveness of biodiversity protection and enhancement efforts
- effectively and efficiently allocate available resources.

The purpose of this report is to complement the Strategy by providing a comprehensive biodiversity monitoring and reporting framework, with outcomes informing future conservation planning. It presents a baseline assessment of our biodiversity – including the amount and distribution of vegetation communities, threatened plants and animals, the extent and type of vegetation being conserved, as well as information on our habitat areas.

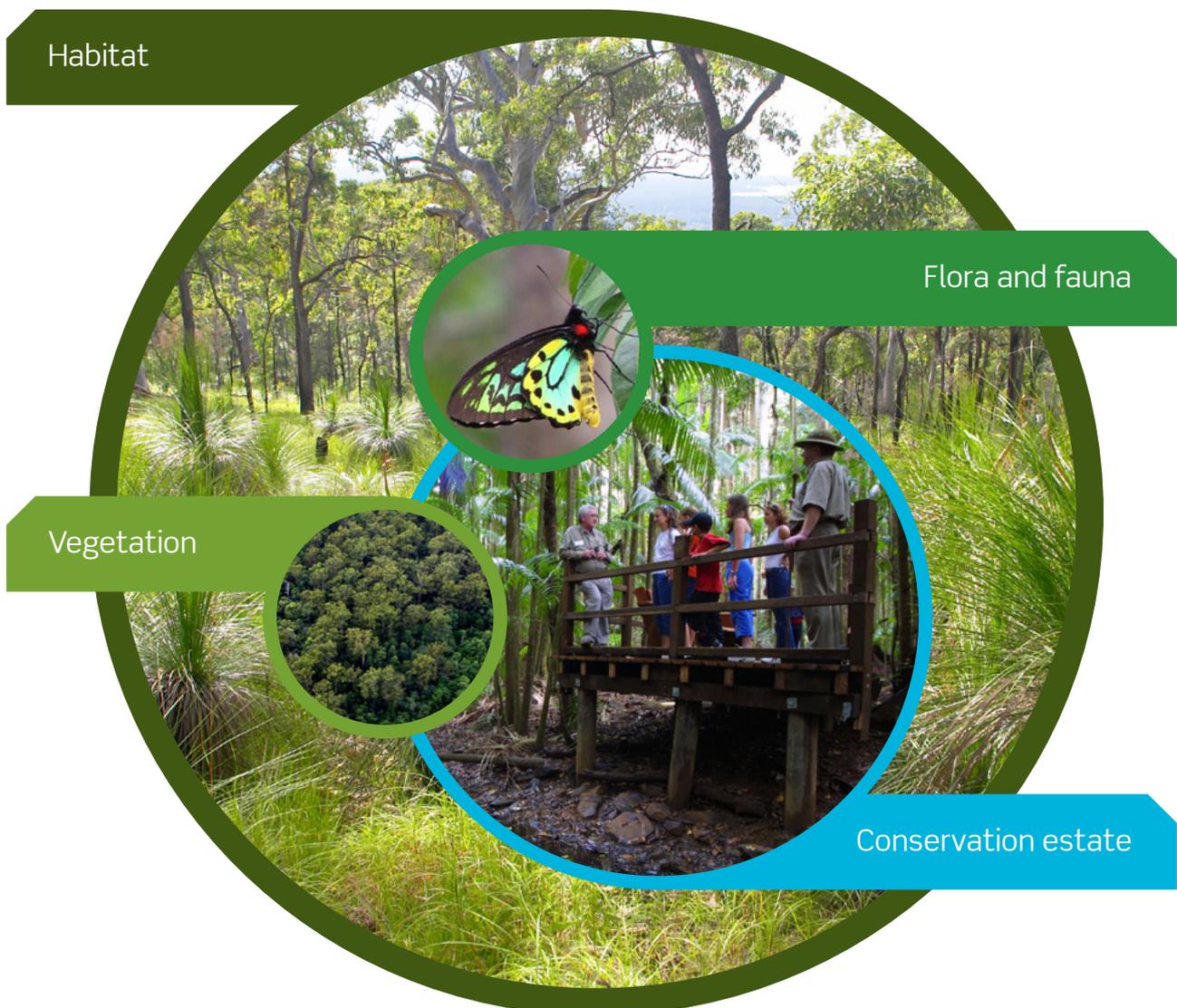


Figure 1.1: Key categories for biodiversity management

# 1 Report overview



## Vegetation

Prior to European settlement, the Sunshine Coast Council area had more than 225,000 hectares of vegetation. Today, 54 percent (124,283 hectares) of the vegetation has been retained. With the rest of the vegetation having been cleared for urban and agricultural development. The remaining vegetation is made up of 75 different regional ecosystems that can be grouped into six broad vegetation communities including, foredune, mangrove and saltmarsh, heath and wallum, melaleuca, eucalypt and rainforest.

Eucalypt and rainforest vegetation communities have been the most heavily impacted, with some of these remaining communities now listed as endangered and vulnerable. Understanding changes in our vegetation extents over time will assist to inform adaptive management strategies to deliver biodiversity conservation outcomes.

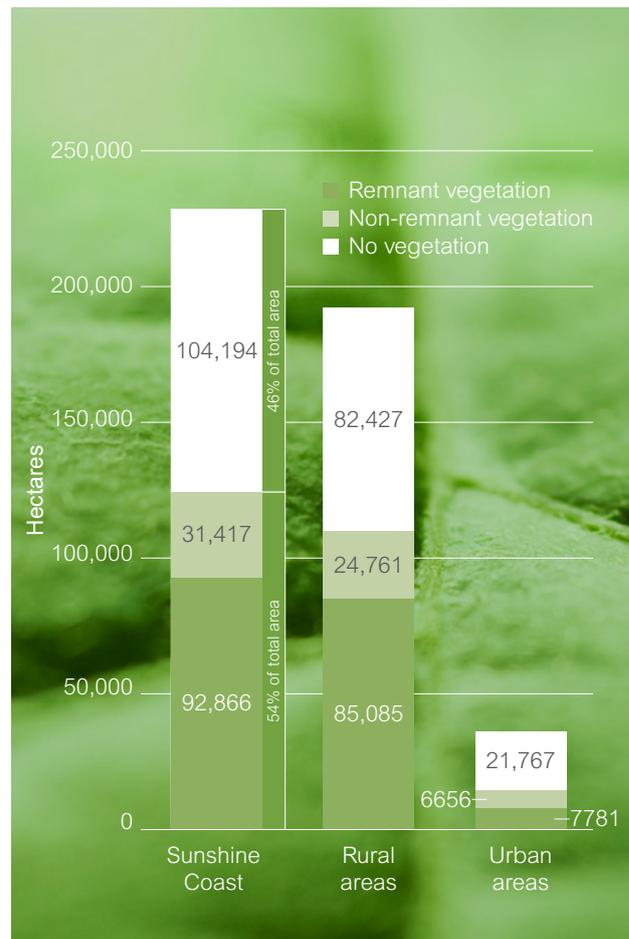


Figure 1.2: Sunshine Coast Local Government Area vegetation



## Habitat

The Sunshine Coast's remnant and non-remnant vegetation collectively defines the Sunshine Coast's habitat areas, which includes 89,414 hectares of core habitat, 27,741 hectares of connecting habitat and 7126 hectares of other habitat areas.

The core habitat areas are the primary element of the biodiversity network and are defined as connected and consolidated vegetation areas greater than 50 hectares, providing a high level of ecological functionality. The second, and equally as important, element of the network is the connecting habitat areas that provide important refugia and vegetated corridors that enable wildlife to move between core habitat areas. The remaining vegetation is considered other habitat areas and consists of isolated, more fragmented patches of vegetation in the landscape.

It is important to understand the core, connecting and other habitat areas and the diverse range of animals and plants they support in order to inform biodiversity conservation outcomes. The Maroochy Wallum Area which extends from the lower Maroochy estuary to Noosa National Park and includes significant mangrove, eucalypt, melaleuca and wallum vegetation communities supporting an array of important and iconic fauna species is an example of a cluster of well-connected core habitat areas.

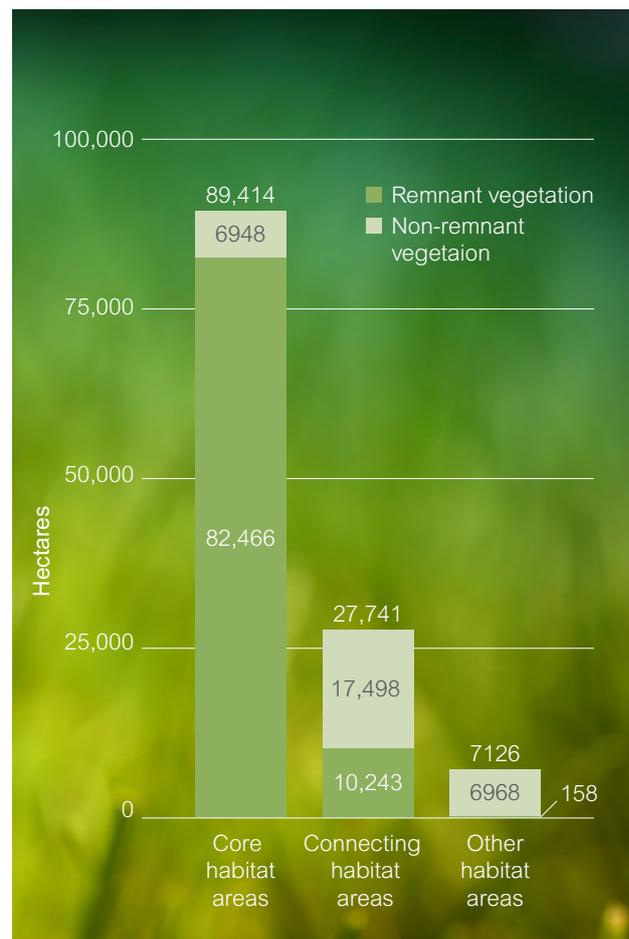


Figure 1.3: Sunshine Coast Local Government Area core and connecting habitat areas

# 1 Report overview



## Flora and fauna

The Sunshine Coast has a diverse range of plant and animals however, 135 of these species are classified as endangered, vulnerable or near threatened (EVNT). Included in this category are the swamp stringybark, Buderim holly, koala and the glossy black cockatoo, just to name a few.

The development of this report has highlighted challenges in terms of data collation, storage and sharing across a range of sources, including council, state and commonwealth government. In order to prepare a coordinated approach to endangered and threatened species management, a robust regional flora and fauna database paired with associated protocols and data sharing agreements between council and key organisations throughout the region is essential.

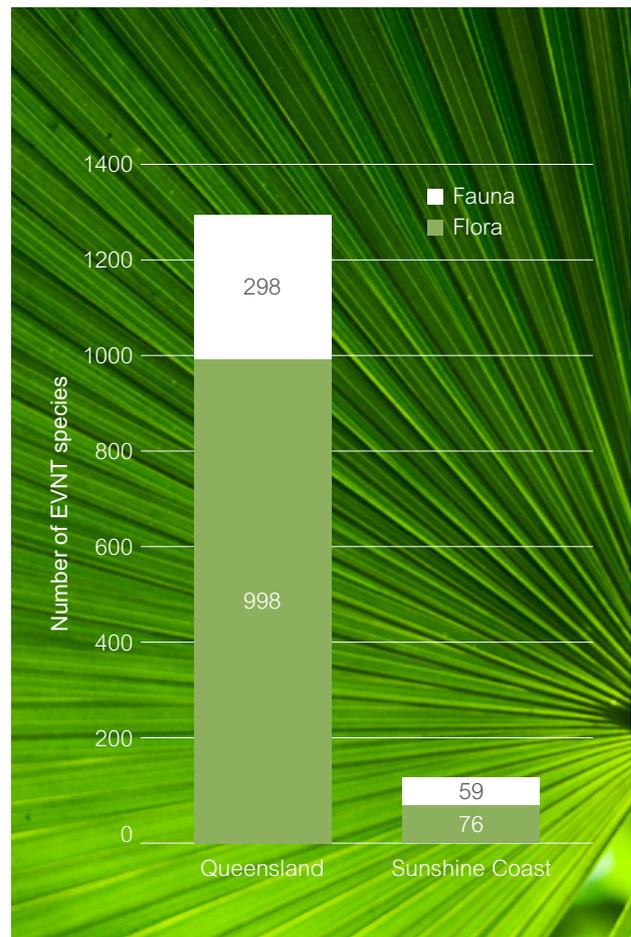


Figure 1.4: Sunshine Coast Local Government Area EVNT flora and fauna



## Conservation estate

Currently, 26 percent of the Sunshine Coast Council area is managed for conservation. The conservation estate, made up of state and council reserves and private landowners, conserves more than 44 percent (54,173 hectares) of the remaining remnant and non-remnant vegetation. This includes, 39,684 hectares in state protected areas (i.e. national parks), 5139 hectares in council owned and trustee managed reserves (including council nature refuges), 666 hectares in private nature refuges, 1477 hectares in environmental covenants and 7295 hectares in Land for Wildlife properties.

The remaining 56 percent (70,110 hectares) of vegetation represents an opportunity for future biodiversity conservation initiatives. Any future investment in expanding the conservation estate should be a strategic approach ensuring important biodiversity assets are both targeted and conserved.

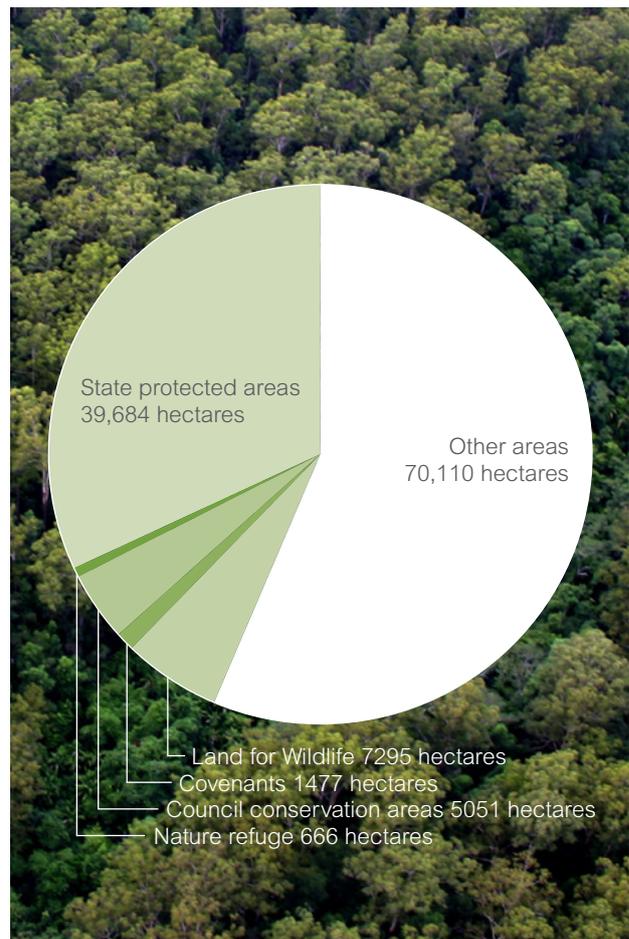


Figure 1.5: Sunshine Coast Local Government Area vegetation protection status (hectares)

## 1.1 Sunshine Coast Council area

More than 289,000 (2016) people live in the vibrant, green and diverse area that is the Sunshine Coast. Located about 100 kilometres north of Brisbane in South East Queensland, the area has a stunning natural landscape that includes world-renowned beaches, waterways and coastal ecosystems, unique lowland and hinterland forests, and an idyllic subtropical climate.

People continue to appreciate the beauty and prosperity of the Sunshine Coast Council area. Growing numbers are calling it 'home', with the region being one of the fastest growing areas in Queensland. The economic base of the Sunshine Coast Council area was historically built upon forestry and agriculture. Today, the economy is centred on the health care and social assistance, retail, trade and construction industries. Our biodiversity is subject to ongoing impacts from land use and activities across the Sunshine Coast. These will increase and new impacts will emerge in coming decades as a result of climate change, population growth and economic growth.

The Sunshine Coast Council area's population is projected to increase to over 380,000 by 2026.

Unfortunately as the population expands, the land area of 2290km<sup>2</sup>, does not. It is imperative that we meet the needs of our rapidly expanding urban population whilst still protecting and sustaining our cherished natural environment, plant and animal life that the Sunshine Coast is known for.

The Sunshine Coast Council area's population is projected to increase to 380,000 by 2026.

### An interesting past and a thriving future

At one point in history, large numbers of Aboriginal people lived in the resource rich area that is now the Sunshine Coast. The headlands served as dreaming areas and Baroon Pocket was a significant meeting place for most of the tribes throughout South East Queensland. During these times, the main forces of landscape disturbance were natural events such as floods, droughts, cyclones and wildfires. The Sunshine Coast once had magnificent stands of forest. In the mid-1800s however, white inhabitants moved into the region and European settlement marked the beginning of 'intensive' vegetation clearing, with the main industries being timber harvesting and cattle grazing.

Many of the towns began as simple ports for the timber industry during the 1860s and 1870s. Likewise, the region's roads often began as

snigging tracks for hauling timber. With the advent of the Gympie Gold Rush, prospectors scaled the Sunshine Coast mountains to develop easier roadways to and from the gold fields of Gympie.

By the 1890s, fruit and dairy farming replaced the cattle and timber economy of earlier decades, and sugar cane and pineapples became the iconic Sunshine Coast industries. The Sunshine Coast was further expanded during the development boom of the 1960s and 1970s.

Today, the traditional construction, tourism and retail sectors are being complemented by investments in new and emerging industries such as health and wellbeing and education and research, as a new and resilient economy is developed to support our enviable lifestyle and natural assets.



## 1.2 Major Catchments of the Sunshine Coast Council area

From the hinterland to the sea, the Sunshine Coast Council area has six major river catchments. This includes, Maroochy and Mooloolah Rivers, Pumicestone Passage and the northern portion of Bribie Island, the headwaters of the Mary and Upper Stanley Rivers and a small portion of the Noosa River catchment (see figure at right).

These catchments vary in the mix of rural, urban and coastal landscapes, with some having very little 'natural' environment left and others having vast conservation areas. Meaning, for each individual catchment, thought needs to be given as to how best to protect the biodiversity that exists in the area, while at the same time also meeting demands for social and economic development.





Figure 1.6: Major catchments of the Sunshine Coast Council area

## 1.3 Why do we need to protect biodiversity?

Biodiversity is key to life on the Sunshine Coast. It is defined as the variety of all life forms, including different plants, animals and micro-organisms, the genes they contain, and the ecosystems of which they are a part.

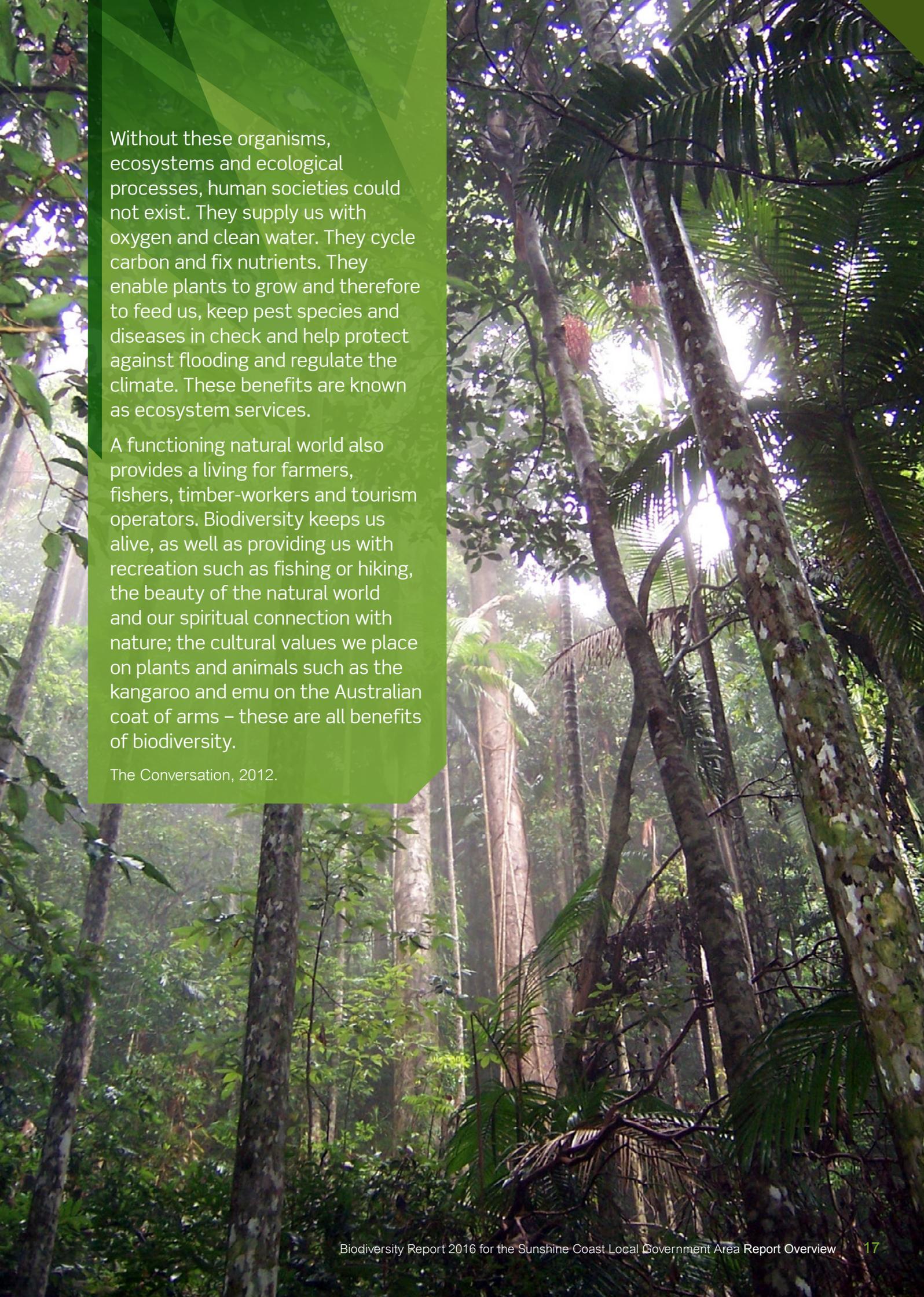
In the Sunshine Coast Council area, biodiversity ranges from the smallest lichen on Mount Coolum, to the tallest eucalyptus in the Conondale Ranges, the worms in our compost heaps, to the distinctive Richmond birdwing butterfly, the familiar brush turkey, and the rarely seen wallum rocket frog. These species, and thousands more plants, animals, landscapes and ecosystems make up the rich biodiversity of our region. We need to protect biodiversity because our lives depend quite literally on it.

The Sunshine Coast Council has placed a high priority on the need to maintain healthy natural ecosystems and protect remnant vegetation. This priority is one that can only be achieved by working in partnership with communities across the region.

The Sunshine Coast has a diverse range of plant and animals however, 135 of these species are classified as either endangered, vulnerable or threatened.



Sunshine Coast's tallest tree in the Conondale Ranges, Flooded Gum (*Eucalyptus Grandis*).



Without these organisms, ecosystems and ecological processes, human societies could not exist. They supply us with oxygen and clean water. They cycle carbon and fix nutrients. They enable plants to grow and therefore to feed us, keep pest species and diseases in check and help protect against flooding and regulate the climate. These benefits are known as ecosystem services.

A functioning natural world also provides a living for farmers, fishers, timber-workers and tourism operators. Biodiversity keeps us alive, as well as providing us with recreation such as fishing or hiking, the beauty of the natural world and our spiritual connection with nature; the cultural values we place on plants and animals such as the kangaroo and emu on the Australian coat of arms – these are all benefits of biodiversity.

The Conversation, 2012.

## 1.4 Creating healthy landscapes

A healthy landscape has the following features:

**A healthy social landscape.** This is central to creating and maintaining the unique and vibrant lifestyle that the Sunshine Coast Council area is renowned for and is essential in regards to our general health and wellbeing.

**A healthy economic landscape.** A healthy economic landscape supports the development and growth of diverse businesses and activities across various sectors.

**A healthy biodiverse landscape.** Lastly, a healthy biodiverse landscape has natural areas throughout that are well protected, connected and managed in a way that provides habitats to support a diverse range of native flora and fauna species, and ecosystems well into the future.

- 1 A healthy landscape creates a sense of place and lifestyle that is unique to the Sunshine Coast Council area
- 2 The quality of our environment is important to the local tourism industry
- 3 Agricultural industries contribute to the area's economy
- 4 Access to unspoilt natural areas is important to general health and wellbeing
- 5 Large patches of vegetation provide core habitat areas
- 6 Diversity of ecosystem types provide habitat for a large variety of native species
- 7 Habitat connectivity allows movement and dispersal of species throughout the landscape
- 8 Patches of native vegetation act as 'stepping stones' to connect larger areas of core habitat
- 9 Vegetated riparian buffers protect natural waterways
- 10 Native vegetation in urban parks and backyards provides habitat for fauna
- 11 High value habitat is protected
- 12 Conservation by private landowners is supported through extension programs
- 13 Degraded ecosystems are rehabilitated through partnerships
- 14 Weeds and pest animals are managed
- 15 Vegetation offsets assist to address habitat loss
- 16 Fauna friendly infrastructure is critical for wildlife movement



Figure 1.7: Creating healthy landscapes

## 1.5 A strategy for biodiversity

The *Sunshine Coast Biodiversity Strategy 2010-2020* assists the council and community to successfully manage biodiversity.

The Biodiversity Strategy provides the framework and direction for biodiversity conservation to ensure our high value environments are protected, enhanced and reconnected to optimise the services that healthy functioning ecosystems provide to the community.

The current Strategy is being reviewed to ensure it remains both contemporary and responds to the ongoing threats and challenges facing our biodiversity assets .



After 150 years of land clearing, urbanisations and agriculture disrupting native habitat, the time for improvement is now.





Image: Lace monitor (*Varanus varius*). Courtesy of B.Fletcher.

## 1.6 Tracking our progress

Land managers are able to monitor progress over time by measuring the condition of different biodiversity indicators.

The indicators you choose to monitor are dependent upon what questions you want to ask about particular aspects of biodiversity.

When we combine the results gathered from monitoring different biological indicators we can develop appropriate management 'responses' to reduce threats and pressures, thus improving biodiversity.

### Where to from here?

The results of this report will provide essential information that will enable Sunshine Coast Council to:

- better understand the local government area's biodiversity
- refine regional habitat mapping
- identify priority investment areas
- inform the review and development of new strategic directions for biodiversity conservation.





The Biodiversity Report provides a monitoring and reporting framework to measure the success of the protection and conservation of our local biodiversity.



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