Sunshine Coast Council

Macropod Conservation Plan

2023

Sunshine Coast COUNCIL | Your Environment Levy in action

Edition August 2023

sunshinecoast.qld.gov.au
07 5475 7272
Locked Bag 72 Sunshine Coast
Mail Centre Qld 4560

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 Council. **Macropod Conservation Plan** 2023.

Disclaimer
To the extent this document contains future plans, activities, policies and strategies, these matters are aspirational and subject to change at any time without notice.

While the Sunshine Coast Council has exercised reasonable care in preparing this document, no warranty or representation is given by Council or its officers in relation to any of the information or data contained within this document (including as to its accuracy, reliability, completeness or suitability for any purpose).

Council and its officers are not liable (including without limitation, liability in negligence) for any loss, damage, expenses or costs (including any consequential loss or damage) incurred by you relating to any use of, or reliance upon, the information and data contained within this document.

Cover image
Eastern grey kangaroo

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.

Photo: Black striped wallaby.

Photo: Swamp wallaby.

Table of contents

United Nations Sustainable Development Goals

As we advance our vision to be 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.

Photo: Mt Tibrogargan.

Our global commitment

Towards this end, the *Macropod Conservation Plan* embeds the United Nations Sustainable Development Goals (UNSDGs) into its actions.

UNSDG 11 — Sustainable cities and communities.

Macropods are valued by the local community as an important part of the regions natural and cultural heritage. The *Macropod Conservation Plan* includes desired outcomes that will support evidence based management decisions, education and stronger partnerships which will strengthen efforts to protect macropods and make our cities and human settlements safe, resilient and sustainable. Planning and development guidelines for safe movement and habitat protection of macropods will provide positive economic, social and environmental links between urban, peri-urban and rural areas.

UNSDG 13 — Climate action.

The *Macropod Conservation Plan* includes actions to address future threats to macropod populations caused by climate change. This includes population monitoring and the identification and protection of viable movement pathways, and refugia.

UNSDG 15 — Life on land.

Halting biodiversity loss requires the protection of all species of native wildlife in our region. The *Macropod Conservation Plan* takes a whole of landscape and partnerships approach to sustainable development which is required for these highly mobile group of animals.

SUNSHINE COAST BIOSPHERE

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.

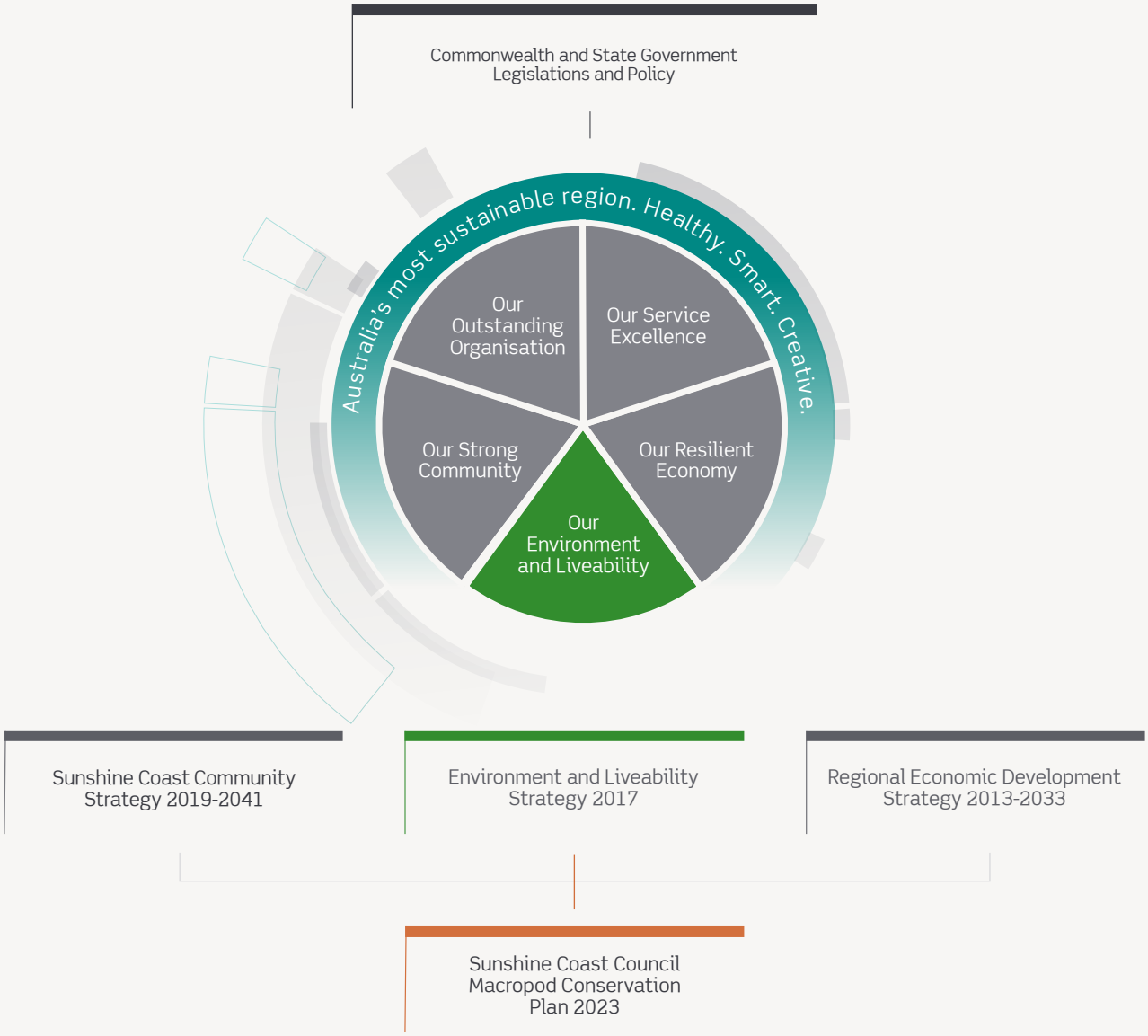
Our region has joined a global effort of 738 biospheres in 134 countries to balance the environmental, social, cultural and economic needs of today, without compromising the ability to meet the needs of future generations.

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.

Photo: Stephanie Reif — Swamp wallaby eating bunya nut.

Strategic alignment



Environment and Liveability Strategy 2017

The Environment and Liveability Strategy, 2017 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 preparation of the *Macropod Conservation Plan* is in response to Council's commitment to the long-term conservation of macropods within the region and Council's corporate plan outcome 2.2 - protection and enhancement of our natural assets and distinctive landscapes. The plan was included as a transformational action of the Environment and Liveability Strategy 2017.

Photo: Eastern grey kangaroos.

Introduction

1.1 Background

Sunshine Coast residents and visitors place a high value on the region's beautiful natural amenity and relaxed lifestyle. It is a region of abundant natural resources with 55% of its native vegetation remaining, over 78,000 ha of open spaces, and abundant wildlife. But it is also a rapidly developing region, with population expected to exceed 500,000 by 2041 (SCC 2017).

While this brings economic and lifestyle opportunities to the region, it also increases the necessity to protect the other species with whom we share this space.

Macropods, particularly the eastern grey kangaroo, are iconic species in eastern Australia. But Council's aspirational vision for the *Macropod Conservation Plan* is about more than protecting iconic species. This Plan, with the assistance of the community, will help ensure that creating safe space for other species remains front of mind as the Sunshine Coast region continues to grow.

Kangaroos and wallabies are some of Australia's most recognisable and popular animals. Macropods appeal to our identity and culture, as well as being tourism icons, valued by both domestic and international visitors. Highly significant to Indigenous Australians, many traditional land management practices are related to macropods (Bowman et al. 2001).

There is a strong desire by the Sunshine Coast community to protect current and future macropod populations in the local government area (LGA). There are many dedicated residents, wildlife rescue/care groups, researchers, conservationists, and advocates who support the development of a conservation plan for our macropods. Commitment by Sunshine Coast residents, businesses, industry, and community groups is integral to the success of any species conservation plan.

1.2 Purpose

The purpose of this *Macropod Conservation Plan* is to ensure that sustainable populations of eastern grey kangaroos (*Macropus giganteus*) and other macropods (Section 2) continue to thrive in the LGA.

The *Macropod Conservation Plan* will use a whole of landscape and integrated partnerships approach to macropod conservation by:

- Spatially identifying macropod habitat, occurrence clusters and movement pathways (and threats to survival) in the LGA.
- Setting out the approaches to be adopted in maintaining wild populations of eastern grey kangaroo and several other key macropod species.
- Allocating responsibilities to stakeholders to ensure desired outcomes are reached during the life of this ten-year plan.

The *Macropod Conservation Plan* has considered and integrated a complex array of issues, data and expert advice and is supported by a literature review of the focus species' ecology, preferred habitat, home ranges and characteristics of the landscape that facilitate or limit movement of macropods (Ecosure 2020).

1.3 Desired outcomes

The success of the Plan relies on meeting objectives that are measurable, attainable, and prioritised according to resource availability.

To achieve this, Council has a strategic framework for the *Macropod Conservation Plan* comprised of the following Desired Outcomes:

1 Management is evidence based and informed by contemporary research and knowledge of Sunshine Coast macropod populations.

2 Planning and development assessment processes and supporting guidelines are in place to support the protection of macropods and their habitat.

3 The impacts of threatening processes on macropods in the Sunshine Coast local government area are understood and minimised.

4 A landscape approach to macropod conservation is achieved through advocacy, education, and partnerships with the community.

This Plan can serve as a reference document for Council during the operational works phase of development assessment where possible.

Photo: Whiptail wallaby.

Photo: Eastern grey kangaroo.

1.4 Legislative and policy context

All species covered in this Plan are declared 'least concern wildlife' under the *Nature Conservation Act 1992* (NC Act) and supporting legislation. Other applicable legislation and policy is provided in Table 1.

This *Macropod Conservation Plan* aligns with the aspirations of the Sunshine Coast Biosphere reserve where responsible development and people living sustainably sit alongside active conservation.

Table 1: Applicable legislation and policy

Legislation	Application and purpose of legislation
Nature Conservation Act 1992 (NC Act) and its subordinate legislation: - Nature Conservation (Animals) Regulation 2020 - Nature Conservation (Macropod) Conservation Plan 2017	"The protection of native wildlife and its habitat"
Animal Care and Protection Act 2001	"Provide standards for the care and use of animals" and to "Protect animals from unjustifiable, unnecessary or unreasonable pain"
Sunshine Coast Planning Scheme 2014	"Maintenance of the Sunshine Coast as one of the most biologically diverse areas in Australia through use of planning scheme features such as Strategic Framework Map 5 Natural Environment Elements" (Part 3 Strategic Framework, 3.7 Natural Environment)
Sunshine Coast Environment and Liveability Strategy 2017	Vision of a healthy and liveable Sunshine Coast in 2041. Sets the strategic framework for our natural environment, including biodiversity: 2.1 Natural ecosystems and the native plants and animals they support are preserved. 2.2 Priority habitat areas are protected, enhanced, connected and responsive to changing environmental conditions. 2.9 Biodiversity is valued, respected, and used sustainably to support our lifestyle, livelihoods and sense of place. Transformational Action 6: Connecting Nature with People included Task 6.9: Develop a *Macropod Conservation Plan*.

Photo: Red legged pademelon

Focus species

The Sunshine Coast region is home to seven macropod species of the genera Macropus, Thylogale and Wallabia, all of which are the subject of this plan (Table 2). Their status and habitat requirements are described below.

Table 2: Focus species conservation status and habitats

Common name	Scientific name	Queensland status	Commonwealth status	Habitat
Eastern grey kangaroo	*Macropus giganteus*	Least concern	Not listed	Open, grassy plains close to grassy woodlands and forests for shelter.
Swamp wallaby	*Wallabia bicolor*	Least concern	Not listed	Broad gradient of habitats — mainly thick forest undergrowth or coastal heath.
Whiptail wallaby	*Macropus parryi*	Least concern	Not listed	Grassy open woodlands, particularly in hilly and sloped environments. Commonly found in mountainous areas.
Black-striped wallaby	*Macropus dorsalis*	Least concern	Not listed	Shelters in dense vegetation during the day and ventures into the open at night. Dense patches of woody and shrubby vegetation, including lantana thickets for daytime shelter.
Red-necked wallaby	*Macropus rufogriseus*	Least concern	Not listed	Eucalypt forests and coastal scrub within close to open areas for foraging.
Red-legged pademelon	*Thylogale stigmatica*	Least concern	Not listed	Primarily a rainforest dwelling species but has been observed in dense sclerophyll forests. Occasionally forage in open pastures but remain alert and vigilant.
Red-necked pademelon	*Thylogale thetis*	Least concern	Not listed	Wet sclerophyll forests and rainforests within close proximity to open grasslands and pastures.

Objectives and actions

The strategic framework for the *Macropod Conservation Plan* comprises the following Desired Outcomes:

3.1 Desired outcome 1:

Management is evidence based and informed by contemporary research and knowledge of Sunshine Coast macropod populations.

Objective:

Develop a better understanding of macropod population dynamics and habitat on the Sunshine Coast to inform and strengthen eastern grey kangaroo and other macropod conservation planning.

Actions:

3.1.1 Engage with research partners, including the University of the Sunshine Coast (UniSC) to continue to monitor and explore SCC eastern grey kangaroo population trends, and conservation genetics.

3.1.2 Contribute to habitat permeability and critical habitat mapping to identify where macropods could persist during unsuitable climatic periods, drought, bushfire and with urban development pressures.

3.1.3 Build on current data to create a more robust macropod dataset for future use.

Establish mapping and database resources to deliver continuous program delivery:

- integrate the findings of the *Sunshine Coast Planning for Improved Fauna Movement Study* where applicable
- create consistent data collection methods internally and with external partners
- seek opportunities to gather incidental macropod records from other programs (e.g. SCC Healthy Places invasive animals and uncontrolled domestic dogs monitoring).

3.2 Desired outcome 2:

Planning and development assessment processes and supporting guidelines are in place to support the protection of macropods and their habitat.

Objective:

Consider future development areas identified in Shaping SEQ and the Sunshine Coast Planning Scheme 2014 and associated amendments/new planning schemes to ensure proactive consideration of macropod populations and their habitat requirements.

Objective:

Provide planning guidelines to help maintain a landscape that contains sufficient habitat to sustain a viable population of eastern grey kangaroos in the Sunshine Coast Council LGA, giving due consideration to quantity, connectivity, and condition of habitat in areas of urban growth.

Actions:

3.2.1 Incorporate macropod mapping data outputs in policy and planning through:

- Preparation of mapping tools showing movement pathways and high-quality habitat for macropods.
- Review of the correlation between macropod mapping and the new planning scheme biodiversity mapping layers including vegetation/habitat (core and connecting) areas and riparian corridors.
- Developing a guideline that includes provisions for ground-truthing requirements for macropods in new developments.
- Developing conditions within the Planning Scheme to regulate infrastructure associated with developments to mitigate the impacts on macropods. e.g., culverts and under/overpasses.

3.2.2 Develop guidelines to minimise macropod mortality associated with entrapment and forced dispersal at development sites.

3.2.3 New developments include macropod sensitive design with the following range of (but not limited to) macropod impact mitigation options:

- Road design and speed limits in place to reduce macropod interactions with vehicles and facilitate safe movement for wildlife and people.
- Fauna crossing infrastructure to facilitate safe movement for macropods e.g., fauna underpass.
- Use of proven signage such as electronic signs, and road surface markings at appropriate locations.
- Roadside plantings which ensure visibility and discourage grazing.
- Kangaroo friendly habitat planting in suitable locations.

3.2.4 Develop property fencing guidelines for macropod movement pathways and high human use areas:

- Which prevents isolation of genetic movement for macropods and all wildlife between critical habitats.
- To stipulate acceptable methods for construction and materials.

3.2.5 Undertake inventory of all existing fauna connectivity structures, assets and purpose-built fauna exclusion fencing across entire LGA.

3.3 Desired outcome 3:

The impacts of threatening processes on macropods in the Sunshine Coast local government area are understood and minimised.

Objective:

Identify and recommend measures that reduce macropod mortality and protect and enhance macropod populations and their habitat.

Actions:

3.3.1 Install appropriately located and effective injury/ mortality mitigation measures (such as strategic sign installation; underpasses; virtual fencing; and targeted traffic calming) at kangaroo-related road accident hot spots. Explore innovative options and monitor for efficacy.

3.3.2 Continue to record information regarding macropod-vehicle accidents, trauma to macropods and negative human/ macropod interactions as applicable

3.3.3 Continue monitoring and control (if required) of wild canids and mapping of wild canid data.

3.3.4 Continue to monitor and respond to problematic behaviour by domestic dogs that impact on macropods and other wildlife.

- Develop a responsible dog ownership brochure dealing with wildlife generally and kangaroos specifically.

3.3.5 Contribute to the incorporation of environmental threats to macropods into relevant drought and bushfire response plans.

3.3.6 Identify best practice strategies that are being used to protect urban macropod populations elsewhere in Australia.

3.3.7 Build on current data to create a more robust macropod dataset for future use.

Establish mapping and database resources to deliver continuous program delivery:

- integrate the findings of the *Sunshine Coast Planning for Improved Fauna Movement Study* where applicable
- create consistent data collection methods internally and with external partners
- seek opportunities to gather incidental macropod records from other programs (e.g. SCC Healthy Places invasive animals and uncontrolled domestic dogs monitoring).

3.4 Desired outcome 4:

A landscape approach to macropod conservation is achieved through advocacy, education, and partnerships with the community.

Objective:

Connect community, government, industry, and research bodies in a collaborative approach to macropod conservation.

Objective:

Increase understanding and ownership of macropod conservation actions across all sectors of the community.

Actions:

3.4.1 Create opportunities to engage the community and other partners to investigate important habitat or movement pathways close to urban centres with a view to:

- Identifying preferred macropod movement pathways around residential developments, schools, or golf courses where interactions between macropods and humans may increase.

3.4.2 Actively seek to enhance habitat connectivity on private land within southeast Queensland — utilising existing programs such as Voluntary Conservation Agreements (VCAs), Land for Wildlife, and other partnerships.

3.4.3 Engage with traditional owners to incorporate traditional knowledge and practices into education and on-ground management.

3.4.4 Develop and encourage community adoption of citizen science opportunities for macropod research, data collection and awareness.

3.4.5 Develop targeted educational material and a communication plan—consistent with background paper key messages and incorporating the “save my mob” marketing tool. Including the preparation of a “Living with Kangaroos” information package with a focus on eastern grey kangaroos.

3.4.6 Collaborate with State Government agencies for a coordinated fauna movement approach including the installation of signage and fauna movement infrastructure at priority locations.

Governance, Implementing, Evaluating and Reviewing

Many groups have an interest in and are already contributing to macropod conservation on the Sunshine Coast.

Table 3: Key delivery partners and stakeholders

Delivery partners and stakeholders	Role/contribution in delivering the *Macropod Conservation Plan*
Sunshine Coast Council	Lead implementation responsibilities and program coordination.
Kabi Kabi and Jinibara First Nations People	Traditional custodians with cultural authority for land and sea country covered by this Plan.
Sunshine Coast wildlife care and rescue groups including Australia Zoo Wildlife Hospital	Volunteers leading delivery of wildlife rescue and reporting throughout the Sunshine Coast contributing to threat mapping data.
Queensland Department of Environment and Science	Permits, advice, communication support.
Department of Transport and Main Roads	Interagency working groups for a coordinated approach to implementing fauna crossing infrastructure on State Roads.
South-east Queensland coastal councils (especially neighbouring Noosa and Moreton Bay)	Opportunities for regional collaboration and advocacy for improved management of risks and opportunities.
Broader community	Advocates and supporters for macropod conservation awareness through injury and sightings reporting; urban and peri-urban landuse; domestic dog handling and safe driving.
University of the Sunshine Coast	Building our knowledge through research partnerships.
Sunshine Coast Environment Council	Advocacy for conservation outcomes through statutory instruments.

Photo: Red-necked pademelon.

The *Macropod Conservation Plan* seeks to:

Improve coordination and communication between all groups; capitalise on emerging opportunities; and better utilise the collective resources available with a clear, agreed set of priorities and governance processes.

The Sunshine Coast Council is to have lead responsibility for plan implementation, in collaboration with the delivery partners and stakeholders listed above. The responsibilities of this leadership role include approving the Plan; identifying annual implementation priorities; coordinating inputs from others; reviewing progress towards the strategy objectives; and, considering opportunities to further improve for capacity to deliver the Plan.

It is important to note that many of the management actions require input from a range of organisations and council is not responsible for addressing all the identified threats. However, Council can respond in areas of Council controlled lands and can act to provide guidelines and advocacy to empower others.

Action Plan

The key mechanism for achieving the desired outcomes of the Plan over 10 years is the Action Plan — Attachment 1. This prioritises activities, identifies the responsibility for implementation, defines the timing of implementation, and identifies financial and other resources required.

It is proposed that the Implementation Plan be a three-year rolling plan with an annual review. Greater detail would be included for the upcoming financial year at each annual review. Individual implementation actions will be included in annual council work plans, and if required, in project plans involving external parties.

An annual report on activities, outcomes and expenditure will be provided as part of the SCC annual report. A comprehensive evaluation and review of the Plan is to be undertaken every five years.

Photo: Red-necked wallaby.

References

Bowman D, Garde M, and Saulwick A, 2001, Kunj-ken makka man-wurrk Fire is for kangaroos: interpreting Aboriginal accounts of landscape burning in Central Arnhem Land. In *Histories of Old Ages: Essays in honour of Rhys Jones* (ed O'Connor S), Pandanus Books, Research School of Pacific and Asian Studies, Australian National University, Canberra.

Brunton E, Conroy G, Ogbourne S, Brunton A, Hohwieler K, 2021, *Sunshine Coast eastern grey kangaroo conservation genetics: Phase 1*, University of the Sunshine Coast. Prepared for Sunshine Coast Council.

Ecosure Ltd, 2020, *Sunshine Coast Macropod Conservation Plan: Background Paper*.

Sunshine Coast Regional Council, 2017, *Environment & Liveability Strategy 2017*

Image: Whiptail wallaby.

Attachment 1
Macropod Conservation Plan – Action Plan

Table 1 provides a summary of all the actions described under the Desired Outcomes and Success Indicators, along with proposed timeframes, estimated costs, funding source, action status and the responsible branch.

The *Macropod Conservation Plan* will undergo a complete review in 2032. The *Action Plan* (Attachment 1) will be reviewed annually.

Table 1: Action plan summary

No.	Action Summary	Success Indicator	Timeframe	Estimated cost	Funding source*	Status	Branch Responsibility
Desired Outcome 1: Management is evidence based and informed by contemporary research and knowledge of Sunshine Coast macropod populations. Objective: Develop a better understanding of macropod population dynamics and habitat on the Sunshine Coast to inform and strengthen eastern grey kangaroo and other macropod conservation planning.							
3.1.1	Engage with research partners, including the University of the Sunshine Coast (USC) to continue to monitor and explore SC eastern grey kangaroo population trends, and conservation genetics.	• phases 1 & 2 of eastern grey kangaroo genetic study have been completed and received by council. • unique Sunshine Coast eastern grey kangaroo genetic profile confirmed and recognised in SCC significant species database and communications. • prepare response to recommendations of SCC gene flow analysis.	Ongoing	Low	SCC USC research Partnership's grant; EL, Op	Underway	EO
3.1.2	Contribute to habitat permeability and critical habitat mapping to identify where macropods could persist during unsuitable climatic periods, drought, bushfire and with urban development pressures.	• strategic mapping has been completed and incorporated into council's mapping system.	Medium	High	EL	Future	EO, ESP

* Funding source or potential funding source.
Budgets subject to annual development and approvals processes.

No.	Action Summary	Success Indicator	Timeframe	Estimated cost	Funding source*	Status	Branch Responsibility
3.1.3	Build on current data to create a more robust macropod dataset for future use. Establish mapping and database resources to deliver continuous program delivery: - integrate the findings of the Sunshine Coast Planning for Improved Fauna Movement Study where applicable. - create consistent data collection methods internally and with external partners. - seek opportunities to gather incidental macropod records from other programs (e.g. SCC Healthy Places invasive animals and uncontrolled domestic dogs monitoring).	• business case finalised for database management staffing resource. • Council's internal macropod data consolidated into a single dataset, and investigations are underway into the feasibility of a built-for-purpose or existing app.	On-going	Medium-high	Op; EL	Underway	EO

Desired Outcome 2: Planning and development assessment processes and supporting guidelines are in place to support the protection of macropods and their habitat.

Objective: Consider future development areas identified in Shaping SEQ and the Sunshine Coast Planning Scheme 2014 and associated amendments/new planning schemes to ensure proactive consideration of macropod populations and their habitat requirements.

Objective: Provide planning guidelines to help maintain a landscape that contains sufficient habitat to sustain a viable population of eastern grey kangaroos in the Sunshine Coast LGA, giving due consideration to quantity.

3.2.1	Incorporate macropod mapping data outputs in policy and planning through: - preparation of mapping tools showing movement pathways and high-quality habitat for macropods. - review of the correlation between macropod mapping and the new planning scheme biodiversity mapping layers including vegetation/ habitat (core and connecting) areas and riparian corridors. - developing a guideline that includes provisions for ground-truthing requirements for Macropods in new developments.	• a technical guideline is used for ground truthing requirements in new developments. • biodiversity layers to include the findings of the Sunshine Coast Planning for Improved Fauna Movement Study. • identified unobstructed movement pathways for macropods are retained/protected. • movement pathways and high-quality macropod habitat mapped and ground-truthed for application in development areas.	Ongoing	Medium	Op, EL	Underway	ESP, TIP, EO & PSP

No.	Action Summary	Success Indicator	Timeframe	Estimated cost	Funding source*	Status	Branch Responsibility
	- Developing conditions within the Planning Scheme to regulate infrastructure associated with developments to mitigate the impacts on macropods. e.g., culverts and under/overpasses. - update background report with new planning scheme and macropod mapping /population data.	• modelling for macropods in the SCC Improved Fauna Movement Study updated bi-annually — including fauna records and USC eastern grey kangaroo genetics research data. • background report updated and reflected contemporary data.	Ongoing	Medium	Op, EL	Underway	ESP, TIP, EO & PSP
3.2.2	Develop guidelines to prevent macropod mortality associated with entrapment and forced dispersal at development sites.	• a technical guideline includes advice on how to avoid translocation and prevent entrapment and forced dispersal at development sites. • exclusion fencing for macropods has been incorporated into the Open Space Landscape Infrastructure Manual (LIM): Environmental Management of Flora and Fauna.	Short	Low	Op	Underway	DS, EO, TIM, P&G
3.2.3	New developments include macropod sensitive design with the following range of developer-sponsored macropod impact mitigation options: - road design and speed limits to reduce macropod interactions with vehicles and facilitate safe movement for wildlife and people. - proven signage such as electronic signs, and road surface markings, - roadside plantings ensure visibility and discourage grazing. - Kangaroo friendly planting in suitable locations.	• property fencing guidelines have been developed and incorporated into the Open Space Landscape Infrastructure Manual (LIM): Fences and Gates. • annual or biennial review of recent developments that presented opportunities for developer sponsored initiatives. • appropriate flora species selection guidelines have been included in the Open Space Landscape Infrastructure manual (LIM): Environmental Management of Flora and Fauna.	Ongoing	Low	Op	Ongoing	P&G, DS, EO

No.	Action Summary	Success Indicator	Timeframe	Estimated cost	Funding source*	Status	Branch Responsibility
3.2.4	Develop property fencing guidelines for macropod movement pathways and high human use areas: - that prevents isolation of genetic movement for macropods and all wildlife between critical habitats. - to stipulate acceptable methods for construction and materials.	• property fencing guidelines have been developed and incorporated into the Open Space Landscape Infrastructure Manual (LIM): Fences and Gates.	Ongoing	Low	Op	Complete	DS, P&G, EO
3.2.5	Undertake inventory of all existing fauna connectivity structures assets and fauna exclusion fencing across entire LGA.	• an inventory of fauna infrastructure has been completed and a process for updating has been developed.	Medium	High	Op, EL	Underway	EO, ESP, DS

Desired Outcome 3: The impacts of threatening processes on macropods in the Sunshine Coast local government area are understood and minimised.

Objective: Identify and recommend measures that reduce macropod mortality and protect and enhance macropod populations and their habitat.

Objective: Identify best practice strategies that are being used to protect urban macropod populations elsewhere in Australia.

3.3.1	Install appropriate and effective injury/mortality mitigation measures (such as strategic sign installation virtual fencing, and targeted traffic calming) at kangaroo-related road accident hot spots. Explore innovative options and monitor for efficacy. (Refer to Appendix 5: *Macropod Conservation Plan* Background Paper).	• signage locations mapped. • signage installation guide developed and added to LIM. • mitigation measures, such as virtual fencing, underpasses, and signage etc continue to be installed at appropriate locations.	Ongoing	Low	Op, EL	Underway	EO
3.3.2	Continue to record information regarding macropod-vehicle accidents, trauma to macropods and negative human/ macropod interactions as applicable	• roadkill app finalised.	Medium	Medium	Op	Underway	EO
3.3.3	Continue monitoring and control (if required) of wild canids and mapping of wild canid data.	• monitoring of wild canids is routinely undertaken and needs- based control is being implemented.	Ongoing	High	Op, EL	Underway	HP, EO

No.	Action Summary	Success Indicator	Timeframe	Estimated cost	Funding source*	Status	Branch Responsibility
3.3.4	Continue to monitor and respond to problematic behaviour by domestic dogs that impact on macropods and other wildlife.	• data collected by Australia Zoo Wildlife Hospital and Council's Community Response team is being monitored by EO and community education has been amended as required.	Long	Low	Op	Underway	CR, EO
3.3.5	Contribute to the incorporation of environmental threats to macropods into relevant drought and bushfire response plans.	• the Bushfire Management Guidelines: Appendix 5 Ecological Guidelines for prescribed burn planning and implementation addresses macropods and other wildlife. • the updated Local Disaster Management Plan (2019-2022) includes actions relating to macropods and/or wildlife in general.	Medium	Low	Op	Underway	EO, ESP
3.3.6	Identify and apply best practice strategies that are being used to protect urban macropod populations elsewhere in Australia.	• interagency fauna infrastructure working group is established to share ideas	Medium	Low	Op	Underway	EO

Desired Outcome 4: A landscape approach to macropod conservation is achieved through advocacy, education, and partnerships with the community.

Objective: Connect community, government, industry, and research bodies in a collaborative approach to macropod conservation.

Objective: Increase understanding and ownership of macropod conservation actions across all sectors of the community.

3.4.1	Create opportunities to engage the community and other partners to investigate important habitat or movement pathways close to urban centres with a view to: - identifying preferred macropod movement pathways around residential developments, schools, or golf courses where interactions between macropods and humans may increase. - consider promoting macropod populations as a valuable tourism attraction.	• USC eastern grey kangaroo research project. • NatureWatch Sunshine Coast—Councils new citizen science engagement platform—has included at least one Macropod project/ platform. • finalised scoping discussions with USC re tourism opportunity.	Short	Medium	EL	Underway	EO; IT

No.	Action Summary	Success Indicator	Timeframe	Estimated cost	Funding source*	Status	Branch Responsibility
3.4.2	Actively seek to enhance habitat connectivity on private land within southeast Queensland—utilising existing programs such as VCAs, Land for Wildlife, and other partnerships.	• the Conservation Partnerships programs such as LFW, VCA and EL Grants & Partnerships continue to be funded and implemented by council. • connectivity opportunities identified in the LFWSEQ Geospatial Analysis 2022 (Draft) are being implemented by council and other SEQ local governments.	Ongoing	Medium	Op, EL	Underway	EO
3.4.3	Engage with Traditional Owners to incorporate traditional knowledge and practices into education and on-ground management.	• in accordance with council's *Sunshine Coast Reconciliation Action Plan*, Traditional Owners continue to be included in environmental management issues that affect biodiversity, including, e.g. cultural burning.	Ongoing	Low	Op	Underway	EO, ESP
3.4.4	Develop and encourage community adoption of citizen science opportunities for macropod research, data collection and awareness.	• a community project for surveying macropods in Biocollect (or similar) has been assessed and progressed if deemed suitable. • future new opportunities for citizen science are assessed as required.	Ongoing	Low	Op	Underway	EO
3.4.5	Develop targeted educational material and a communication plan —consistent with the background paper key messages and incorporating the "save my mob" marketing too. Including through the development of a "Living with Kangaroos" information package with a focus on eastern grey kangaroos.	• a Living with Kangaroos suite of interpretive material has been developed and is publicly available. • liaison with internal SCC teams has been undertaken to modify the existing Responsible Dog Ownership fact sheet to include dog behaviour around macropods and other wildlife. • a planting guide for residents who would like to encourage/discourage kangaroos on their property	Short	Low	Op, HP, EO	Future	EO, CB, HP, CR

No.	Action Summary	Success Indicator	Timeframe	Estimated cost	Funding source*	Status	Branch Responsibility
		• kangaroo awareness and safety information available to SCC caravan parks, holiday parks, aged-care facilities, golf courses and schools as required • create a virtual fence fact sheet	Short	Low	Op, HP, EO	Future	EO, CB, HP, CR
3.4.6	Collaborate with State government agencies for a coordinated fauna movement approach including the installation of signage and fauna movement infrastructure at priority locations.	• fauna movement project priorities identified and added to this plan • active collaboration between council and State Government (DTMR, DES) is continuing in relation to fauna movement on state roads. • at least one additional eastern grey kangaroo movement structure has been installed and monitored at a priority location. • discussion paper for single road network approach to the management of fauna movement and/or installation of signage and fauna movement infrastructure at priority locations.	Short	Low	Op	Underway	ESP, EO, TIM, TIP

Table 2: Definitions of attributes

	Implementation	Definitions
Timeframe	On-going	Actions that will continue to be undertaken for the life of the *Macropod Conservation Plan*
	Short	Actions that will commence within the next 12 months
	Medium	Actions that will commence within the next two years
	Long	Actions that will commence within the next five years
Cost	High	Over $100,000
	Medium	$10,000-$100,000
	Low	Below $10,000
Branch Responsibility	EO	Environmental Operations
	ESP	Environment and Sustainability Policy
	IT	Information Technology
	TIM	Transport Infrastructure Management
	TIP	Transport Infrastructure Planning
	CB	Communications Branch
	DS	Development Services
	SP	Strategic Planning
	P&G	Parks and Gardens
	HP	Healthy Places
	CR	Community Response

Image: Swamp wallaby.

Sunshine Coast COUNCIL

sunshinecoast.qld.gov.au
mail@sunshinecoast.qld.gov.au
07 5475 7272
Locked Bag 72 Sunshine Coast Mail Centre Qld 4560